City Council Regular Meeting Agenda
Monday, October 19, 2026, 7:00 PM
Council Chambers, 616 NE 4th AVE

NOTE: The City welcomes public meeting citizen participation. TTY Relay Service: 711. In compliance with the ADA, if you need special assistance to participate in a meeting, contact the City Clerk's office at (360) 834-6864, 72 hours prior to the meeting so reasonable accommodations can be made (28 CFR 35.102-35.104 ADA Title 1)

To observe the meeting (no public comment ability)
- go to https://vimeo.com/event/6273718

To participate in the meeting (able to public comment)
- go to https://cityofcamas-us.zoom.us/j/88951076096
(public comments may be submitted to publiccomments@cityofcamas.us)

CALL TO ORDER

PLEDGE OF ALLEGIANCE

ROLL CALL

PUBLIC COMMENTS

CONSENT AGENDA

NOTE: Consent Agenda items may be removed for general discussion or action.

1. October 5, 2026 Camas City Council Regular and Workshop Meeting Minutes
2. Automated Clearing House and Claim Checks Approved by Finance Committee
3. $113,700 LSW Architecture City Hall Planning Study
(Submitted by Justin Monsrud, Engineering Project Manager)
4. $187,557 Scott Edwards Architecture Public Works Operation Facility
(Submitted by Scott Collins, Public Works Director)

MAYOR

5. Mayor Announcements

MEETING ITEMS

6. Proposition 12 & 13
Presenter: David Shook, Clark County Director of Jail Services
Time Estimate: 20 minutes

7. Ordinance No. 26-007 Revolving Line of Credit
   Presenter: Kayla Mobley, Interim Finance Director
   Time Estimate: 10 minutes

8. Public Hearing - Our Camas 2045 Comprehensive Plan Periodic Update, Our Downtown Camas 2045 Subarea Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code
   Presenter: Alan Peters, Community Development Director
   Time Estimate: 45 minutes

PUBLIC COMMENTS

NON-AGENDA ITEMS

9. Staff

10. Council

CLOSE OF MEETING

City Council Workshop Minutes
Monday, October 05, 2026, 4:30 PM
Council Chambers, 616 NE 4th AVE

NOTE: Please see the published Agenda Packet for all item file attachments

CALL TO ORDER

Mayor Hogan called the meeting to order at 4:30 p.m.

ROLL CALL

Present: Council Members Marilyn Boerke, Martin Elzingre, Mahsa Eshghi, Tim Hein, John Nohr and John Svilarich

Remote: Council Member Jennifer Senescu

Staff: Sydney Baker, Debra Brooks, Scott Collins, Carrie Davis, Chamerre Fonacier, Cliff Free, Jennifer Gorsuch, Michelle Jackson, Tina Jones, Robert Maul, Kayla Mobley, Will Noonan, Alan Peters, Doug Quinn, Bryan Rachal, Brian Smith, Heidi Steffensen, Alicia Stevens, Connie Urquhart and Chris Witkowski

Press: No one from the press was present.

PUBLIC COMMENTS

Randal Friedman, Camas, commented about the Comprehensive Plan Update.

Chad Stewart, Camas, commented about the Comprehensive Plan Update.

WORKSHOP TOPICS

1. Climate-Driven Wildfire Risk Assessment and Community Resilience Plan
   Presenter: Chris Witkowski, Parks and Recreation Director

   This item was placed on the October 5, 2026 City Council Regular Meeting Consent Agenda for Council's consideration.

2. 2027-2028 Mayor's Recommended Budget Presentation
   Presenter: Kayla Mobley, Interim Finance Director

   This item was for Council's information only.

3. Our Camas 2045 Comprehensive Plan Periodic Update, Our Downtown Camas 2045 Subarea Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code
   Presenter: Alan Peters, Community Development Director

A public hearing for this item was placed on the October 19, 2026 City Council Regular Meeting Agenda.

4. Form of Government Communication and Resolution
Presenter: Doug Quinn, City Administrator and Bryan Rachal, Communications Director

This item was for Council's information only.

5. Staff Miscellaneous Updates
Presenter: Doug Quinn, City Administrator

Jones commented about the Pink Patch Program at the Police Department.

Collins provided updates on perfluoroalkyl and polyfluoroalkyl substances (PFAS).

Witkowski commented about the Racket Sports Open House and the Zombie Dash.

PUBLIC COMMENTS

Darcy Smith, Camas, commented about School Resource Officers (SROs), City Facilities locations and affordable housing.

Brian Wiklem, Camas, commented about the City budget.

COUNCIL COMMENTS AND REPORTS

Due to time constraints, this item was moved to the October 5, 2026 City Council Regular Meeting.

CLOSE OF MEETING

The meeting closed at 6:39 p.m.

City Council Regular Meeting Minutes
Monday, October 05, 2026, 7:00 PM
Council Chambers, 616 NE 4th AVE

NOTE: Please see the published Agenda Packet for all item file attachments

CALL TO ORDER

Mayor Hogan called the meeting to order at 7:00 p.m.

PLEDGE OF ALLEGIANCE

ROLL CALL

Present: Council Members Marilyn Boerke, Martin Elzingre, Mahsa Eshghi, Tim Hein, John Nohr and John Svilarich

Remote: Council Member Jennifer Senescu (joined at 7:04 p.m.)

Staff: Sydney Baker, Scott Collins, Carrie Davis, Cliff Free, Jennifer Gorsuch, Tina Jones, Shawn MacPherson, Kayla Mobley, Will Noonan, Bryan Rachal, Heidi Steffensen, Alicia Stevens, Connie Urquhart and Chris Witkowski

Press: No one from the press was present.

PUBLIC COMMENTS

Randal Friedman, Camas, commented about Our Camas 2045.

It was moved by Boerke, and seconded, to add Resolution No. 26-014 to tonight's meeting as item #8. The motion carried.

Hein – Yes
Elzingre – Yes
Eshghi – Yes
Nohr – Yes
Senescu – No
Svilarich – Yes
Boerke – Yes

CONSENT AGENDA

NOTE: Consent Agenda items may be removed for general discussion or action.

1. September 21, 2026 Camas City Council Regular and Workshop Meeting Minutes

2. $1,918,702.27 Automated Clearing House 704218-704265 and Claim Checks 164406-164496 Approved by Finance Committee

3. Climate-Driven Wildfire Risk Assessment and Community Resilience Plan (Submitted by Chris Witkowski, Parks and Recreation Director)

It was moved by Boerke, and seconded, to approve the Consent Agenda as presented. The motion carried unanimously.

MAYOR

4. Mayor Announcements

There were no mayor announcements.

5. Breast Cancer Awareness Month Proclamation

Mayor Hogan proclaimed October 2026 as Breast Cancer Awareness Month in the City of Camas.

MEETING ITEMS

6. Professional Services Agreement LSW Architecture for City Hall Planning Study
Presenter: Justin Monsrud, Engineering Project Manager and Scott Collins, Public Works Director

This item was placed on the October 19, 2026 City Council Regular Meeting Consent Agenda for Council's consideration.

7. Professional Services Agreement Scott Edwards Architecture for Public Works Operation Facility
Presenter: Scott Collins, Public Works Director

This item was placed on the October 19, 2026 City Council Regular Meeting Consent Agenda for Council's consideration.

8. Form of Government Resolution No. 26-014
Presenter: Shawn MacPherson, City Attorney

It was moved by Svilarich, and seconded, to approve Resolution No. 26-014. The motion passed.

Senescu – No
Hein – No
Eshghi – Yes
Svilarich – Yes
Elzingre – No
Nohr – Yes
Boerke – Yes

PUBLIC COMMENTS

Darcy Smith, Camas, commented about the Form of Government and budget.

Paul Smith, Camas, commented about the Form of Government.

NON-AGENDA ITEMS

9. Staff

   There were no staff updates.

10. Council

    Elzingre commented on the Lacamas Watershed Association's Lacamas Lake Clean Up Day, the Lore Grand Opening and the Fire Department Open House. Elzingre attended a Regional Fire Authority Commission Meeting.

    Hein commented about the Plexsys 40th Anniversary, Kiddie Academy groundbreaking, the Fire Department Open House, Lacamas Lake Clean Up Day and Molly's Meals. Hein attended the Finance Committee meeting. Hein commented about citizen comments regarding the Form of Government, PFAS and streets.

    Eshghi commented about the 9/11 Fire Department ceremony, Leadbetter Walk and Roll, the Zombie Dash, Lacamas Lake Clean Up event, the Fire Department Open House, Kiddie Academy groundbreaking, OnPoint Grand Opening and Molly's Meals.

    Boerke commented about ribbon cuttings for Lore, Little Wings Library, Sanctuary Arts Wellness Studio. Boerke provided updates from Ending Community Homelessness Organization (ECHO), the Regional Fire Authority Commission and the Library Board of Trustees.

    Svilarich commented about the Plexsys 40th anniversary event, the Fire Department Open House and OnPoint Credit Union grand opening.

    Senescu thanked first responders for their work and The Good, The Bad, and the Ugly Bike Ride.

    Nohr commented about the Fire Department Open House, the Pink Lemonade Project and roadway projects.

    MacPherson commented about receiving honorary lifetime membership in the Washington Association of Municipal Attorneys.

    Hogan commented about the Plexsys 40th Anniversary, Kiddie Academy groundbreaking, OnPoint grand opening and ribbon cuttings. Hogan thanked Kayla Mobley and Debra Brooks for their work on the budget. Hogan commented about businesses interested in Camas and 2nd grade class tours.

CLOSE OF MEETING

The meeting closed at 8:20 p.m.

Meeting minutes created by Alicia Stevens.

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

CITY OF CAMAS
PROFESSIONAL SERVICES AGREEMENT

616 NE 4th Avenue
Camas, WA 98607

PROJECT NO. TBD

City Hall Facility Planning and Design Services

THIS AGREEMENT is entered into between the City of Camas, a municipal corporation, hereinafter referred to as "the City", and **LSW Architects**, hereinafter referred to as the "Consultant", in consideration of the mutual benefits, terms, and conditions hereinafter specified including consultant shall perform the Services in a manner consistent with the degree of skill and care ordinarily exercised by Architects in the location of the project that provide the same services, under similar circumstances. LSW Architects makes no other warranty, certification or guarantee with respect to its services or work product.

1. Project Designation. The Consultant is retained by the City to perform professional services in connection with the project designated as City Hall Facility Planning and Design Services.

2. Scope of Services. Consultant agrees to perform the services, identified on Exhibit "A" attached hereto, including the provision of all labor, materials, equipment, supplies and expenses.

3. Time for Performance. Consultant shall perform all services and provide all work product required pursuant to this agreement by no later than **May 9, 2027**, unless an extension of such time is granted in writing by the City, or the Agreement is terminated by the City in accordance with Section 19 of this Agreement.

4. Payment. The Consultant shall be paid by the City for completed work and for services rendered for an amount not to exceed **$113,710.00** under this agreement as follows:

   a. Payment for the work provided by Consultant shall be made as provided on Exhibit "B" attached hereto, provided that the total amount of payment to Consultant shall not exceed the amounts for each task identified in Exhibit “A” (Scope of Services) inclusive of labor, materials, equipment supplies and expenses. Billing rates as identified in Exhibit “C”.

   b. The Consultant may submit vouchers to the City once per month during the progress of the work for payment for project completed to date. Vouchers submitted shall include the Project Number designated by the City and noted on this agreement. Such vouchers will be checked by the City, and upon approval thereof, payment will be made to the Consultant in the amount approved. Payment to the Consultant of partial estimates, final estimates, and retained percentages shall be subject to controlling laws.

   c. Final payment of any balance due the Consultant of the total contract price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this agreement and its acceptance by the City.

   d. Payment as provided in this section shall be full compensation for work performed, services rendered and for all materials, supplies, equipment and incidentals necessary to complete the work.

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

e. The Consultant's records and accounts pertaining to this agreement are to be kept available for inspection by representatives of the City and of the State of Washington for a period of three (3) years after final payment. Copies shall be made available upon request.

5. Ownership and Use of Documents. All documents, drawings, specifications, electronic copies and other materials produced by the Consultant hereinafter "Work Product" in connection with the services rendered under this Agreement shall be the property of the City whether the project for which they are made is executed or not. The Consultant shall be permitted to retain copies, including reproducible copies, of drawings and specifications for information, reference and use in connection with Consultant's endeavors. The City agrees, to the fullest extent permitted by law, to indemnify and hold the Consultant harmless from any claim, liability or cost (including reasonable attorney's fees and defense costs) arising or allegedly arising out of any reuse or modification of the Work Product by the City or any person or entity that obtains the Work Product from or through the City.

   All work product which may be produced or modified by the Consultant while performing the Services shall belong to the City, upon full payment of all monies owed to the Consultant under this agreement. Upon written notice by the City during the Term of this Agreement or upon the termination or cancellation of this Agreement, the Consultant shall deliver all copies of any such work product remaining in the possession of the Consultant to the City.

6. Compliance with Laws. Consultant shall, in performing the services contemplated by this agreement, faithfully observe and comply with all federal state, and local laws, ordinances and regulations, applicable to the services to be rendered under this agreement. Compliance shall include, but not limited to, 8 CFR Part 274a – Control of Employment of Aliens, § 274a.2 Verification of identity and employment authorization.

7. Indemnification. Consultant shall indemnify and hold the City of Camas, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or resulting from the negligent acts, errors or omissions of the Consultant in performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

   However, should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Consultant and the City, its officers, officials and employees, the Consultant's liability, hereunder shall be only to the extent of the Consultant's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Consultant's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

8. Consultant's Liability Insurance.

   a. Insurance Term. The Consultant shall procure and maintain for the duration of this Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees.

   b. Limitation. Consultant's maintenance of insurance as required by the Agreement shall be construed to limit to architects insurance the liability of the Consultant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

   c. Minimum Scope of Insurance. Consultant shall obtain insurance of types and coverage described below:

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

1. Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of $1,000,000.00 per accident. Automobile Liability insurance covering all owned, non-owned, hired and leased vehicles. Coverage shall be at least as broad as Insurance Services Office (ISO) form CA 00 01.

2. Commercial General Liability insurance shall be written with limits of no less than $2,000,000.00 each occurrence, $2,000,000.00 general aggregate. Commercial General Liability insurance shall be at least as broad as ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop-gap independent Consultants and personal injury and advertising injury. The Public Entity shall be named as an additional insured under the Consultant's Commercial General Liability insurance policy with respect to the work performed for the Public Entity using an additional insured endorsement at least as broad as ISO endorsement form CG 20 26.

3. Professional Liability insurance appropriate to the consultant's profession. Professional Liability insurance shall be written with limits of no less than $2,000,000.00 per claim and $2,000,000.00 policy aggregate limit.

4. Workers' Compensation coverage as required by Industrial Insurance laws of the State of Washington.

5. Verification. Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, showing the City of Camas as a named additional insured, evidencing the Automobile Liability and Commercial General Liability of the Consultant before commencement of the work.

d. Other Insurance Provision. The Consultant's Automobile Liability and Commercial General Liability insurance policies are to contain or be endorsed to contain that they shall be primary insurance as respect to the City. Any Insurance, self-insurance, or self-insured pool coverage maintained by the City shall be excess of the Consultant's insurance and shall not contribute with it.

e. Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best rating of not less than A: VII.

f. Verification of Coverage. Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Agreement before commencement of the work.

g. Notice of Cancellation. The Consultant shall provide the City with written notice of any policy cancellation within two business days of their receipt of such notice.

h. Failure to Maintain Insurance. Failure on the part of the Consultant to maintain the insurance as required shall constitute a material breach of contract, upon which the City may, after giving five business days' notice to the Consultant to correct the breach, immediately terminate the Agreement or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Consultant from the City.

9. Independent Consultant. The Consultant and the City agree that the Consultant is an independent Consultant with respect to the services provided pursuant to this agreement. Nothing in this Agreement shall be considered to create the relationship of employer and employee between the parties hereto.

Neither Consultant nor any employee of consultant shall be entitled to any benefits accorded City employees by virtue of the services provided under this Agreement. The City shall not be

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to consultant, or any employee of Consultant.

10. Covenant Against Contingent Fees. The Consultant warrants that he/she has not employed or retained any company or person, other than a bonafide employee working solely for the Consultant, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a bonafide employee working solely for the Consultant, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract. For breach or violation of this warranty, the City shall have the right to annul this contract without liability or, in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

11. Discrimination Prohibited. During the performance of this Agreement, the Consultant, for itself, its assignees, and successors in interest agrees to comply with the following laws and regulations:

- Title VI of the Civil Rights Act of 1964
  (42 USC Chapter 21 Subchapter V Section 2000d through 2000d-4a)
- Federal-aid Highway Act of 1973
  (23 USC Chapter 3 Section 324)
- Rehabilitation Act of 1973
  (29 USC Chapter 16 Subchapter V Section 794)
- Age Discrimination Act of 1975
  (42 USC Chapter 76 Section 6101 et seq.)
- Civil Rights Restoration Act of 1987
  (Public Law 100-259)
- Americans with Disabilities Act of 1990
  (42 USC Chapter 126 Section 12101 et. seq.)
- 49 CFR Part 21
- 23 CFR Part 200
- RCW 49.60.180

In relation to Title VI of the Civil Rights Act of 1964, the Consultant is bound by the provisions of Exhibit "D" attached hereto and by this reference made part of this Agreement and shall include the attached Exhibit "D" in every sub-contract, including procurement of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto.

12. Confidentiality. The Consultant agrees that all materials containing confidential information received pursuant to this Agreement shall not be disclosed without the City's express written consent. Consultant agrees to provide the City with immediate written notification of any person seeking disclosure of any confidential information obtained for the City. The restrictions on the use and disclosure of the confidential information shall not apply to information which (a) was known to the Consultant before receipt of same from the City; or (b) becomes publicly known other than through the Consultant; or (c) is disclosed pursuant to the requirements of a governmental authority or judicial order, but only to the extent required to comply with the said requirements of the government authority or judicial order.

13. Work Product. Consultant retains ownership of its work product and intellectual property. City is granted a perpetual, nonexclusive license to use the work product for purposes of the Project. In the event of termination or cancellation of this agreement, Consultant shall deliver copies of work product in process.

14. Certification Regarding Debarment, Suspension, or Ineligibility and Voluntary Exclusion—Primary and Lower Tier Covered Transactions.

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

a. The Consultant, defined as the primary participant and its principals, certifies by signing these General Terms and Conditions that to the best of its knowledge and belief that they:

    1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal or State department or agency.

    2. Have not within a three-year period preceding this contract, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public or private agreement or transaction, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, receiving stolen property, making false claims, or obstruction of justice;

    3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this section; and

    4. Have not within a three-year period preceding the signing of this contract had one or more public transactions (federal, state, or local) terminated for cause of default.

b. Where the Consultant is unable to certify to any of the statements in this contract, the Consultant shall attach an explanation to this contract.

c. The Consultant agrees by signing this contract that it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the City.

d. The Consultant further agrees by signing this contract that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," as follows, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions:

    Lower Tier Covered Transactions

    1. The lower tier Consultant certifies, by signing this contract that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

    2. Where the lower tier Consultant is unable to certify to any of the statements in this contract, such Consultant shall attach an explanation to this contract.

e. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, person, primary covered transaction, principal, and voluntarily excluded, as used in this section, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the City for assistance in obtaining a copy of these regulations.

15. Intellectual Property.

a. Warranty of Non-infringement. Consultant represents and warrants that the Consultant is either the author of all deliverables to be provided under this Agreement or has obtained and holds all rights necessary to carry out this Agreement. Consultant further represents and warrants that the Services to be provided under this Agreement do not and will not infringe any copyright, patent, trademark, trade secret or other intellectual property right of any third party.

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

b. Rights in Data. Unless otherwise provided, data which originates from this Agreement shall be a "work for hire" as defined by the U.S. Copyright Act of 1976 and shall be owned by the City. Data shall include, but not be limited to reports, documents, pamphlets, advertisements, books, magazines, surveys, studies, films, tapes, and sound reproductions. Ownership includes the right to copyright, patent, register, and the ability to transfer these rights.

16. Assignment. The Consultant shall not sublet or assign any of the services covered by this agreement without the express written consent of the City.

17. Non-Waiver. Waiver by the City of any provision of this agreement or any time limitation provided for in this agreement shall not constitute a waiver of any other provision.

18. Conflict of Interest. It is recognized that Consultant may or will be performing professional services during the Term for other parties; however, such performance of other services shall not conflict with or interfere with Consultant's ability to perform the Services. Consultant agrees to resolve any such conflicts of interest in favor of the City. Consultant confirms that Consultant does not have a business interest or a close family relationship with any City officer or employee who was, is, or will be involved in the Consultant's selection, negotiation, drafting, signing, administration, or evaluating the Consultant's performance.

19. Right to Terminate Contract. The City shall have the right at its discretion and determination to terminate the contract following ten (10) calendar days written notice. The consultant shall be entitled to payment for work thus far performed and any associated expenses, but only after the city has received to its satisfaction the work completed in connection with the services to be rendered under this agreement.

Consultant may terminate or suspend this Agreement should the other party substantially fail to perform as required under this Agreement, but only after giving the other party ten (10) calendar days' prior written notice and opportunity to cure the substantial nonperformance. Within thirty (30) calendar days of suspension or termination, Client shall pay consultant compensation earned to the date of suspension termination.

20. Notices. Notices to the City of Camas shall be sent to the following address:

Justin Monsrud, PE
City of Camas
616 NE 4th Avenue
Camas, WA 98607
PH: 360-817-7232
EMAIL: jmonsrud@cityofcamas.us

Notices to Consultant shall be sent to the following address:

Brent Young
LSW Architects
610 Esther Street, Suite 200
Vancouver, WA 98660
PH: 360-694-8571
EMAIL: byoung@lsw-architects.com

21. Integrated Agreement. This Agreement together with attachments or addenda, represents the entire and integrated agreement between the City and the Consultant and supersedes all prior negotiations, representations, or agreements written or oral. This agreement may be amended only by written instrument signed by both City and Consultant. Should any language in any Exhibits to this Agreement conflict with any language in this Agreement, the terms of this Agreement shall prevail. Any provision of this Agreement that is declared invalid, inoperative, null and void, or illegal shall

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

in no way affect or invalidate any other provision hereof and such other provisions shall remain in full force and effect.

22. Arbitration Clause. If requested in writing by either the City or the Consultant, the City and the Consultant shall attempt to resolve any dispute between them arising out of or in connection with this Agreement by first entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. If a dispute cannot be settled within a period of thirty (30) calendar days with the mediator, if mutually agreed, the dispute shall be referred to arbitration in the Portland USA&M office in accordance with the applicable United States Arbitration and Mediation Rules of Arbitration. The arbitrator's decision shall be final and legally binding, and judgement be entered thereon.

    Each party shall be responsible for its share of the arbitration fees in accordance with the applicable Rules of Arbitration. In the event a party fails to proceed with arbitration, unsuccessfully challenges the arbitrator's award, or fails to comply with the arbitrator's award, the other party is entitled to costs of suit, including reasonable attorney's fee for having to compel arbitration or defend or enforce award.

23. Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Washington.

24. Venue. The venue for any dispute related to this Agreement or for any action to enforce any term of this Agreement shall be Clark County, Washington.

25. Remedies Cumulative. Any remedies provided for under the terms of this Agreement are not intended to be exclusive but shall be cumulative with all other remedies available to the City at law or in equity.

26. Counterparts. Each individual executing this Agreement on behalf of the City and Consultant represents and warrants that such individual is duly authorized to execute and deliver this Agreement. This Agreement may be executed in any number of counterparts, which counterparts shall collectively constitute the entire Agreement.

DATED this _____ day of _____, 20__.

CITY OF CAMAS:

By _____

Print Name _____

Title _____

LSW Architects:
Authorized Representative

By DocuSigned by: _____
0695F98F2780426...

Print Name Brent Young

Title Principal

Date 10/8/2026

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

EXHIBIT "A"
SCOPE OF SERVICES

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

LSW
ARCHITECTS

610 Esther Street, Suite 200
Vancouver, WA 98660

360-694-8571

LSW-ARCHITECTS.COM

September 17, 2026

Scott Collins and Justin Monsrud
City of Camas

Re: LSW Fee Proposal for Camas City Hall Facility Planning – Rev2

Scott and Justin,

Thank you for selecting LSW Architects to help plan for the future Camas City Hall. The following is our proposal for services:

Project Understanding
The City of Camas (City) has requested that LSW Architects (Consultant) provide planning and analysis services to inform decisions regarding location and funding mechanisms for the future City Hall. The Consultant will manage and provide the services outlined in in the following Tasks:

Task 1 - Project Framework

Goal: Identify the City's priorities and define the project's guiding principles for the project.
Services:

- Lead project planning
- Lead (1) visioning meeting with City Council members
- Lead and document (2) Core team meetings
- Participate in (3) City Council meetings

Deliverables:

- Guiding principles

Task 2 - Operational Needs

Goal: understand and document operational and physical needs for the City's departments.
Services:

- Lead (12) departmental meetings – Virtual
- Organize and document findings

Deliverables:

- Department Space Needs Document

Task 3 – Financial Strategy

Goal: Outline funding strategies to understand methods to fund various potential project scopes and delivery methods.

Services:

- Test fits

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

- Meet with selected property owners, developers, and brokers to understand the market parameters. Allowance for (8) meetings.
- Rough Order of Magnitude project cost assumptions for scenarios (cost per square foot ranges). Project scenarios will not be estimates based upon formal building assessments, design concepts, or engineering concepts. Costs will be assumptions for comparative purposes
    - City Hall Remodel
    - City Hall Replacement
    - UL Building TI for Operations Center plus City Hall (Op Center Data provided by others)
    - UL Building TI for Operations Center only (data provided by others)
    - Existing privately owned building (To be determined)
- Property liquidation assessment (refer to Attachment C – City Owned Properties)

Deliverables:

- Funding Strategy Report

Task 4 - Evaluate Scenarios (Scope to be determined. Not included in fee)

Goal: High level comprehensive understanding of the implications of scenarios under consideration

Project Assumptions

All deliverables will be sent in PDF format
The City will arrange Task 2 stakeholder meeting scheduling
City will provide measured drawings for each scenario

Potential Additional Services (at City's request; not included in Lump Sum Fee)

- Additional scenarios
- Additional meetings
- Cost estimates
- Building assessments (for example envelope, ADA, MEP, structural, civil, etc)
- Project Design
- Agency review process support such as land use and building permitting
- Visualizations / renders of scenarios
- Public engagement services
- Tours of similar/precedent facilities
- Hazardous Material identification

Schedule

The project is expected to take about 3-4 months.

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

EXHIBIT "B"
COSTS FOR SCOPE OF SERVICES

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

Compensation Arrangement
Consultant shall provide proposed services on an hourly, not to exceed basis. Modifications to the fee and scope may be made by amendment to this agreement if agreed to by the City and Consultant. Travel, printing, shipping costs and other reimbursable expenses will be charged at cost plus ten (10) percent. Consultant shall bill City monthly for services provided. Payment is due on receipt of Consultant's invoice and shall be made without retention, holdback, or offset. Invoices not paid within 45 days shall be subject to a late payment charge of one percent (1%) per month.

The Maximum Not to Exceed fee for services: **$113,710**

Fee Breakdown

Architecture/Planning	LSW	$73,210
Cost Estimating	Wiggins	$6,600
Financial Strategy	Eco NW	$33,000
Reimbursable allowance		$1,000

Attachments
Attachment A – Not used
Attachment B – Fee Breakdown – Rev 1

Agreement Signatures
If this proposal meets with your approval, please prepare the project agreement and attach this proposal with all its attachments as a reference.

Offered by
LSW Architects, PC

Brent Young | Principal

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

EXHIBIT "C"
BILLING RATES

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

LSW Fee Breakdown - Attachment B			
	Principal	Project Manager	Designer
	$250.00	$185.00	$155.00
Task 1 - Project Framework			
Hours	35	39	12
Subtotal	$8,750.00	$7,215.00	$1,860.00
Fee by Task			17825
Task 2 - Operational Needs			
Hours	12	44	64
Subtotal	$3,000.00	$8,140.00	$9,920.00
Fee by Task			21060
Task 3 - Financial Strategy			
Hours	45	51	88
Subtotal	$11,250.00	$9,435.00	$13,640.00
Fee by Task			34325
Task 4 - Evaluate Scenarios			
Hours	0	0	0
Subtotal	$0.00	$0.00	$0.00
Fee by Task			0

Total LSW Fee	**$73,210.00**

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

EXHIBIT "D"
TITLE VI ASSURANCES

During the performance of this AGREEMENT, the CONSULTANT, for itself, its assignees, and successors in interest agree as follows:

1. Compliance with Regulations: The CONSULTANT shall comply with the Regulations relative to non-discrimination in federally assisted programs of the AGENCY, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the "REGULATIONS"), which are herein incorporated by reference and made a part of this AGREEMENT.
2. Equal Opportunity Employer: The CONSULTANT, In all services, programs, activities, hiring, and employment made possible by or resulting from this Agreement or any subcontract, there shall be no discrimination by Consultant or its selection and retention of sub-consultants, including procurement of materials and leases of equipment, of any level, or any of those entities employees, agents, sub-consultants, or representatives against any person because of sex, age (except minimum age and retirement provisions), race, color, religion, creed, national origin, marital status, or the presence of any disability, including sensory, mental or physical handicaps, unless based upon a bona fide occupational qualification in relationship to hiring and employment. This requirement shall apply, but not be limited to the following: employment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. Consultant shall comply with and shall not violate any of the terms of Chapter 49.60 RCW, Title VI of the Civil Rights Act of 1964, the Americans With Disabilities Act, Section 504 of the Rehabilitation Act of 1973, 49 CFR Part 21, 21.5 and 26, or any other applicable federal, state, or local law or regulation regarding non-discrimination.
3. Solicitations for Sub-consultants, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiations made by the CONSULTANT for work to be performed under a sub-contract, including procurement of materials or leases of equipment, each potential sub-consultant or supplier shall be notified by the CONSULTANT of the CONSULTANT's obligations under this AGREEMENT and the REGULATIONS relative to non-discrimination of the grounds of race, color, sex, or national origin.
4. Information and Report: The CONSULTANT shall provide all information and reports required by the REGULATIONS or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by AGENCY, STATE or the Federal Highway Administration (FHWA) to be pertinent to ascertain compliance with such REGULATIONS, orders and instructions. Where any information required of a CONSULTANT is in the exclusive possession of another who fails or refuses to furnish this information, the CONSULTANT shall so certify to the AGENCY, STATE or FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.
5. Sanctions for Non-compliance: In the event of the CONSULTANT's non-compliance with the non-discrimination provisions of this AGREEMENT, the AGENCY shall impose such AGREEMENT sanctions as it, the STATE or the FHWA may determine to be appropriate, including, but not limited to:
   - Withholding of payments to the CONSULTANT under the AGREEMENT until the CONSULTANT complies, and/or;
   - Cancellation, termination, or suspension of the AGREEMENT, in whole or in part.
6. Incorporation of Provisions: The CONSULTANT shall include the provisions of paragraphs (1) through (5) in every sub-contract, including procurement of materials and leases of equipment,

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

unless exempt by the REGULATIONS, or directives issued pursuant thereto. The CONSULTANT shall take such action with respect to any sub-consultant or procurement as the AGENCY, STATE, or FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance.

Provided, however that in the event a CONSULTANT becomes involved in, or is threatened with, litigation with a sub-consultant or supplier as a result of such direction, the CONSULTANT may request the AGENCY and the STATE enter into such litigation to protect the interests of the AGENCY and the STATE and, in addition, the CONSULTANT may request the United States enter into such litigation to protect the interests of the United States.

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

The United States Department of Transportation
Appendix A of the
Standard Title VI/ Non-Discrimination Assurances
DOT Order No. 1050.2A

During the performance of this contract, the Consultant, for itself, its assignees, and successors in interest (hereinafter referred to as the "Consultant") agrees as follows:

1. Compliance with Regulations: The Consultant (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination: The Consultant, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, disability, income-level, or Limited English Proficiency (LEP) in the selection and retention of subConsultants, including procurements of materials and leases of equipment. The Consultant will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations as set forth in Appendix E, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 C.F.R. Part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the Consultant for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subConsultant or supplier will be notified by the Consultant of the Consultant's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, national origin, sex. Age, disability, income-level or LEP.

4. Information and Reports: The Consultant will provide all information and reports required by the Acts, the Regulations and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations and instructions. Where any information required of a Consultant is in the exclusive possession of another who fails or refuses to furnish the information, the Consultant will so certify to the Recipient or the FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a Consultant's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

   a. withholding payments to the Consultant under the contract until the Consultant complies; and/or
   b. cancelling, terminating, or suspending a contract, in whole or in part.

Incorporation of Provisions: The Consultant will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Consultant will take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Consultant becomes involved in, or is threatened with litigation by a subConsultant, or supplier because of such direction, the Consultant may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the Consultant may request the United States to enter into the litigation to protect the interests of the United States.

Docusign Envelope ID: D3AB23AA-C502-8E09-80A9-884A3B0DF28A

The United States Department of Transportation
Appendix E of the
Standard Title VI/ Non-Discrimination Assurances
DOT Order No. 1050.2A

During the performance of this contract, the Consultant, for itself, its assignees, and succors in interest (hereinafter referred to as the "Consultant") agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat.252), prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, prohibits discrimination on the basis of disability; and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123, as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and Consultants, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination of the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations 49 C.F.R. parts 37 and 38.
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

CITY OF CAMAS
PROFESSIONAL SERVICES AGREEMENT

616 NE 4th Avenue
Camas, WA 98607

PROJECT NO. **WTR26005**

PUBLIC WORKS OPERATIONS FACILITY STUDY

THIS AGREEMENT is entered into between the City of Camas, a municipal corporation, hereinafter referred to as "the City", and **Scott Edwards Architecture LLP**, hereinafter referred to as the "Consultant", in consideration of the mutual benefits, terms, and conditions hereinafter specified.

1. Project Designation. The Consultant is retained by the City to perform professional services in connection with the project designated as the **Public Works Operations Facility Study**.

2. Scope of Services. Consultant agrees to perform the services, identified on Exhibit "A" attached hereto, including the provision of all labor, materials, equipment, supplies and expenses.

3. Time for Performance. Consultant shall perform all services and provide all work product required pursuant to this agreement by no later than **May 31, 2027**, unless an extension of such time is granted in writing by the City, or the Agreement is terminated by the City in accordance with Section 18 of this Agreement.

4. Payment. The Consultant shall be paid by the City for completed work and for services rendered for an amount not to exceed **$187,400.00** under this agreement as follows:

   a. Payment for the work provided by Consultant shall be made as provided on Exhibit "B" attached hereto, provided that the total amount of payment to Consultant shall not exceed the amounts for each task identified in Exhibit “A” (Scope of Services) inclusive of labor, materials, equipment supplies and expenses. Billing rates as identified in Exhibit “C”.

   b. The Consultant may submit vouchers to the City once per month during the progress of the work for payment for project completed to date. Vouchers submitted shall include the Project Number designated by the City and noted on this agreement. Such vouchers will be checked by the City, and upon approval thereof, payment will be made to the Consultant in the amount approved. Payment to the Consultant of partial estimates, final estimates, and retained percentages shall be subject to controlling laws.

   c. Final payment of any balance due the Consultant of the total contract price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this agreement and its acceptance by the City.

   d. Payment as provided in this section shall be full compensation for work performed, services rendered and for all materials, supplies, equipment and incidentals necessary to complete the work.

   e. The Consultant's records and accounts pertaining to this agreement are to be kept available for inspection by representatives of the City and of the State of Washington for a period of three (3) years after final payment. Copies shall be made available upon request.

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

5. Ownership and Use of Documents. All documents, drawings, specifications, electronic copies and other materials produced by the Consultant hereinafter "Work Product" in connection with the services rendered under this Agreement shall be the property of the City whether the project for which they are made is executed or not. The Consultant shall be permitted to retain copies, including reproducible copies, of drawings and specifications for information, reference and use in connection with Consultant's endeavors. The City agrees, to the fullest extent permitted by law, to indemnify and hold the Consultant harmless from any claim, liability or cost (including reasonable attorney's fees and defense costs) arising or allegedly arising out of any reuse or modification of the Work Product by the City or any person or entity that obtains the Work Product from or through the City.

   All work product which may be produced or modified by the Consultant while performing the Services shall belong to the City, upon full payment of all monies owed to the Consultant under this agreement. Upon written notice by the City during the Term of this Agreement or upon the termination or cancellation of this Agreement, the Consultant shall deliver all copies of any such work product remaining in the possession of the Consultant to the City.

6. Compliance with Laws. Consultant shall, in performing the services contemplated by this agreement, faithfully observe and comply with all federal state, and local laws, ordinances and regulations, applicable to the services to be rendered under this agreement. Compliance shall include, but not limited to, 8 CFR Part 274a – Control of Employment of Aliens, § 274a.2 Verification of identity and employment authorization.

7. Indemnification. Consultant shall defend, indemnify and hold the City of Camas, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or resulting from the negligent acts, errors or omissions of the Consultant in performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

   However, should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Consultant and the City, its officers, officials and employees, the Consultant's liability, hereunder shall be only to the extent of the Consultant's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Consultant's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

8. Consultant's Liability Insurance.

   a. Insurance Term. The Consultant shall procure and maintain for the duration of this Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees.

   b. No Limitation. Consultant's maintenance of insurance as required by the Agreement shall not be construed to limit the liability of the Consultant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

   c. Minimum Scope of Insurance. Consultant shall obtain insurance of types and coverage described below:

      1. Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of $1,000,000.00 per accident. Automobile Liability insurance covering all owned, non-owned, hired and leased vehicles. Coverage shall be at least as broad as Insurance Services Office (ISO) form CA 00 01.

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

2. Commercial General Liability insurance shall be written with limits no less than $2,000,000.00 each occurrence, $2,000,000.00 general aggregate. Commercial General Liability insurance shall be at least as broad as ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop-gap independent Consultants and personal injury and advertising injury. The Public Entity shall be named as an additional insured under the Consultant's Commercial General Liability insurance policy with respect to the work performed for the Public Entity using an additional insured endorsement at least as broad as ISO endorsement form CG 20 26.

3. Professional Liability insurance appropriate to the consultant's profession. Professional Liability insurance shall be written with limits no less than $2,000,000.00 per claim and $2,000,000.00 policy aggregate limit.

4. Workers' Compensation coverage as required by Industrial Insurance laws of the State of Washington.

5. Verification. Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, showing the City of Camas as a named additional insured, evidencing the Automobile Liability and Commercial General Liability of the Consultant before commencement of the work.

d. Other Insurance Provision. The Consultant's Automobile Liability and Commercial General Liability insurance policies are to contain or be endorsed to contain that they shall be primary insurance as respect to the City. Any Insurance, self-insurance, or self-insured pool coverage maintained by the City shall be excess of the Consultant's insurance and shall not contribute with it.

e. Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best rating of not less than A: VII.

f. Verification of Coverage. Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Agreement before commencement of the work.

g. Notice of Cancellation. The Consultant shall provide the City with written notice of any policy cancellation within two business days of their receipt of such notice.

h. Failure to Maintain Insurance. Failure on the part of the Consultant to maintain the insurance as required shall constitute a material breach of contract, upon which the City may, after giving five business days' notice to the Consultant to correct the breach, immediately terminate the Agreement or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Consultant from the City.

9. Independent Consultant. The Consultant and the City agree that the Consultant is an independent Consultant with respect to the services provided pursuant to this agreement. Nothing in this Agreement shall be considered to create the relationship of employer and employee between the parties hereto.

Neither Consultant nor any employee of consultant shall be entitled to any benefits accorded City employees by virtue of the services provided under this Agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to consultant, or any employee of Consultant.

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

10. Covenant Against Contingent Fees. The Consultant warrants that he/she has not employed or retained any company or person, other than a bonafide employee working solely for the Consultant, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a bonafide employee working solely for the Consultant, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract. For breach or violation of this warranty, the City shall have the right to annul this contract without liability or, in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

11. Discrimination Prohibited. During the performance of this Agreement, the Consultant, for itself, its assignees, and successors in interest agrees to comply with the following laws and regulations:

- Title VI of the Civil Rights Act of 1964
  (42 USC Chapter 21 Subchapter V Section 2000d through 2000d-4a)
- Federal-aid Highway Act of 1973
  (23 USC Chapter 3 Section 324)
- Rehabilitation Act of 1973
  (29 USC Chapter 16 Subchapter V Section 794)
- Age Discrimination Act of 1975
  (42 USC Chapter 76 Section 6101 et seq.)
- Civil Rights Restoration Act of 1987
  (Public Law 100-259)
- Americans with Disabilities Act of 1990
  (42 USC Chapter 126 Section 12101 et. seq.)
- 49 CFR Part 21
- 23 CFR Part 200
- RCW 49.60.180

In relation to Title VI of the Civil Rights Act of 1964, the Consultant is bound by the provisions of Exhibit "D" attached hereto and by this reference made part of this Agreement and shall include the attached Exhibit "D" in every sub-contract, including procurement of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto.

12. Confidentiality. The Consultant agrees that all materials containing confidential information received pursuant to this Agreement shall not be disclosed without the City's express written consent. Consultant agrees to provide the City with immediate written notification of any person seeking disclosure of any confidential information obtained for the City. The restrictions on the use and disclosure of the confidential information shall not apply to information which (a) was known to the Consultant before receipt of same from the City; or (b) becomes publicly known other than through the Consultant; or (c) is disclosed pursuant to the requirements of a governmental authority or judicial order, but only to the extent required to comply with the said requirements of the government authority or judicial order.

13. Work Product. All work product, including records, files, documents, plans, computer disks, magnetic media or material which may be produced or modified by the Contractor while performing the Services shall belong to the City, upon full payment of all monies owed to the Contractor under this agreement. Upon written notice by the City during the Term of this Agreement or upon the termination or cancellation of this Agreement, the Contractor shall deliver all copies of any such work product remaining in the possession of the Contractor to the City.

14. Certification Regarding Debarment, Suspension, or Ineligibility and Voluntary Exclusion—Primary and Lower Tier Covered Transactions.

a. The Consultant, defined as the primary participant and its principals, certifies by signing these General Terms and Conditions that to the best of its knowledge and belief that they:

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal or State department or agency.
2. Have not within a three-year period preceding this contract, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public or private agreement or transaction, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, receiving stolen property, making false claims, or obstruction of justice;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this section; and
4. Have not within a three-year period preceding the signing of this contract had one or more public transactions (federal, state, or local) terminated for cause of default.

b. Where the Consultant is unable to certify to any of the statements in this contract, the Consultant shall attach an explanation to this contract.

c. The Consultant agrees by signing this contract that it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the City.

d. The Consultant further agrees by signing this contract that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," as follows, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions:

Lower Tier Covered Transactions

1. The lower tier Consultant certifies, by signing this contract that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the lower tier Consultant is unable to certify to any of the statements in this contract, such Consultant shall attach an explanation to this contract.

e. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, person, primary covered transaction, principal, and voluntarily excluded, as used in this section, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the City for assistance in obtaining a copy of these regulations.

15. Intellectual Property.

a. Warranty of Non-infringement. Consultant represents and warrants that the Consultant is either the author of all deliverables to be provided under this Agreement or has obtained and holds all rights necessary to carry out this Agreement. Consultant further represents and warrants that the Services to be provided under this Agreement do not and will not infringe any copyright, patent, trademark, trade secret or other intellectual property right of any third party.

b. Rights in Data. Unless otherwise provided, data which originates from this Agreement shall be a "work for hire" as defined by the U.S. Copyright Act of 1976 and shall be owned by the City. Data shall include, but not be limited to reports, documents, pamphlets, advertisements, books,

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

magazines, surveys, studies, films, tapes, and sound reproductions. Ownership includes the right to copyright, patent, register, and the ability to transfer these rights.

16. Assignment. The Consultant shall not sublet or assign any of the services covered by this agreement without the express written consent of the City.

17. Non-Waiver. Waiver by the City of any provision of this agreement or any time limitation provided for in this agreement shall not constitute a waiver of any other provision.

18. Conflict of Interest. It is recognized that Consultant may or will be performing professional services during the Term for other parties; however, such performance of other services shall not conflict with or interfere with Consultant's ability to perform the Services. Consultant agrees to resolve any such conflicts of interest in favor of the City. Consultant confirms that Consultant does not have a business interest or a close family relationship with any City officer or employee who was, is, or will be involved in the Consultant's selection, negotiation, drafting, signing, administration, or evaluating the Consultant's performance.

19. City's Right to Terminate Contract. The City shall have the right at its discretion and determination to terminate the contract following ten (10) calendar days written notice. The consultant shall be entitled to payment for work thus far performed and any associated expenses, but only after the city has received to its satisfaction the work completed in connection with the services to be rendered under this agreement.

20. Notices. Notices to the City of Camas shall be sent to the following address:

Scott Collins, P.E.
City of Camas
616 NE 4th Avenue
Camas, WA 98607
PH: 360-817-7899
EMAIL: scollins@cityofcamas.us

Notices to Consultant shall be sent to the following address:

Sid L. Scott
Scott Edwards Architecture LLP
2525 E Burnside St.
Portland, OR 97214
PH: 503-226-3617
EMAIL: sid@seallp.com

21. Integrated Agreement. This Agreement together with attachments or addenda, represents the entire and integrated agreement between the City and the Consultant and supersedes all prior negotiations, representations, or agreements written or oral. This agreement may be amended only by written instrument signed by both City and Consultant. Should any language in any Exhibits to this Agreement conflict with any language in this Agreement, the terms of this Agreement shall prevail. Any provision of this Agreement that is declared invalid, inoperative, null and void, or illegal shall in no way affect or invalidate any other provision hereof and such other provisions shall remain in full force and effect.

22. Arbitration Clause. If requested in writing by either the City or the Consultant, the City and the Consultant shall attempt to resolve any dispute between them arising out of or in connection with this Agreement by first entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. If a dispute cannot be settled within a period of thirty (30) calendar days with the mediator, if mutually agreed, the dispute shall be referred to arbitration in the Portland USA&M office in

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

accordance with the applicable United States Arbitration and Mediation Rules of Arbitration. The arbitrator's decision shall be final and legally binding, and judgement be entered thereon.

Each party shall be responsible for its share of the arbitration fees in accordance with the applicable Rules of Arbitration. In the event a party fails to proceed with arbitration, unsuccessfully challenges the arbitrator's award, or fails to comply with the arbitrator's award, the other party is entitled to costs of suit, including reasonable attorney's fee for having to compel arbitration or defend or enforce award.

23. Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Washington.

24. Venue. The venue for any dispute related to this Agreement or for any action to enforce any term of this Agreement shall be Clark County, Washington.

25. Remedies Cumulative. Any remedies provided for under the terms of this Agreement are not intended to be exclusive but shall be cumulative with all other remedies available to the City at law or in equity.

26. Counterparts. Each individual executing this Agreement on behalf of the City and Consultant represents and warrants that such individual is duly authorized to execute and deliver this Agreement. This Agreement may be executed in any number of counterparts, which counterparts shall collectively constitute the entire Agreement.

DATED this _____ day of _____, 20__.

CITY OF CAMAS:

By _____

Print Name _____

Title _____

Scott Edwards Architecture, LLP
Authorized Representative

By Signed by: Sid L Scott
5FAB5407EC204BC...

Print Name Sid L Scott

Title Principal

Date 10/12/2026

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

EXHIBIT "A"
SCOPE OF SERVICES

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

Scott Edwards Architecture

September 28, 2026

Scott Collins, Public Works Director
City of Camas, Public Works Department
Via Email: SCollins@cityofcamas.us

RE: PROPOSAL FOR THE CITY OF CAMAS PUBLIC WORKS OPERATIONS FACILITY STUDY

Scott,

Scott Edwards Architecture (SEA) is pleased to provide this proposal to the City of Camas for architectural services for a study to relocate the Camas Public Works Operations Facility. We look forward to working with you towards the success of this project.

PROJECT SCOPE

The City of Camas intends to study options to relocate the existing Public Works Operations Center, currently located at 1620 SE 8th Avenue, Camas, WA., to a new consolidated facility location within the city. The locations under consideration are the UL Site and Weakley Road Site. The preferred option is to develop the UL Site and if it is determined that is not a viable option, the study will switch focus to the Weakley Road Site.

The UL Site is being considered as a location for a new City Complex that would include City Hall and the Public Works Operations Center. The Weakley Road Site is being considered for a new Public Works Operations Center only.

The City of Camas is developing a City Hall Facility Planning study concurrently with this study. We will coordinate with LSW Architects' work as this study develops.

The City of Camas Public Works Operations Facility study completed by TCF Architecture and dated December 21, 2021, will be used as the starting point for assessing the space needs for the Public Works Department.

Services in this proposal include program validation and refinement, site master planning, conceptual design and preliminary civil engineering, phasing plan, cost estimating, and assistance with funding options.

Team members for this phase of the project will be:

Scott Edwards Architecture	Architect
HHPR	Civil
Holmes	Structural
Windsor	MEP
DCW	Cost Estimating
GEL	Funding Options

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

SCOPE OF SERVICES

01 Kick-off Meeting

- **A** Formalize understanding of the project goals and schedule.
- **B** Establish procedures, lines of communication and decision making. Define roles and responsibilities within the project team.
- **C** Define makeup of City staff and stakeholders. Establish the Project Team (PT).
- **D** Review and refine Work Plan to outline the steps of the project.
- **E** Review previously developed Needs Assessment and Program. Identify any adjustments or adaptations needed.

02 Research & Analysis

- **A** Research and analysis of zoning code requirements.
- **B** Gather information from the City of Camas and other local jurisdictions related to the subject properties.
- **C** Map existing site conditions and prepare a site assessment.
- **D** Attend visioning sessions with the City Hall team.

03 Programming Validation

- **A** Move-in and Understand – We will spend a day at your current facility observing the current operations to assess how the facility works and assess potential needs moving forward.
- **B** Visit the UL Site and Weakly Road Site with the PT to discuss existing conditions and potential development strategies.
- **C** Tour of similar Public Works Operations Facilities in the region. We recommend the City of Wilsonville, City of Oregon City, and the City of Lake Oswego Public Works Operations Centers.
- **D** Meet with the Department Heads to discuss the project and review the approach and process.
- **E** Meet with each of the Public Works Departments individually to review the prior programming and update as needed.
- **F** Develop a refined Needs Assessment and Program. Meet with the PT and revise as needed.

04 Conceptual Planning, Preliminary Engineering & Phasing Plan

- **A** Based on the updated Needs Assessment and Program, develop conceptual site and building plan options for the UL Site in coordination with the City Hall Planning effort. This planning effort will be based on high level conceptual design options that show general layout and relationships.
- **B** Identify design and construction opportunities and challenges.
- **C** Develop potential shared space opportunities.
- **D** Consider phasing options for the proposed development.
- **E** Coordinate with LSW's structural assessment of the existing building.
- **F** Meet with the PT and review options and revise as needed.
- **G** Select the preferred option.

05 Cost Estimating, Funding Options & Next Steps

- **A** Prepare a conceptual construction cost estimate.
- **B** GEL to work with City finance staff to discuss options for funding the project.
- **C** Review with the PT and revise as needed.
- **D** Meet with the City Council to present study.
- **E** Meet with the PT to establish next steps.

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

EXCLUSIONS TO SCOPE OF SERVICE

01 Full project design.
02 Additional other site studies.
03 Land use application.
04 Traffic impact study.
05 Geotechnical investigations (soils structural report).
06 Topographic survey.
07 Wetland delineation.
08 Infiltration testing.
09 Environmental studies.
10 Community Public Engagement.

FEES

We propose providing the services outlined above on an hourly basis with the not-to-exceed (NTE) amount of $187,400, not including reimbursable expenses. Our time will be billed per the Standard Billing Schedule based on the estimated fees below.

Estimate Fees by Team Member:

Architectural	$108,440
Civil Engineering	$ 16,200
Structural Engineering	$ 12,600
MEP Engineering	$ 17,360
Cost Estimating	$ 15,800
Funding Options	$ 17,000
Total Estimate NTE Fees	$187,400

Estimated Fees by Phases:

	Phase	Hours	Rate/Hour	Total
01	Kick-off Meeting			
	Principal	10	$260	$ 2,600
	Project Manager	16	$220	$ 3,520
	Project Architect	10	$200	$ 2,000
	Civil Engineering			$ 1,200
	Phase Sub-total			$ 9,320
02	Research & Analysis			
	Principal	14	$260	$ 3,640
	Project Manager	32	$220	$ 7,040
	Project Architect	24	$200	$ 4,800
	Civil Engineering			$ 4,000
	Structural Engineering			$ 4,200
	MEP Engineering			$ 5,800
	Phase Sub-total			$29,480

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

EXHIBIT "B"
COSTS FOR SCOPE OF SERVICES

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

EXCLUSIONS TO SCOPE OF SERVICE

01 Full project design.
02 Additional other site studies.
03 Land use application.
04 Traffic impact study.
05 Geotechnical investigations (soils structural report).
06 Topographic survey.
07 Wetland delineation.
08 Infiltration testing.
09 Environmental studies.
10 Community Public Engagement.

FEES

We propose providing the services outlined above on an hourly basis with the not-to-exceed (NTE) amount of $187,400, not including reimbursable expenses. Our time will be billed per the Standard Billing Schedule based on the estimated fees below.

Estimate Fees by Team Member:

Architectural	$108,440
Civil Engineering	$ 16,200
Structural Engineering	$ 12,600
MEP Engineering	$ 17,360
Cost Estimating	$ 15,800
Funding Options	$ 17,000
Total Estimate NTE Fees	$187,400

Estimated Fees by Phases:

	Phase	Hours	Rate/Hour	Total
01	Kick-off Meeting			
	Principal	10	$260	$ 2,600
	Project Manager	16	$220	$ 3,520
	Project Architect	10	$200	$ 2,000
	Civil Engineering			$ 1,200
	Phase Sub-total			$ 9,320
02	Research & Analysis			
	Principal	14	$260	$ 3,640
	Project Manager	32	$220	$ 7,040
	Project Architect	24	$200	$ 4,800
	Civil Engineering			$ 4,000
	Structural Engineering			$ 4,200
	MEP Engineering			$ 5,800
	Phase Sub-total			$29,480

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

03	Programming Validation			
	Principal	20	$260	$ 5,200
	Project Manager	44	$220	$ 9,680
	Project Architect	24	$200	$ 4,800
	Phase Sub-total			$19,680
04	Conceptual Planning			
	Principal	52	$260	$13,520
	Project Manager	78	$220	$17,160
	Project Architect	48	$200	$ 9,600
	Designer	86	$140	$12,040
	Civil Engineering			$ 9,800
	Structural Engineering			$ 7,200
	MEP Engineering			$ 9,760
	Phase Sub-total			$79,080
05	Cost Estimating & Funding Options			
	Principal	24	$260	$ 6,240
	Project Manager	30	$220	$ 6,600
	Civil Engineering			$ 1,200
	Structural Engineering			$ 1,200
	MEP Engineering			$ 1,800
	Cost Estimating			$15,800
	Funding Options			$17,000
	Phase Sub-total			$49,840

STANDARD BILLING SCHEDULE

Principal	$260 per hour
Project Manager	$220 per hour
Project Architect	$200 per hour
Specification Writer	$170 per hour
Sustainability Lead	$180 per hour
Interior Designer	$180 per hour
Designer	$140 per hour

REIMBURSABLE EXPENSES

Printing, plotting, shipping, travel, long distance communication and application fees paid on your behalf are billed at 1.10 times direct expense in addition to professional fees. We anticipate the reimbursable expenses for your project will be $3,500.

ADDITIONAL SERVICES

Services requested beyond those included in this proposal shall be considered additional services and will be billed at the hourly rates listed above.

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

EXHIBIT "C"
BILLING RATES

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

03	Programming Validation			
	Principal	20	$260	$ 5,200
	Project Manager	44	$220	$ 9,680
	Project Architect	24	$200	$ 4,800
	Phase Sub-total			$19,680
04	Conceptual Planning			
	Principal	52	$260	$13,520
	Project Manager	78	$220	$17,160
	Project Architect	48	$200	$ 9,600
	Designer	86	$140	$12,040
	Civil Engineering			$ 9,800
	Structural Engineering			$ 7,200
	MEP Engineering			$ 9,760
	Phase Sub-total			$79,080
05	Cost Estimating & Funding Options			
	Principal	24	$260	$ 6,240
	Project Manager	30	$220	$ 6,600
	Civil Engineering			$ 1,200
	Structural Engineering			$ 1,200
	MEP Engineering			$ 1,800
	Cost Estimating			$15,800
	Funding Options			$17,000
	Phase Sub-total			$49,840

STANDARD BILLING SCHEDULE

Principal	$260 per hour
Project Manager	$220 per hour
Project Architect	$200 per hour
Specification Writer	$170 per hour
Sustainability Lead	$180 per hour
Interior Designer	$180 per hour
Designer	$140 per hour

REIMBURSABLE EXPENSES

Printing, plotting, shipping, travel, long distance communication and application fees paid on your behalf are billed at 1.10 times direct expense in addition to professional fees. We anticipate the reimbursable expenses for your project will be $3,500.

ADDITIONAL SERVICES

Services requested beyond those included in this proposal shall be considered additional services and will be billed at the hourly rates listed above.

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

TIMELINE

The services outlined in this proposal are assumed to take six (6) months, from October 2026 through March 2027.

I appreciate your consideration of this proposal and look forward to working with you.

Sincerely,

Sid L. Scott, Principal

9.28.26

Date

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

EXHIBIT "D"
TITLE VI ASSURANCES

During the performance of this AGREEMENT, the CONSULTANT, for itself, its assignees, and successors in interest agree as follows:

1. Compliance with Regulations: The CONSULTANT shall comply with the Regulations relative to non-discrimination in federally assisted programs of the AGENCY, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the "REGULATIONS"), which are herein incorporated by reference and made a part of this AGREEMENT.

2. Equal Opportunity Employer: The CONSULTANT, In all services, programs, activities, hiring, and employment made possible by or resulting from this Agreement or any subcontract, there shall be no discrimination by Consultant or its selection and retention of sub-consultants, including procurement of materials and leases of equipment, of any level, or any of those entities employees, agents, sub-consultants, or representatives against any person because of sex, age (except minimum age and retirement provisions), race, color, religion, creed, national origin, marital status, or the presence of any disability, including sensory, mental or physical handicaps, unless based upon a bona fide occupational qualification in relationship to hiring and employment. This requirement shall apply, but not be limited to the following: employment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. Consultant shall comply with and shall not violate any of the terms of Chapter 49.60 RCW, Title VI of the Civil Rights Act of 1964, the Americans With Disabilities Act, Section 504 of the Rehabilitation Act of 1973, 49 CFR Part 21, 21.5 and 26, or any other applicable federal, state, or local law or regulation regarding non-discrimination.

3. Solicitations for Sub-consultants, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiations made by the CONSULTANT for work to be performed under a sub-contract, including procurement of materials or leases of equipment, each potential sub-consultant or supplier shall be notified by the CONSULTANT of the CONSULTANT's obligations under this AGREEMENT and the REGULATIONS relative to non-discrimination of the grounds of race, color, sex, or national origin.

4. Information and Report: The CONSULTANT shall provide all information and reports required by the REGULATIONS or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by AGENCY, STATE or the Federal Highway Administration (FHWA) to be pertinent to ascertain compliance with such REGULATIONS, orders and instructions. Where any information required of a CONSULTANT is in the exclusive possession of another who fails or refuses to furnish this information, the CONSULTANT shall so certify to the AGENCY, STATE or FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Non-compliance: In the event of the CONSULTANT's non-compliance with the non-discrimination provisions of this AGREEMENT, the AGENCY shall impose such AGREEMENT sanctions as it, the STATE or the FHWA may determine to be appropriate, including, but not limited to:

   - Withholding of payments to the CONSULTANT under the AGREEMENT until the CONSULTANT complies, and/or;
   - Cancellation, termination, or suspension of the AGREEMENT, in whole or in part.

6. Incorporation of Provisions: The CONSULTANT shall include the provisions of paragraphs (1) through (5) in every sub-contract, including procurement of materials and leases of equipment, unless exempt by the REGULATIONS, or directives issued pursuant thereto. The CONSULTANT shall take such action with respect to any sub-consultant or procurement as the AGENCY, STATE, or FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance.

   Provided, however that in the event a CONSULTANT becomes involved in, or is threatened with, litigation with a sub-consultant or supplier as a result of such direction, the CONSULTANT may request the AGENCY and the STATE enter into such litigation to protect the interests of the AGENCY and the STATE and, in addition, the CONSULTANT may request the United States enter into such litigation to protect the interests of the United States.

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

The United States Department of Transportation
Appendix A of the
Standard Title VI/ Non-Discrimination Assurances
DOT Order No. 1050.2A

During the performance of this contract, the Consultant, for itself, its assignees, and successors in interest (hereinafter referred to as the "Consultant") agrees as follows:

1. Compliance with Regulations: The Consultant (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination: The Consultant, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, disability, income-level, or Limited English Proficiency (LEP) in the selection and retention of subConsultants, including procurements of materials and leases of equipment. The Consultant will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations as set forth in Appendix E, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 C.F.R. Part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the Consultant for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subConsultant or supplier will be notified by the Consultant of the Consultant's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, national origin, sex. Age, disability, income-level or LEP.

4. Information and Reports: The Consultant will provide all information and reports required by the Acts, the Regulations and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations and instructions. Where any information required of a Consultant is in the exclusive possession of another who fails or refuses to furnish the information, the Consultant will so certify to the Recipient or the FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a Consultant's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

   a. withholding payments to the Consultant under the contract until the Consultant complies; and/or
   b. cancelling, terminating, or suspending a contract, in whole or in part.

Incorporation of Provisions: The Consultant will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Consultant will take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Consultant becomes involved in, or is threatened with litigation by a subConsultant, or supplier because of such direction, the Consultant may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the Consultant may request the United States to enter into the litigation to protect the interests of the United States.

Docusign Envelope ID: 5DA43F61-0DD4-8078-8205-15B478A35DB9

The United States Department of Transportation
Appendix E of the
Standard Title VI/ Non-Discrimination Assurances
DOT Order No. 1050.2A

During the performance of this contract, the Consultant, for itself, its assignees, and succors in interest (hereinafter referred to as the "Consultant") agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat.252), prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, prohibits discrimination on the basis of disability; and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123, as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and Consultants, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination of the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations 49 C.F.R. parts 37 and 38.
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

Propositions 12 & 13: Clark County Public Safety Bond and Levy

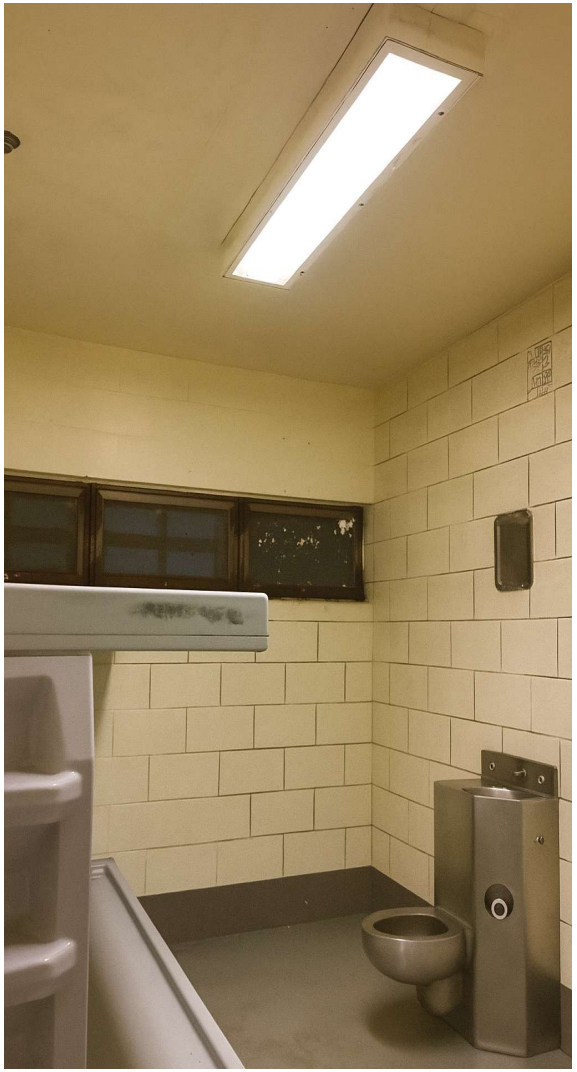
November 3 General Election Ballot

Why These Propositions?

Jail built in 1984

Need safer, expanded facility

Reduce jail bed rental costs



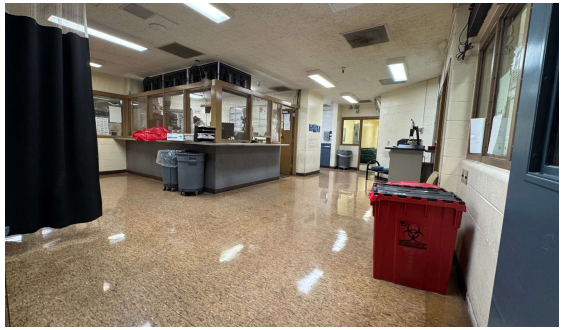


Bond Proposition 12

Remodel & expand jail

More jail beds

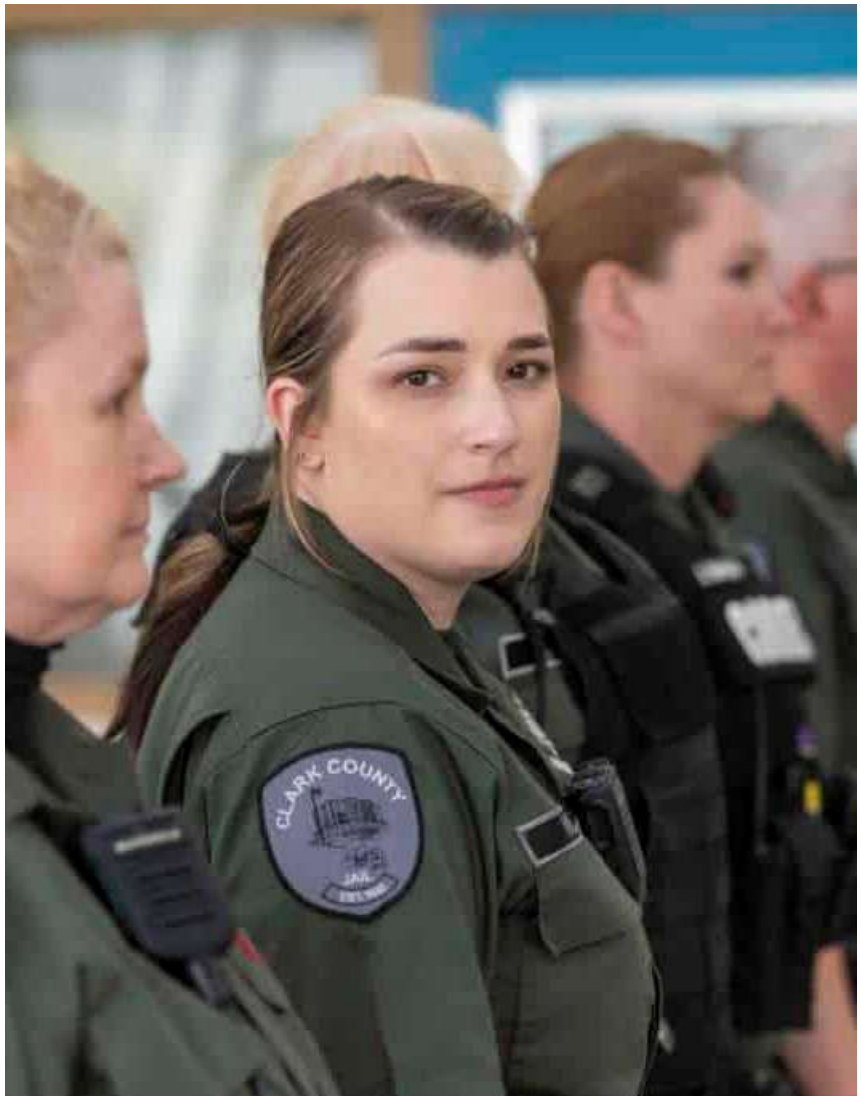
New Sheriff HQ







Bond Proposition 12 Cost



$366M total

~$86/year for median home

Jail Capacity

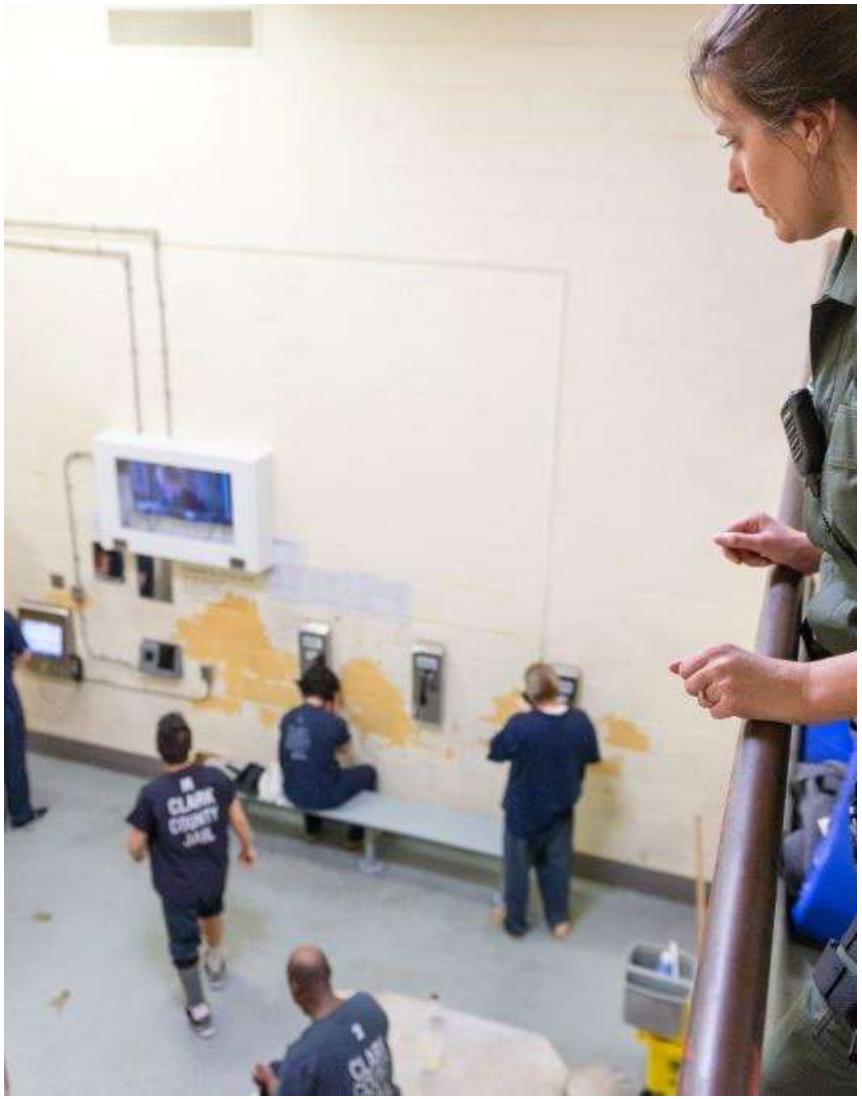
519 beds today

739 beds after expansion

Increased needs:

- Substance use disorders
- Mental health disorders
- Medical conditions

Federal and state requirements to provide care



Jail Booking Status



Level Red

88%



Level Yellow

10%



Level Green

2%

Levy Lid Lift Proposition 13

Funds jail staffing

Supports Sheriff & courts







Levy Lid Lift Proposition 13 Cost



$51.4M total

~$242/year for median home

If Only One Passes



Bond only:

Supports buildings

Wait for staffing



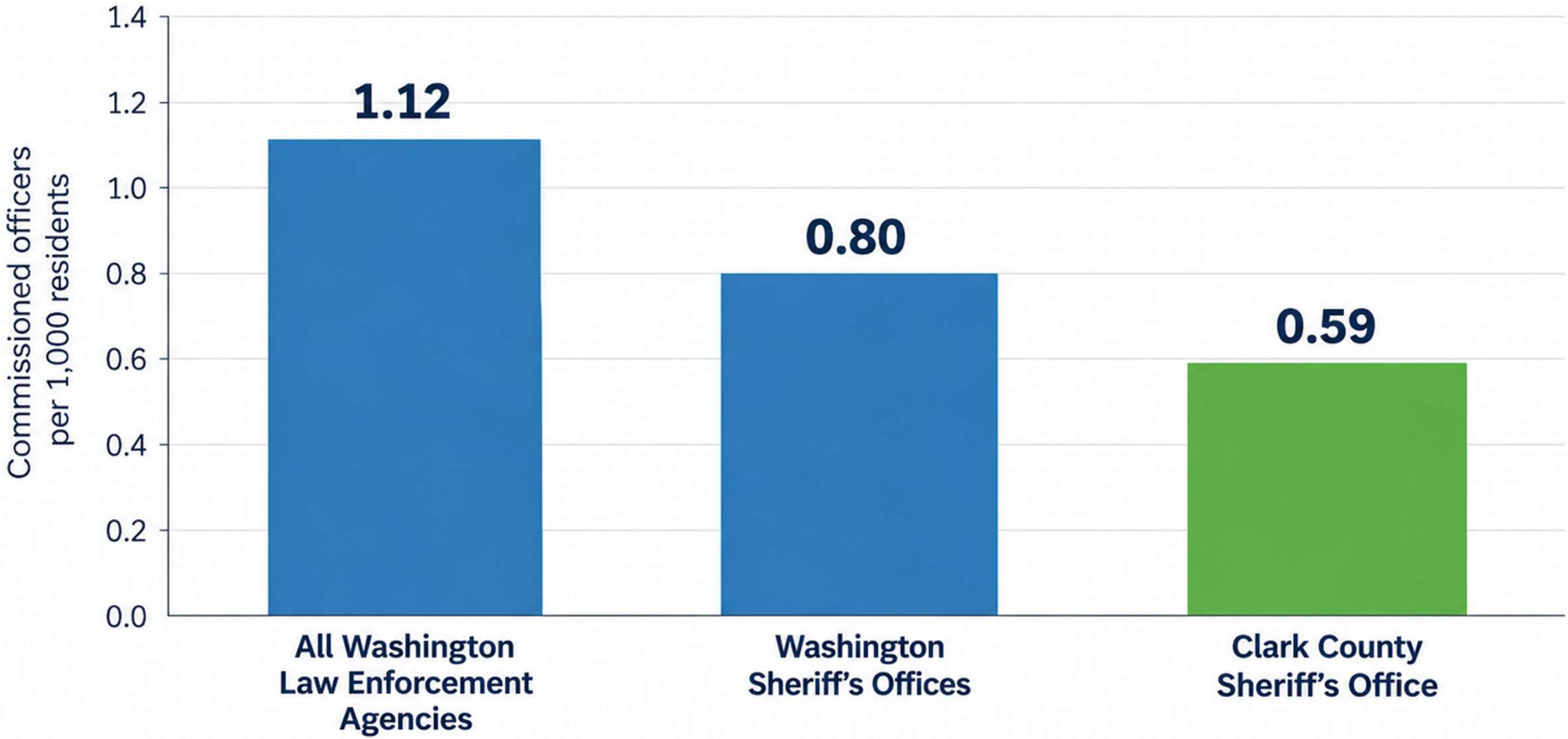
Levy only:

Supports operations

Wait for facilities

Law Enforcement Staffing in Washington

Commissioned officers per 1,000 residents (2025 WASPC Staffing Report)



Source: Washington Association of Sheriffs and Police Chiefs (WASPC) 2025 Staffing Report.

Bond Proposition 12: What's Needed to Pass?

40% minimum voter turnout

Requires 60%

Where Property Tax Dollars Go in Clark County



County Rates Per $1,000 in Assessed Value	
General Fund	0.7229
Conservation Futures	0.0275
Mental Health	0.0084
Developmental Disabilities	0.0084
Veterans Assistance Fund	0.0076
Total	**0.7749**

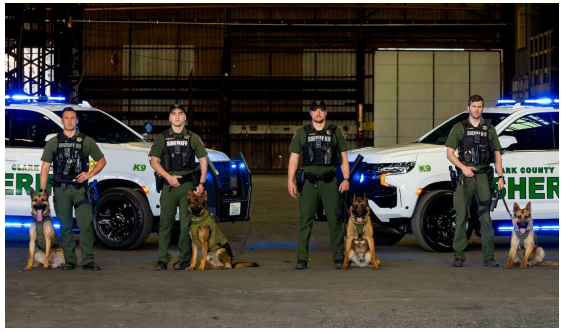
Final Summary

Bond = buildings

Levy = staffing







Questions

- ADA Office: 564-397-2322
- ADA@clark.wa.gov
- www.clark.wa.gov/prop12and13



CITY OF CAMAS, WASHINGTON

ORDINANCE NO. 26-007

AN ORDINANCE of the City of Camas, Washington, establishing a revolving line of credit and providing for the issuance and sale of limited tax general obligation bond anticipation notes in the aggregate principal amount of not to exceed $7,000,000 to evidence the line of credit to pay for capital expenditures and working capital expenditures of the City; fixing the terms and covenants of the notes; and providing for other related matters.

THE CITY COUNCIL OF THE CITY OF CAMAS, WASHINGTON, DO ORDAIN AS FOLLOWS:

Section 1. Definitions. As used in this ordinance, the following capitalized terms shall have the following meanings:

(a) "*Authorized Officer*" means the City Administrator or Finance Director.

(b) "*Base Rate*" means, for any day, a fluctuating rate per annum equal to the highest of (i) the rate of interest in effect for such day as established from time to time by the Purchaser as its "prime rate," whether or not publicly announced, which interest rate may or may not be the lowest rate charged by it for commercial loans or other extensions of credit and (ii) the Floor.

(c) "*Benchmark*" means, initially, Term SOFR; provided that if a Benchmark Transition Event has occurred with respect to the then-current Benchmark, then "Benchmark" means the applicable Benchmark Replacement to the extent that such Benchmark Replacement has replaced such prior benchmark rate pursuant to Section 4.

(d) "*Benchmark Replacement*" means, with respect to any Benchmark Transition Event for the then-current Benchmark, the sum of: (i) the alternate benchmark rate that has been selected by the Purchaser, with the consent of the City, as the replacement for such Benchmark giving due consideration to (A) any selection or recommendation of a replacement benchmark rate or the mechanism for determining such a rate by the Relevant Governmental Body or (B) any evolving or then-prevailing market convention for determining a benchmark rate as a replacement for such Benchmark for credit facilities of similar size denominated in U.S. Dollars at such time and (ii) the related Benchmark Replacement Adjustment, if any; provided that, if such Benchmark Replacement as so determined would be less than the Floor, such Benchmark Replacement will be deemed to be the Floor for the purposes of this ordinance and the Notes.

(e) "*Benchmark Replacement Adjustment*" means, with respect to any replacement of any then-current Benchmark with an unadjusted Benchmark Replacement for the one month term rate, the spread adjustment, or method for calculating or determining such spread adjustment (which may be a positive or negative value or zero), if any, that has been selected by the Purchaser, upon consent of the City, giving due consideration to (a) any selection or recommendation of a

spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of such Benchmark with the applicable unadjusted Benchmark Replacement by the Relevant Governmental Body or (b) any evolving or then-prevailing market convention for determining a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of such Benchmark with the applicable unadjusted Benchmark Replacement for U.S. Dollar denominated syndicated credit facilities.

(f) "*Benchmark Replacement Conforming Changes*" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definition of "Base Rate," the definition of "Business Day," the definition of "SOFR Business Day," the defined interest period or any similar or analogous definition (or the addition of a concept of "interest period") (collectively, "Interest Period"), the timing and frequency of determining rates and making payments of interest, timing of borrowing requests or prepayment, conversion or continuation notices, length of lookback periods, and other technical, administrative or operational matters) that the Purchaser decides may be appropriate to reflect the adoption and implementation of such Benchmark Replacement and to permit the administration thereof by the Purchaser in a manner substantially consistent with market practice (or, if the Purchaser decides that adoption of any portion of such market practice is not administratively feasible or if the Purchaser determines that no market practice for the administration of such Benchmark Replacement exists, in such other manner of administration as the Purchaser decides is reasonably necessary in connection with the administration of this ordinance or the Notes).

(g) "*Benchmark Replacement Date*" means the earlier to occur of the following events with respect to the then-current Benchmark:

(i) in the case of clause (i) or (ii) of the definition of "Benchmark Transition Event," the later of (i) the date of the public statement or publication of information referenced therein and (ii) the date on which the administrator of such Benchmark (or the published component used in the calculation thereof) permanently or indefinitely ceases to provide the one month term rate of such Benchmark (or such component thereof); or

(ii) in the case of clause (iii) of the definition of "Benchmark Transition Event," the first date on which such Benchmark (or the published component used in the calculation thereof) has been determined and announced by the regulatory supervisor for the administrator of such Benchmark (or such component thereof) to be no longer representative; provided, that such non-representativeness will be determined by reference to the most recent statement or publication referenced in such clause (iii) and even if any one month term rate of such Benchmark (or such component thereof) continues to be provided on such date.

For the avoidance of doubt, (A) if the event giving rise to the Benchmark Replacement Date for any Benchmark occurs on the same day as, but earlier than, the reference time in respect of any determination, the Benchmark Replacement Date will be deemed to have occurred prior to the reference time for such Benchmark and for such determination and (B) the "Benchmark Replacement Date" will be deemed to have occurred in the case of clause (i) or (ii) with respect to any Benchmark upon the occurrence of the applicable event or events set forth therein with respect to all then-current one month term rate of such Benchmark (or the published component used in the calculation thereof).

(h) "*Benchmark Transition Event*" means, with respect to the then-current Benchmark, the occurrence of one or more of the following events with respect to such Benchmark:

(i) a public statement or publication of information by or on behalf of the administrator of such Benchmark (or the published component used in the calculation thereof) announcing that such administrator has ceased or will cease to provide the one month term rate of such Benchmark (or such component thereof), permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide any one month term rate of such Benchmark (or such component thereof);

(ii) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof), the Federal Reserve Board, the Federal Reserve Bank of New York, an insolvency official with jurisdiction over the administrator for such Benchmark (or such component), a resolution authority with jurisdiction over the administrator for such Benchmark (or such component) or a court or an entity with similar insolvency or resolution authority over the administrator for such Benchmark (or such component), which states that the administrator of such Benchmark (or such component) has ceased or will cease to provide the one month term rate of such Benchmark (or such component thereof) permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide any one month term rate of such Benchmark (or such component thereof); or

(iii) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof) announcing that the one month term rate of such Benchmark (or such component thereof) is no longer, or as of a specified future date will no longer be, representative.

For the avoidance of doubt, a "Benchmark Transition Event" will be deemed to have occurred with respect to any Benchmark if a public statement or publication of information set forth above has occurred with respect to each then-current one month term rate of such Benchmark (or the published component used in the calculation thereof).

(i) "*Benchmark Transition Start Date*" means, with respect to any Benchmark, in the case of a Benchmark Transition Event, the earlier of (i) the applicable Benchmark Replacement Date and (ii) if such Benchmark Transition Event is a public statement or publication of information of a prospective event, the 90th day prior to the expected date of such event as of such public statement or publication of information (or if the expected date of such prospective event is fewer than 90 days after such statement or publication, the date of such statement or publication).

(j) "*Benchmark Unavailability Period*" means, with respect to any then-current Benchmark, the period (if any) (i) beginning at the time that a Benchmark Replacement Date with respect to such Benchmark pursuant to clauses (a) or (b) of that definition has occurred if, at such time, no Benchmark Replacement has replaced such Benchmark for all purposes hereunder and under any Note document and (ii) ending at the time that a Benchmark Replacement has replaced such Benchmark for all purposes hereunder and under this ordinance.

(k) "*Business Day*" means (i) any day other than Saturday, Sunday or any other day on which commercial banks in Cleveland, Ohio or New York, New York are authorized or required by law to close and (ii) with respect to any matters relating to calculation of the interest rate based on SOFR, a SOFR Business Day shall be used in lieu of a Business Day.

(l) "*Calculation Agent*" means KeyBank National Association.

(m) "*CBA*" means CME Group Benchmark Administration Limited.

(n) "*City*" means the City of Camas, Washington, a municipal corporation duly organized and existing under the laws of the State of Washington.

(o) "*City Council*" means the legislative authority of the City, as duly and regularly constituted from time to time.

(p) "*Code*" means the United States Internal Revenue Code of 1986, as amended, and applicable rules and regulations promulgated thereunder.

(q) *"Commitment Fee"* means an amount equal to the product of (i) the daily average Unutilized Amount during any applicable period, and (ii) 35 basis points per annum.

(r) "*Computation Date*" means for the Term SOFR Rate, the second SOFR Business Day immediately preceding each Term SOFR Index Reset Date. For the period beginning on the Effective Date, to, but not including, the first Term SOFR Index Reset Date, the Computation Date shall be one SOFR Business Day prior to the Effective Date.

(s) "*Date of Delivery*" means the date of the delivery of the Notes to the Purchaser.

(t) "*Effective Date*" means the Date of Delivery.

(u) "*Finance Director*" means the Finance Director (which may be interim or acting) of the City, or such other officer of the City who may in the future perform the duties of that office, if any.

(v) "*Floor*" means a rate of interest equal to 0.00%.

(w) "*Maturity Date*" is defined in Section 3, hereof.

(x) "*Note Fund*" means the Limited Tax General Obligation Bond Anticipation Note Fund, 2026, of the City created for the payment of the principal of and interest on the Notes.

(y) "*Note Register*" means the registration records for each Note maintained by the Note Registrar.

(z) "*Note Registrar*" means the City Finance Director, whose duties include registering and authenticating the Notes, maintaining the Note Register, transferring ownership of the Notes, and paying the principal of and interest on the Notes.

(aa) "*Notes*" means the Tax-Exempt Note and the Taxable Note.

(bb) *"Outstanding Principal Balance of the Note"* means the aggregate of all funds that the City has drawn from the Purchaser pursuant to a Note less the aggregate of all principal payments on that Note made by the City.

(cc) "*Proposal*" means the term sheet or an offer to purchase the Notes, setting forth certain terms and conditions of the issuance, sale and delivery of the Notes.

(dd) "*Purchaser*" means KeyBank National Association.

(ee) "*Relevant Governmental Body*" means the Federal Reserve Board or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board or the Federal Reserve Bank of New York, or any successor thereto.

(ff) *"Request for Draw*" means an oral or written request by an Authorized Officer for a draw from the line of credit authorized to be established by this ordinance.

(gg) "*SOFR Business Day*" means any day except for (i) a Saturday, (ii) a Sunday or (iii) a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in United States government securities.

(hh) "*Tax Certificate*" means the tax certificate executed by the Finance Director pertaining to the Tax-Exempt Note.

(ii) "*Tax-Exempt Note*" means the "City of Camas, Washington Limited Tax General Obligation Bond Anticipation Note, 2026 (Tax-Exempt)" authorized by this ordinance.

(jj) "*Tax-Exempt Rate*" means the rate per annum determined by the Calculation Agent on each Computation Date, equal to the product of (a)(i) the Term SOFR Rate, and (ii) 1.50% (150 basis points), multiplied by (b)(i) one minus (ii) the United States federal corporate tax rate. In the event that the Term SOFR Rate or any other index that may be used to calculate interest due under the terms of the Tax-Exempt Note is determined to be less than zero, such index shall be deemed to be zero for purposes of the Tax-Exempt Note.

(kk) "*Taxable Note*" means the "City of Camas, Washington Limited Tax General Obligation Bond Anticipation Note, 2026 (Taxable)" authorized by this ordinance.

(ll) "*Taxable Rate*" means the rate per annum determined by the Calculation Agent on each Computation Date, equal to the sum of (a) the Term SOFR Rate, and (b) 1.20% (120 basis points). In the event that the Term SOFR Rate or any other index that may be used to calculate interest due under the terms of the Taxable Note is determined to be less than zero, such index shall be deemed to be zero for purposes of the Taxable Note.

(mm) "*Term SOFR*" or "*Term SOFR Rate*" means, with respect to any Computation Date, the forward-looking one month term rate based on the secured overnight financing rate ("SOFR") that is published by the Term SOFR Administrator ("One Month Term SOFR") and displayed on CME's Market Data Platform (or other commercially available source providing such quotations as may be selected by the Calculation Agent from time to time), at approximately 6:00 a.m. New

York City time, on such Computation Date (and rounded to the nearest 1/16th of 1%); provided that if by 5:00 pm (New York City time) on any Computation Date, One Month Term SOFR for such day has not been published, then such One Month Term SOFR for such day will be such One Month Term SOFR as published in respect of the first preceding SOFR Business Day for which such rate was published; provided, further, that One Month Term SOFR determined pursuant to this sentence shall be utilized for purposes of calculation of One Month Term SOFR for no more than three consecutive SOFR Business Days.

(nn) "*Term SOFR Administrator*" means CBA (or a successor administrator of the forward-looking secured overnight financing rate).

(oo) "*Term SOFR Index Reset Date*" means the first day of each month, beginning the month following the Effective Date.

(pp) *"Unutilized Amount"* means, as of any date, an amount equal to the difference between $7,000,000 and the combined Outstanding Principal Balance of the Notes.

Section 2. Findings and Determinations. The City takes note of the following facts and makes the following findings and determinations:

(a) *Authority and Description of Project*. The City is in need of short-term financing to be used for general City liquidity and capital expenditures of the City (collectively, the "Projects"). The City Council therefore finds that it is in the best interests of the City to carry out the Projects.

(b) *Plan of Financing*. The City is authorized to issue limited tax general obligation bonds and, pending the issuance of those bonds, issue short term obligations in accordance with the provisions of chapter 39.50 RCW for the purpose of providing a part of the funds to pay the costs of financing the Projects. The total expected cost of the Projects is approximately $7,000,000.

(c) *Debt Capacity*. The maximum amount of indebtedness authorized by this ordinance is $7,000,000. Based on the following facts, this amount is to be issued within the amount permitted to be issued by the City for general municipal purposes without a vote:

(i) The assessed valuation of the taxable property within the City as ascertained by the last preceding assessment for City purposes for collection in the calendar year 2026 is $8,976,630,444.

(ii) As of September 1, 2026, the City had limited tax general obligation indebtedness, consisting of bonds, notes and State loans leases outstanding in the principal amount of $50,311,375, which is incurred within the limit of up to 1½% of the value of the taxable property within the City permitted for general municipal purposes without a vote.

(iii) As of September 1, 2026, the City had unlimited tax general obligation indebtedness for capital purposes only outstanding in the principal amount of $23,840,000 for general municipal purposes. The indebtedness described in this paragraph has been incurred with the approval of the requisite proportion of the City's qualified voters at an election meeting the

minimum turnout requirements, within the limit of up to 2½% of the value of the taxable property within the City for general municipal purposes.

Section 3. Authorization of the Notes; Payment, Registration and Transfer. In order to finance capital expenditures and general City liquidity needs, the City shall establish a revolving line of credit in the principal amount of not to exceed $7,000,000 and issue and sell a tax-exempt limited tax general obligation bond anticipation (the "Tax-Exempt Note") and a taxable limited tax general obligation bond anticipation note (the "Taxable Note," and together with the Tax-Exempt Note, the "Notes") to evidence such line of credit. The Tax-Exempt Note shall be designated the "City of Camas, Washington Limited Tax General Obligation Bond Anticipation Note, 2026 (Tax-Exempt)" and the Taxable Note shall be designated the "City of Camas, Washington Limited Tax General Obligation Bond Anticipation Note, 2026 (Taxable)." The aggregate principal amount drawn under both Notes shall not exceed $7,000,000. The Notes shall be dated the date of delivery to the Purchaser (the "Date of Delivery").

Interest on the outstanding principal balance of the Notes, if any, shall be payable on the first day of each month, commencing December 1, 2026. The Notes mature on, and all outstanding principal and interest on the Notes must be paid by November 1, 2028 (the "Maturity Date"). The Notes are a revolving line of credit, so that principal amounts previously advanced and repaid may be drawn again; provided that the aggregate principal amount of all draws under the Tax-Exempt Note and the Taxable Note that have not been repaid may at no time exceed $7,000,000. Each draw pursuant to a Request for Draw for any portion of proceeds to be used for a permitted tax-exempt purpose under the Code and satisfying the conditions set forth in Section 9 of this ordinance regarding conditions for the initial tax-exempt draw, shall be taken on the Tax-Exempt Note and bear interest at the Tax-Exempt Rate. Such Request for a Draw shall mark the Tax-Exempt Note box on the draw form. Each draw pursuant to a Request for Draw for any portion of proceeds that is not used for a permitted tax exempt-purpose under the Code shall be taken on the Taxable Note and bear interest at the Taxable Rate. Such Request for a Draw shall mark the Taxable Note box on the draw form. Interest on each draw shall accrue from the latter of (i) the Draw Date set forth on the Request for a Draw and (ii) the date of actual funding of the draw by Purchaser, until paid and such interest shall be computed on the principal amount outstanding on each day and at the applicable interest rate for that day during the applicable interest period on the basis of a 360-day year consisting of 12 30-day months. Interest payable on the Notes on each interest payment date shall be the sum of interest accruing on all the outstanding draws during the interest period.

Any Request for a Draw shall be in the form of Exhibit A attached hereto with the blanks appropriately completed. Each Authorized Officer is hereby authorized to review and determine whether the draw is for a permitted tax-exempt purpose (in which such draw will be taken on the Tax-Exempt Note and bear interest at the Tax-Exempt Rate) or that it is not for a permitted tax-exempt purpose (in which case such draw will be taken on the Taxable Note and bear interest at the Taxable Rate).

Notwithstanding the foregoing, so long as an event of default (as defined in Section 12) has occurred and is continuing hereunder, outstanding principal amounts may bear interest at a default rate as outlined in Section 12 hereof.

The Notes shall be issued in fully registered form. Both principal of and interest on the Notes shall be payable in lawful money of the United States of America by check, warrant, wire transfer or automatic clearinghouse funds. The Purchaser will give 10 days' prior notice to the City of the approximate amount (depending on changes in the interest rate, any draws and any prepayments on the Notes occurring after the date of such notice) to be debited. Principal and interest shall be an obligation only of the Note Fund. The City Finance Director shall act as Note Registrar.

The Outstanding Principal Balance of the Note on any particular day shall be the aggregate of all funds which the City has drawn from the date of the Tax-Exempt Note or the Taxable Note to that day less the aggregate of all principal payments made by the City on or before that day on that Note. Interest on a particular principal amount so advanced shall be determined from the date of the advance of Note proceeds pursuant to a Request for Draw by the City.

A Request for Draw pursuant to the Notes may be made by an Authorized Officer in writing at any time prior to the Maturity Date, so long as no event of default (as defined in Section 12) has occurred and is continuing. Requests for Draw shall include requests by email or fax bearing a facsimile signature of an Authorized Officer. The City hereby delegates to the Authorized Officers authority to make a Request for Draw, and determining the tax status of the draw, which Note to draw on and the corresponding interest rate, pursuant to this ordinance. Each Request for Draw must be received by the Purchaser not later than 12:00 noon Cleveland, Ohio time (9:00 a.m. Pacific time) one SOFR Business Day immediately prior to the requested date of the Draw (the "Draw Date"). The obligation of the Purchaser to fund the Draw is subject to the satisfaction of the following conditions precedent on the Draw Date: (1) the representations of the City agreed to in this ordinance shall be true and correct in all material respects on and as of such Draw Date, and shall be deemed to have been made on such Draw Date; (2) no event of default (as defined in Section 12) shall have occurred and be continuing on such Draw Date; (3) after giving effect to such draw, the aggregate principal amount of all draws on the Tax-Exempt Note and the Taxable Note combined shall not exceed $7,000,000; and (4) the Purchaser shall have received an executed Request for Draw as required under, and in strict conformity with this paragraph.

The Purchaser shall incur no liability to the City or to any other person in acting upon any notice or other communication which the Purchaser believes in good faith to have been given by an official or other person authorized to borrow on behalf of the City, or otherwise acting in good faith in making advances pursuant to this ordinance.

The Tax-Exempt Note and the Taxable Note may only be assigned or transferred together and in whole and only if endorsed in the manner provided thereon and surrendered to the Note Registrar, subject to the Purchaser's representations in a certificate to be provided on the Date of Delivery. Any such transfer shall be without cost to the owner or transferee and shall be noted in the Note Register. The Notes may only be assigned together by the Purchaser to another qualified investor satisfying the requirements set forth in the certificate to be signed by the Purchaser on the Date of Delivery.

The interest accruing on the Notes, which is denominated in dollars, may be determined by reference to a benchmark rate that is, or may in the future become, the subject of regulatory reform or cessation. The Purchaser does not warrant or accept responsibility for, and shall not have any

liability with respect to (a) the administration of, submission of, calculation of or any other matter related to Term SOFR, any component definition thereof or rates referenced in the definition thereof or any alternative, comparable or successor rate thereto (including any then-current Benchmark or any Benchmark Replacement), including whether the composition or characteristics of any such alternative, comparable or successor rate (including any Benchmark Replacement) will be similar to, or produce the same value or economic equivalence of, or have the same volume or liquidity as, Term SOFR or any other Benchmark, or (b) the effect, implementation or composition of any Benchmark Replacement Conforming Changes.

Section 4. Temporary Inability to Determine Rates; Effect of Benchmark Replacement Date.

(a) *Temporary Inability to Determine Rates*. If the Purchaser determines (which determination shall be conclusive and binding absent manifest error) that Term SOFR cannot be determined pursuant to the definition thereof or that Term SOFR does not adequately and fairly reflect the cost to the Purchaser of funding the Notes, then the Purchaser will promptly so notify the City. Upon notice thereof by the Purchaser to the City, any obligation of the Purchaser to make or continue loans pursuant to draws shall be suspended until the Purchaser revokes such notice. Upon receipt of such notice, (i) the City may revoke any pending request for draws or, failing that, the City will be deemed to have converted any such request into a request for a draw based on the Base Rate in the amount specified therein and (ii) for any outstanding draws the interest rate shall be converted to the Base Rate at the end of the applicable Term SOFR Index Reset Rate.

(b) *Benchmark Replacement*. Notwithstanding anything to the contrary herein, upon the occurrence of a Benchmark Transition Event, upon the consent of both parties, the Purchaser and the City may replace the Term SOFR Rate with a Benchmark Replacement. Unless otherwise agreed between the Purchaser and the City, no replacement of the Term SOFR Rate with a Benchmark Replacement pursuant to this Section 4 will occur prior to the applicable Benchmark Transition Start Date. Unless and until a Benchmark Replacement is effective in accordance with this clause (b), all draws shall be converted to the Base Rate in accordance with the provisions of clause (a) above.

(c) *Benchmark Replacement Conforming Changes*. In connection with the implementation of a Benchmark Replacement, the City and Purchaser, upon the consent of the other, will have the right to make Benchmark Replacement Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in the Notes, any amendments implementing such Benchmark Replacement Conforming Changes will become effective without any further action.

(d) *Notices; Standards for Decisions and Determinations*. The Purchaser will promptly notify the City of (i) any occurrence of a Benchmark Transition Event, and, upon consent of the City, its related Benchmark Replacement Date and Benchmark Transition Start Date, (ii) the implementation of any Benchmark Replacement, (iii) the effectiveness of any Benchmark Replacement Conforming Changes and (iv) the commencement or conclusion of any Benchmark Unavailability Period. Any determination, decision or election that may be made by the Purchaser pursuant to this Section 4, including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take

or refrain from taking any action, will be conclusive and binding absent manifest error and may be made in its or their sole discretion and without consent from any other party hereto, except, in each case, as expressly required pursuant to this section.

(e) *Unavailability of Tenor of Benchmark.* Notwithstanding anything to the contrary herein or in the Notes, at any time (including in connection with the implementation of a Benchmark Replacement), (i) if any then-current Benchmark is a term rate (including Term SOFR) and either (A) any tenor for such Benchmark is not displayed on a screen or other information service that publishes such rate from time to time as selected by the Purchaser in its reasonable discretion or (B) the regulatory supervisor for the administrator of such Benchmark has provided a public statement or publication of information announcing that any tenor for such Benchmark is or will be no longer representative, then the Purchaser may modify the Interest Period for any Benchmark settings at or after such time to remove such unavailable or non-representative tenor, upon notice to the City, and (ii) if a tenor that was removed pursuant to clause (i) above either (A) is subsequently displayed on a screen or information service for a Benchmark (including a Benchmark Replacement) or (B) is not, or is no longer, subject to an announcement that it is or will no longer be representative for a Benchmark (including a Benchmark Replacement), then the Purchaser may modify the Interest Period for all Benchmark settings at or after such time to reinstate such previously removed tenor, upon consent of the City.

(f) *Benchmark Unavailability Period.* Upon the City's receipt of notice from the Purchaser of the commencement of a Benchmark Unavailability Period, the Taxable Rate shall be the Base Rate and the Tax-Exempt Rate shall be (a) Base Rate multiplied by (b)(i) one minus (ii) the United States federal corporate tax rate (subject to clause (g), below).

(g) *Opinion or Tax Gross-up Required.* Upon the replacement of a Benchmark with a Benchmark Replacement, or the Base Rate pursuant to subsections (a) and (f), above, with respect to the draws under the Tax-Exempt Note at the Tax-Exempt Rate (the "Tax-Exempt Draws"), then, either: (1) the City, at its own expense, will deliver to the Purchaser an opinion of bond counsel reasonably acceptable to the Purchaser that the replacement of the existing Benchmark with Benchmark Replacement (or replacement with the Base Rate) does not adversely affect the exclusion from gross income of interest on the Tax-Exempt Draws from gross income of the owner of the Tax-Exempt Note for federal income tax purposes; or (2) if no such opinion is delivered to the Purchaser on the Benchmark Replacement Date (or effective date of the Base Rate), the interest rate on such Tax-Exempt Draws shall be at the Taxable Rate then applicable and such Benchmark Replacement or Base Rate, as applicable, shall not be multiplied by (i) one minus (ii) the United States federal corporate tax rate.

Section 5. Form and Execution of the Notes.

(a) *Form of the Notes; Signatures and Seal*. Each Note shall be prepared in a form consistent with the provisions of this ordinance and Washington law. The Notes shall be signed by the Mayor and the City Clerk, either or both of whose signatures may be manual or in facsimile, and the seal of the City or a facsimile reproduction thereof shall be impressed or printed thereon. If any officer whose manual or facsimile signature appears on a Note ceases to be an officer of the City authorized to sign bonds before the Note bearing such officer's manual or facsimile signature is authenticated by the Note Registrar, or issued or delivered by the City, that Note nevertheless

may be authenticated, issued and delivered and, when authenticated, issued and delivered, shall be as binding on the City as though that person had continued to be an officer of the City authorized to sign bonds. A Note also may be signed on behalf of the City by any person who, on the actual date of signing of the Note, is an officer of the City authorized to sign bonds, although such officer did not hold the required office on its Date of Delivery.

(b) *Authentication*. Only the Notes bearing a Certificate of Authentication in substantially the following form, manually signed by the Note Registrar, shall be valid or obligatory for any purpose or entitled to the benefits of this ordinance: "Certificate of Authentication. This Note is the fully registered City of Camas, Washington, Limited Tax General Obligation Bond Anticipation Note, 2026 [(Tax-Exempt)/(Taxable)]." The authorized signing of a Certificate of Authentication shall be conclusive evidence that the Note so authenticated has been duly executed, authenticated and delivered and is entitled to the benefits of this ordinance.

Section 6. Note Fund. A special fund or account of the City known as the "Limited Tax General Obligation Bond Anticipation Note Fund, 2026" (the "Note Fund") is hereby authorized to be created and shall be drawn upon for the sole purpose of paying and securing the payment of the Notes. The City hereby covenants and agrees to deposit in the Note Fund proceeds of bonds, a refunding note, loans, taxes and/or grants, if any are received by the City for the Project, in an amount sufficient to pay the principal of and interest on the Notes as the same becomes due.

Section 7. Prepayment. The City may prepay the Tax-Exempt Note and/or the Taxable Note, in whole or in part, on any date, provided the City gives the Purchaser at least one Business Day prior written notice, by paying the principal amount thereof to be prepaid together with accrued interest to the date of prepayment on said principal amount. Each notice of prepayment shall specify which Note is being prepaid, the date and amount of such prepayment. In the event of a prepayment in part, the City shall provide written instruction as to which draw is being prepaid.

Interest on the portion of a Note prepaid shall cease to accrue interest on the date of prepayment. In the event of prepayment in whole of a Note prior to the Maturity Date, that Note shall be deemed to remain outstanding for subsequent Draws absent a written notice to the Purchaser by the City that the prepaid Note is no longer outstanding and available for further draws hereunder.

Section 8. Pledge of Taxes. The Notes constitute general indebtedness of the City and are payable from tax revenues of the City and such other money as is lawfully available and pledged by the City for the payment of principal of and interest on the Notes. For as long as the Notes are outstanding, the City irrevocably pledges that it shall, in the manner provided by law within the constitutional and statutory limitations provided by law without the assent of the voters, include in its annual property tax levy amounts sufficient, together with other money that is lawfully available, to pay principal of and interest on the Notes as the same become due. The full faith, credit and resources of the City are pledged irrevocably for the prompt payment of the principal of and interest on the Notes and such pledge shall be enforceable in mandamus against the City.

Section 9. Tax Covenants.

(a) *Tax Certificate.* This covenant only applies to Tax-Exempt Note made for the purpose of financing projects eligible for tax-exempt financing under the Code as provided in the Tax Certificate. The City hereby covenants that it will not make any use of the proceeds of sale of the Tax-Exempt Note or any other funds of the City which may be deemed to be proceeds of the Tax-Exempt Note pursuant to Section 148 of the Code and the applicable regulations thereunder which will cause the Tax-Exempt Note to be an "arbitrage bond" within the meaning of such section and such regulations. The City will comply with the requirements of Section 148 of the Code (or any successor provision thereof applicable to the Tax-Exempt Note) and the applicable regulations thereunder through the term of the Tax-Exempt Note. The City further covenants that it will not take any action or permit any action to be taken that would cause the Tax-Exempt Note to constitute a "private activity bond" under Section 141 of the Code.

(b) *Post-Issuance Compliance*. The Finance Director is authorized and directed to review and revise, as needed, the City's written procedures to facilitate compliance by the City with the covenants in this ordinance and the applicable requirements of the Code that must be satisfied after the issue date to prevent interest on the Tax-Exempt Note from being included in gross income for federal tax purposes.

(c) *Requirements for First Draw on the Tax-Exempt Note and First Draw after Prepayment of the Tax-Exempt Note in Full*. As a condition to the first draw on the Tax-Exempt Note and the first draw after prepayment of the Tax-Exempt Note in full, the City shall provide at its expense the following:

(i) A supplemental Tax Certificate acceptable to bond counsel.

(ii) Form 8038-G signed by the City and filed by bond counsel, if required by bond counsel.

Section 10. Sale of the Notes. The Purchaser has presented its Proposal, which written offer is on file with the City and is incorporated herein by this reference. The City Council finds that accepting the Proposal is in the City's best interest and therefore accepts the same. The City agrees to pay the (A) the Purchaser's legal fees; and (B) a Commitment Fee, calculated commencing on the Effective Date and payable quarterly in arrears on the first Business Day of each calendar quarter, with the first payment being on January 1, 2027.

Section 11. Reporting Requirements. As long as the Notes are outstanding, the City will provide the Purchaser its audited financial statements within 10 days of release by the State Auditor's Office, unless otherwise provided on the Electronic Municipal Market Access ("EMMA") website of the Municipal Securities Rulemaking Board. The City shall also provide such other information relating to the ability of the City to satisfy its obligations under the Notes, as may be reasonably requested from Purchaser from time to time.

Section 12. Default. If (A) there occurs any nonpayment of principal or interest due under the Notes and such payment is not made within five days of its due date, (B) a failure by the City to comply with any of its obligations, or to perform any of its duties, under this ordinance or the Notes, which failure continues, and is not cured, for a period of more than 60 days after the

Purchaser has made written demand on the City to cure such failure, (C) a material misrepresentation by the City in this ordinance, the Notes or written materials provided to the Purchaser by the City in connection with the Notes, or (D) any event of default under any other general obligation debt or capital lease obligation with the Purchaser, an affiliate of the Purchaser or any other third-party lender under which the City is an obligor (collectively, an "Event of Default"), then the Purchaser at its option may increase the interest rate on the Notes by 4.00% (400 basis points) above the current interest rate.

The Purchaser may waive any Event of Default, provided, however, that any such waiver shall be in writing and signed by an authorized officer of the Purchaser, and no such waiver shall extend to a subsequent Event of Default.

If either party incurs any expenses in connection with enforcing the rights under the Notes and this ordinance, or if the Purchaser takes collection action under the Notes and this ordinance, the losing party shall pay to the prevailing party, on demand, the prevailing party's reasonable costs and reasonable attorneys' fees, whether at trial, on appeal or otherwise, including any allocated costs of in-house counsel.

Section 13. Venue and Jurisdiction. The City and the Purchaser agree that any action or suit arising out of or relating to the Notes shall be filed in the appropriate federal court or state court located in Washington.

Section 14. Waiver of Jury Trial. To the extent permitted by Washington law, the City (and the Purchaser by acceptance of the Notes) hereby irrevocably waives, to the fullest extent permitted by applicable law, any right it may have to a trial by jury in any legal proceeding directly or indirectly arising out of or relating to the Notes or any other document executed in connection therewith or the transactions contemplated hereby or thereby (whether based on contract, tort or any other theory).

Section 15. General Authorization and Ratification. The Mayor (or Mayor Pro Tem), City Administrator, Finance Director, City Clerk and other appropriate officers of the City are severally authorized to take such actions and to execute such documents as in their judgment may be necessary or desirable to carry out the transactions contemplated in connection with this ordinance, and to do everything necessary for the prompt delivery of the Notes to the Purchaser thereof and for the proper application, use and investment of the proceeds of the Bonds. All actions taken prior to the effective date of this ordinance in furtherance of the purposes described in this ordinance and not inconsistent with the terms of this ordinance are ratified and confirmed in all respects.

Section 16. Severability. The provisions of this ordinance are declared to be separate and severable. If a court of competent jurisdiction, all appeals having been exhausted or all appeal periods having run, finds any provision of this ordinance to be invalid or unenforceable as to any person or circumstance, such offending provision shall, if feasible, be deemed to be modified to be within the limits of enforceability or validity. However, if the offending provision cannot be so modified, it shall be null and void with respect to the particular person or circumstance, and all other provisions of this ordinance in all other respects, and the offending provision with respect to all other persons and all other circumstances, shall remain valid and enforceable.

Section 17. Effective Date of Ordinance. This ordinance shall take effect and be in force from and after its passage and five days following its publication as required by law.

PASSED by the City Council and APPROVED by the Mayor of the City of Camas, Washington, at an open public meeting thereof, this 19th day of October, 2026.

Mayor

ATTEST:

City Clerk

APPROVED AS TO FORM:

Bond Counsel

EXHIBIT A

FORM OF DRAW CERTIFICATE

City of Camas, Washington

Limited Tax General Obligation Bond Anticipation Note, 2026 (Tax-Exempt)
(the "Tax-Exempt Note")
Tax-Exempt Request for Draw No. _____

Limited Tax General Obligation Bond Anticipation Note, 2026 (Taxable)
(the "Taxable Note")
Taxable Request for Draw No. _____

KeyBank National Association
Suzette Simmons
Service Officer
4900 Tiedeman Road
Brooklyn, Ohio 44144
216-813-4812
Fax Number: 216-370-5997
Email: KAS_Servicing@keybank.com

The undersigned, **[Insert Name of Undersigned]** of the City of Camas, Washington (the "City"), under that Ordinance No. _____ (the "Ordinance") hereby gives notice irrevocably, pursuant to Section 3 of the Ordinance, of the Draw specified below. Capitalized terms used herein have the meanings set forth in the Ordinance.

1. The SOFR Business Day of the proposed Draw is _____, 20__ (the "Draw Date").

2. The proposed Draw shall be taken on the:

   ☐ the Tax-Exempt Note, bearing interest at the Tax-Exempt Rate.

   ☐ the Taxable Note, bearing interest at the Taxable Rate.

3. The principal amount of the proposed Draw is $_____.

   ☐ $_____ to be taken on the Tax-Exempt Note. If this is the first tax-exempt draw, or the first tax-exempt draw after prepayment of all outstanding tax-exempt draws, then item required under Section 9(c) of the Ordinance must be provided.

   ☐ $_____ to be taken on the Taxable Note.

4. Wire transfer to:

Bank Name: _____
ABA Routing No. _____
Credit to: _____
Account No.: _____
Notify: _____ [person contact]
(___) ___-____
Reference: City of Camas

5. The undersigned, hereby certifies that the following statements are true on the date hereof, and will be true on the Draw Date, before and after giving effect thereto.

(a) I am an Authorized Officer of the City, authorized by the Ordinance to request this Draw under the Note and to make the representations on behalf the City set forth herein;

(b) the representations of the City set forth the Ordinance (including those incorporated by reference) are true and correct in all material respects on and as of the date hereof, and shall be deemed to have been made on the date hereof;

(c) no Event of Default has occurred and is continuing on the date hereof, or would result from the proposed Draw or from the application of the proceeds thereof;

(d) the proposed Draw will be expended for purposes authorized by the Ordinance;

(e) the proposed Draw will not violate any order, judgment or decree of any court or authority of competent jurisdiction entered against the City or any provision of law as then in effect as it affects the City;

(f) except as previously disclosed to the Purchaser, there is no action, suit, proceeding or investigation at law or in equity before or by any court or governmental body pending or, to the best of the knowledge of the City, threatened against the City that, in the reasonable judgment of the City, would have a material and adverse effect on the ability of the City to pay the amounts due under the Ordinance and the Note;

(g) after giving effect to the proposed Draw, the aggregate principal amount of all Draws outstanding on the Tax-Exempt Note and the Taxable Note will not exceed $7,000,000; and

(h) that the date designated in paragraph 1 above for disbursement is at least one SOFR Business Day after the delivery of this request for draw.

Dated as of _____, 20__.

CITY OF CAMAS, WASHINGTON

By: _____
Authorized Officer

CERTIFICATION

I, the undersigned, City Clerk of the City of Camas, Washington (the "City"), hereby certify as follows:

1. The attached copy of Ordinance No. ____ (the "Ordinance") is a full, true and correct copy of an ordinance duly passed at a regular meeting of the City Council of the City held at the regular meeting place thereof on October 19, 2026, as that ordinance appears on the minute book of the City.

2. That said meeting was duly convened, held and included an opportunity for public comment, in all respects in accordance with law; due and proper notice of such meeting was given; that a legal quorum of the members of the City Council was present throughout the meeting; and a majority of the members voted in the proper manner for the passage of the Ordinance.

3. The Ordinance will be in full force and effect five days after publication in the City's official newspaper, which publication date is expected to be October __, 2026.

Dated: October 19, 2026.

CITY OF CAMAS, WASHINGTON

_____

City Clerk

Staff Report – Public Hearing

October 19, 2026, Council Regular Meeting

Public Hearing - Our Camas 2045 Comprehensive Plan Periodic Update, Our Downtown Camas 2045 Subarea Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code
Presenter: Alan Peters, Community Development Director
Time Estimate: 45 minutes

Phone	Email
360.817.7254	apeters@cityofcamas.us

BACKGROUND: The City of Camas is completing a periodic update of its comprehensive plan and development regulations to guide growth through 2045. The Our Camas 2045 Comprehensive Plan is an update to the Camas 2035 plan adopted in 2016. The proposed plan responds to changes in community conditions and state requirements, and establishes a shared direction for housing, employment, transportation, public services, environmental protection, and community character. The City prepared the Our Downtown Camas 2045 Subarea Plan concurrently to address the distinct opportunities and needs of the historic downtown and surrounding downtown neighborhoods.

The planning process began with community visioning in December 2023. Through community conversations, surveys, interactive mapping, stakeholder discussions, and outreach at local events, residents and businesses identified what they value about Camas and what they would like to improve. Visioning reached more than 1,000 community members. Recurring themes included preserving Camas's small-town character and natural beauty, providing a broader range of housing choices, improving walking and bicycling connections, supporting local businesses, and strengthening downtown as a place to gather. Community summits were held in June 2024, October 2024, and from September through December 2025. Council adopted the Our Camas 2045 Vision Statement by resolution in July 2024. The draft Comprehensive Plan and Subarea Plan were both published in July 2025.

The Community Advisory Committee, Climate Policy Advisory Team, and Downtown Advisory Committee provided community and technical perspectives. Staff coordinated with Clark County on allocations, land capacity, and countywide planning. Throughout 2025 and 2026, the Planning Commission and Council reviewed the draft plans and code updates and provided feedback at workshop meetings.

The Planning Commission held a public hearing on September 15, 2026, and voted unanimously on September 29, 2026, to forward a recommendation to Council to adopt the Our Camas 2045 Comprehensive Plan, the Our Downtown Camas 2045 Subarea

Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code together as a coordinated package.

SUMMARY: Under the Camas Municipal Code and Growth Management Act, proposed amendments to comprehensive plans and development regulations must be reviewed by the Planning Commission which serves in an advisory capacity to Council.

The Planning Commission held a public hearing on September 15, 2026. The Commission then met again on September 29, 2026, to deliberate and vote on a recommendation. The Planning Commission voted unanimously to recommend adoption of the Our Camas 2045 Comprehensive Plan Periodic Update, Our Downtown Camas 2045 Subarea Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code with the following additional recommendations:

1. For the Downtown Plan, the City should consider additional details and plans for the following historic areas: the historic [city] steps, the Mill Ditch Green Space Connector, and the Cedar Street right-of-way.
2. Adjust the border of the new multifamily zone east of Elm Street to retain the existing zoning.
3. Recommend that the City Council look closely at the infrastructure needed to support demand for water under the new plan, and recommend a demand analysis, and transport study to understand the extent and movement of the [PFAS] contamination and consider mandatory conservation measures.

A public hearing is scheduled for the October 19, 2026, Council meeting to provide the public with an additional opportunity to provide testimony on the proposal and to allow Council to deliberate on the Planning Commission recommendation.

Growth Management Act

Washington’s Growth Management Act (GMA) (RCW 36.70a) establishes a coordinated framework for managing growth through comprehensive plans and development regulations, directing development toward urban areas while reducing sprawl and ensuring adequate public facilities and services. Its goals include housing affordability and choice, economic opportunity, efficient transportation, environmental and natural resource protection, climate resilience, and preservation of community character, supported by public participation, regional coordination, and respect for property rights.

Under GMA, Camas is required to maintain a comprehensive plan and periodically review it to maintain compliance with state law and meet the needs of future anticipated growth. This periodic review considers changes in state law, growth assumptions, land capacity, and the community’s own vision.

The periodic review has been closely coordinated with Clark County and neighboring jurisdictions. Clark County is responsible for establishing countywide planning policies, growth allocations, and urban growth areas. The County Council approved the Clark

County Comprehensive Plan on October 13, 2026. The County's plan includes the 80-acre Grove Field urban growth area expansion.

Our Camas 2045 Comprehensive Plan

The draft Comprehensive Plan includes eight elements: Community Character, Land Use, Housing, Natural Environment, Climate Change and Resiliency, Transportation, Public Facilities and Services, and Economic Development. Community Character and Climate are new elements, addressing preservation and enhancement of Camas's identity and quality of life, as well as greenhouse gas reduction and resilience to climate impacts. Together these elements establish the Our Camas 2045 vision and policy framework for growth and development over a 20-year planning horizon through 2045.

Community Character

The Community Character Element defines Camas's sense of place and provides a consistent context for the comprehensive plan. It addresses how the natural environment, development, community programming, and public engagement contribute to the City's physical and social character. The element envisions an inclusive community where residents feel connected, history and culture are celebrated, and the natural landscape is thoughtfully integrated into the urban environment.

Its three goals address art, culture, and heritage; sustainable growth and distinct identity; and community engagement. As a new element, Community Character translates the community's desire to preserve Camas's small-town feel into land use policy and establishes a stronger focus on identity, art, history, and public engagement.

Land Use

The Land Use Element guides the location, mix, and character of development as Camas accommodates future population, housing, and employment growth. It seeks to maintain the community's small-town feel while providing diverse housing, employment opportunities, and convenient access to daily services. Land use planning is coordinated with infrastructure investments and protection of the natural environment.

The element's goals address citywide development patterns, sufficient employment land, livable neighborhoods, interconnected parks and open spaces, mixed-use areas, and distinctive design overlay areas. Together, these goals support neighborhoods that accommodate different household needs and income levels, commercial areas accessible by multiple transportation modes, and development that respects surrounding uses and natural resources.

Clark County's comprehensive plan includes the 80-acre Grove Field urban growth area expansion adjacent to the North Shore Subarea. The proposed Nevin property expansion was not included in the County's final comprehensive plan and the City's draft plan is being revised to remove any references to this expansion area.

Housing

The Housing Element establishes policies to provide housing for residents of all ages, abilities, household circumstances, and income levels. It supports safe, welcoming neighborhoods where residents can access employment, schools, services, and recreational opportunities, with housing choices that allow people to remain in Camas as their needs change.

Its goals emphasize housing choice and affordability, accessibility and livability, preservation of existing housing, and efficient permitting. The element encourages a diversified housing supply through new construction, preservation, and partnerships, while addressing the needs of residents who face housing challenges related to age, health, or disability.

Key changes support middle housing and accessory dwelling units consistent with new state housing requirements, along with standards that address neighborhood compatibility. Other changes emphasize streamlined permitting, long-term affordability, nonprofit housing partnerships, maintenance of existing homes, assistance for low-income homeowners, and public education about community housing needs.

Natural Environment

The Natural Environment Element guides the City's stewardship of its natural resources, including critical areas, shorelines, forests, water resources, and wildlife habitat. Its purpose is to preserve ecological functions and the natural qualities that contribute to Camas's quality of life while providing appropriate public access to natural areas.

The element's goals address environmental stewardship, protection and restoration of critical areas, shoreline management, and preservation and enhancement of natural landscapes and tree canopy. It supports a sustainable urban environment, improved ecological function along shorelines, and increased use of native and climate-resilient landscaping.

Key changes add more detailed policies addressing climate resilience, ecosystem services, and environmental justice. The element strengthens attention to soils, hydrology, and native species; encourages adaptive management as climate conditions change; and supports habitat restoration and invasive species removal. Expanded urban forestry and landscaping policies seek to increase tree canopy and reduce urban heat.

Climate Change and Resiliency

The new Climate Change and Resiliency Element serves two related purposes: reducing the community's contributions to climate change and preparing for its effects. It establishes a framework for lowering greenhouse gas emissions while protecting community health, infrastructure, water resources, and vulnerable residents from climate-related hazards. This element was developed with the help of the Climate Policy Advisory Team.

The element's six goals address energy, transportation, local agency sustainability and preparedness, community health, emergency preparedness, and water resources. These goals support renewable energy and energy efficiency, a more efficient and resilient transportation system, coordinated sustainability efforts, and improved emergency response and recovery. They also emphasize protecting residents who may experience disproportionate impacts and preserving water quality and availability.

Transportation

The Transportation Element guides development of a safe, connected, and efficient transportation system that serves people of all abilities and supports planned growth.

Its goals focus on Complete Streets, dependable local and regional transit, traffic safety, transportation demand management, concurrency and level of service, and transportation funding. The element seeks to use existing infrastructure efficiently, increase the number of people the system can accommodate, and coordinate transportation improvements with land use objectives and adopted service standards.

Key changes expand the emphasis on Complete Streets and multimodal networks. Policies encourage improvements to existing street networks to strengthen connections and address dead ends, improve access to employment centers, schools, and natural areas, and incorporate equity into transportation planning and impact fee allocation. Improved signage and wayfinding are also identified as ways to enhance the pedestrian and visitor experience.

Public Facilities and Services

The Public Facilities and Services Element guides the provision of infrastructure, utilities, and community services needed to support existing residents and future growth. It addresses public safety, parks and recreation, City facilities, schools, and utilities, while emphasizing maintenance of existing assets and coordination of future investments.

The element's goals support adequate fire protection, emergency medical services, and police protection; connected parks, trails, and open spaces; and facilities that serve City government and the community. Additional goals address utility availability, implementation of the Capital Improvement Plan in coordination with the biennial budget, and partnerships that support access to quality public education.

Economic Development

The Economic Development Element guides efforts to maintain a diverse, resilient local economy that provides living-wage employment, supports businesses, and expands access to goods and services.

The element's goals address sufficient employment land, business creation and retention, economic diversification, mixed-use and commercial development, and opportunities within mixed employment and industrial areas. The element also seeks to strengthen the City's tax base and support development that reinforces Camas's identity.

Key changes more closely connect economic development with land use, housing, and transportation planning. The element supports innovation, start-ups, and high-tech employment; encourages employment opportunities throughout the community; and promotes investment in mixed-use centers and commercial corridors.

Our Downtown Camas 2045 Subarea Plan

The Downtown Subarea Plan provides a more detailed policy and investment framework for downtown within the citywide comprehensive plan. The plan considers the historic character of Downtown Camas and offers a strategy for balancing history with future transformations to make downtown a place that will continue to attract residents and visitors alike. The Subarea Plan is intended to serve as a shared commitment between the City and downtown stakeholders, welcoming the development and business communities to help implement the vision. It also provides discussion about future expansion to Camas Mill Property.

The plan is organized around existing conditions, an urban design framework, land use concepts, open space, transportation, infrastructure, and implementation. Six policy areas guide the work: architecture and design, downtown housing, urban amenities, economic development, civic life, and multimodal connectivity. Together, they provide a basis for both public investment and private development.

The land use concept differentiates the Historic Main Street Core from areas appropriate for additional mixed-use and residential development. The core retains a strong emphasis on pedestrian-oriented ground-floor businesses and the established character of NE 4th Avenue. Low-rise and mid-rise mixed-use areas provide room for additional activity at scales appropriate to their locations, while Downtown Residential areas provide housing opportunities and transitions to adjoining neighborhoods.

The plan supports a range of housing types, including rental and ownership options and housing for different income levels. More residents living near shops, services, and civic facilities can help sustain businesses and create activity beyond special events. Housing policies address incentives, affordability, compatibility, and permitting, while economic development policies support business retention, adaptable spaces, infrastructure improvements, and partnerships with the Downtown Camas Association and other organizations.

The plan reinforces downtown’s role as the civic center and calls for City Hall and primary services to remain downtown. A proposed Civic Hub and plaza would strengthen the area around public facilities as a gathering place and support community events. Other concepts include outdoor seating, pocket spaces, public art, and improvements connecting downtown to Louis Bloch Park and the Mill Ditch Trail.

The downtown transportation framework identifies Main Streets, Connector Streets, Mobility Streets, Gateway Streets, and Neighborhood Streets. Each has a different role in access, circulation, and the pedestrian experience.

The plan recognizes the Camas Mill as a defining part of the city's history and a significant long-term opportunity. It supports an unrestricted environmental cleanup level to preserve the broadest range of future uses and calls for continued City participation in the cleanup process.

An implementation program identifies actions, potential timing, responsible parties, and priorities. The program provides a basis for future work plans and budgets, with priorities adjusted as funding and opportunities develop. The proposed Downtown Design Manual and code updates are immediate implementation actions.

Downtown Design Manual

The proposed updated Downtown Design Manual is the principal tool for achieving the subarea plan's vision with new development. In addition to architectural design requirements, it establishes a detailed framework for development standards at the district, street, and frontage levels. The manual ensures that NE 4th Avenue maintains its historic charm as downtown's "Main Street" while allowing for transition to more intensive development in the blocks surrounding the historic main street core. The document combines maps, zoning information, standards, diagrams, and examples so that applicants and reviewers can understand how a project should relate to its site, adjoining buildings, and the street.

The regulating plan connects each property to a base zoning district and street context. The four principal downtown districts are Historic Main Street Core, Downtown Mixed-Use Mid Rise, Downtown Mixed-Use Low Rise, and Downtown Residential. The manual differentiates active and passive retail uses and identifies how uses may occupy ground and upper floors. This is particularly important in the Historic Main Street Core, where active ground floor activity supports a lively, walkable Main Street. Other districts allow different combinations of housing, offices, retail, and services.

Title 17 and 18 Code Amendments

Staff proposes several zoning code updates to ensure that development regulations are aligned with the updated plan's goals, policies, growth objectives and changes to state law. Additional amendments will be necessary in future years to better align the code with the new plan.

Chapter 17.09 – Short Subdivisions

HB 1096, adopted by the Washington Legislature in 2025, requires cities to establish an administrative lot split process allowing an existing residential lot to be divided into two lots through an administrative decision. The proposed amendments establish a new Section 17.09.080, Administrative Lot Split. Pursuant to RCW 58.17.145, this section would allow an existing lot in a residential zone to be divided into two lots through a streamlined process.

Although lot splits do not require the immediate construction of subdivision improvements, applicants must demonstrate that access and utility easements will be provided to serve the newly created lot. The code allows the City to condition approval on right-of-way dedications and frontage improvements when the newly created lot is developed. The flexibility in the timing of improvements is a key distinction between lot splits and other subdivision processes.

Chapter 18.03 – Definitions

This chapter includes definitions for various terms used throughout Title 18. Currently, definitions are separated into three sections: 18.03.030, Definitions for Land Uses; 18.03.040, Definitions for Development Terms; and 18.03.050, Environmental Definitions. For ease of use, all of these terms will be listed alphabetically in one section. The chapter will also be updated to incorporate several new terms added to Title 18 through various proposed code amendments.

Chapter 18.05 – Zoning Map and Districts

Chapter 18.05 establishes the City's zoning districts and describes the purpose and intended character of each district. The Light Industrial, Business Park, and Light Industrial/Business Park zones would be consolidated into a new Mixed Employment zone. Four park-related zones will be consolidated into a new Parks and Open Space zone. New zones will include a Multifamily Residential – 24 zone and four new downtown zones – Downtown Residential, Downtown Mixed Use – Low Rise, Downtown Mixed Use – Mid Rise, and Downtown Historic Main Street Core.

Section 18.05.040 would be revised to clarify that the R-6, R-7.5, R-10, R-12, and R-15 zones accommodate both single-family and middle housing. The zone densities are also revised from "units" or "dwellings" per acre to "lots" per acre, consistent with recent middle housing changes. This section would also include descriptions for two new residential zones, MF-24 and Downtown Residential.

Section 18.05.050 would be renamed to expressly include mixed-use zoning. This section includes descriptions for four new zones: DT-HMSC, DT-MXM, DT-MXL, and Mixed Employment.

The Heavy Industrial zone description would be amended to allow residential uses west of Lacamas Creek and the Washougal River as a conditional use when included as part of a mixed-use redevelopment. The specific provision for residential development in this zone is addressed below with changes to Chapter 18.07. This change is made consistent with the draft Our Downtown Camas 2045 plan's support for an unrestricted cleanup level for the Camas Mill property, as well as Resolution 25-002 adopted by Council. "Given the site's legacy and its importance to our community," the resolution states, "it is imperative to ensure the cleanup efforts are fully protective of human health and the environment and preserve future private and public redevelopment options, including the flexibility to

support a broad range of future uses from residential and commercial development to natural and recreational spaces."

Chapter 18.07 — Use Authorization

Chapter 18.07 identifies the land uses that are permitted, conditionally permitted, temporarily permitted, or prohibited within all zoning districts. The chapter is organized into tables for commercial and industrial zones, residential zones, the parks zone, and a new table for downtown zones.

Table 1 - Commercial and industrial land uses would be reorganized to correspond with the revised zoning districts established in Chapter 18.05.

A new footnote #8 establishes a new conditional-use pathway for residential development in the Heavy Industrial district west of Lacamas Creek and the Washougal River, occupied by the Camas Mill. Residential development would be subject to conditional use requirements in CMC 18.43 and allowable only when part of a mixed-use development and when heavy industrial uses have ceased on the site proposed for residential development.

West of Lacamas Creek/Washougal River, residential uses may be allowed as a conditional use only when part of a mixed-use development project. Heavy industrial uses must have ceased on the portion of the site proposed for residential development and the applicant must demonstrate that the proposed residential development will not interfere with any continuing industrial operations on adjoining properties in a manner that cannot be reasonably mitigated through conditions of approval.

The Camas Mill cleanup process is being conducted under an agreed order between the Washington State Department of Ecology and Georgia-Pacific. The current process involves investigating the nature and extent of contamination and evaluating cleanup options, after which Ecology will establish the cleanup standards and select a final cleanup approach. Under WAC 173-340-740, unrestricted land-use cleanup levels, based on a residential exposure scenario, are the presumed standard unless Ecology determines that the property qualifies for industrial cleanup levels under WAC 173-340-745.

The proposed amendment is relevant because current and reasonably anticipated future land uses are among the factors Ecology considers when determining the appropriate cleanup standard. Although most of the Mill property is zoned Heavy Industrial, the name of the zoning district alone does not determine whether the property qualifies as industrial land for cleanup purposes. Ecology will review the comprehensive plan and zoning provisions, the types of uses allowed and anticipated on the property, surrounding land uses, public access, and other site-specific conditions. The Heavy Industrial zone already allows a range of commercial, public, and recreational uses that extend beyond industrial activity. The proposed pathway for residential use as part of mixed-use development further demonstrates that the property is not intended to be permanently limited to

industrial use. While Ecology will make the ultimate determination, the amendment is intended to strengthen the basis for evaluating the property under an unrestricted land-use cleanup scenario and to preserve the broadest range of future redevelopment opportunities.

Minor changes to Table 2 - Residential land uses would add fourplexes as a recognized middle-housing type and add limited neighborhood commercial uses in residential zones. Limited neighborhood commercial uses would be allowed on corner lots at intersections with collector or arterial streets within design overlay areas.

Table 3 – Park and open space land uses would consolidate the Neighborhood Park, Special Use Park, Open Space, and North Shore Parks/Open Space columns into a single POS zoning column. Uses traditionally associated with parks and open space including recreation facilities, community centers, community gardens, trails, concession stands, restrooms, utilities, and park-support buildings—would be administered under the consolidated district.

A new Section 18.07.060 and Table 4 would establish a separate use table for the DT-HMSC, DT-MXM, DT-MXL, and DT-R districts. The new table distinguishes between active and passive retail uses and regulates whether uses are allowed on the ground floor, upper floors, or both. The use table generally reserves ground-floor space in the Historic Main Street Core for active retail and pedestrian-oriented uses.

Chapter 18.09 – Density and Dimensions

The proposed amendments update the City's density and dimensional standards to align with the revised zoning framework and changes to state law.

Section 18.09.030, Table 1, has been updated to remove zoning districts that are being replaced or consolidated, add the new Mixed Employment (ME) district, and revise certain Mixed-Use standards.

Section 18.09.040, Table 1, has been updated to revise the density standards from a unit measurement of “dwelling units” per acre to “lots” per acre. This change is intended to harmonize the table with the new middle housing standards, which allow up to four units per residential lot.

Section 18.09.050, Table 1, establishes standards for the newly proposed MF-24 zone.

New Section 18.09.055 has been added for the four Downtown zoning districts—DT-HMSC, DT-MXM, DT-MXL, and DT-R. This section directs development to the applicable standards in the Downtown Design Manual.

Sections 18.09.110 and 18.09.130 add limited height and setback exceptions for additional building insulation and roof-mounted solar panels. These changes implement new requirements of HB 1183, which requires cities to allow the portion of a building envelope that includes exterior insulation to encroach up to eight inches into a setback and to allow solar panels to exceed maximum building heights by up to 48 inches.

Chapter 18.11 — Parking

Chapter 18.11 would be substantially reorganized and updated to provide more flexible parking standards, establish clearer procedures for parking reductions, and reflect changes in state law and development practices.

In 2025, Washington adopted SB 5184, which limits how much parking local governments can require for certain residential uses and commercial spaces. The bill applies to cities with a population of 30,000 or more. This bill does not yet apply to Camas, which has a population of 28,490 according to the latest April 1, 2026, estimate by the Washington Office of Financial Management.

SB 5184 sets the following limits on local government development regulations regarding parking:

- No more than 0.5 off-street stalls per multifamily unit.
- No more than 1 stall per single-family unit.
- No more than 2 stalls per 1,000 square feet of commercial space.
- No parking may be required for residences under 1,200 square feet, commercial spaces under 3,000 square feet, affordable housing, senior housing, childcare centers, ground level non-residential space in mixed-use buildings, or for buildings changing use.

Another 2025 law, HB 1183, eliminated parking requirements for certain types of residential projects. Cities and counties planning under the GMA may not require off-street parking as a condition for permitting affordable housing, new construction or the retrofit of existing buildings meeting passive house requirements, modular construction, or mass timber construction.

The proposed draft substantially retains the existing off-street parking standards in Table 18.11-2. Changes are proposed only to certain residential uses to comply with state law and to be consistent with the City's recent middle housing code updates. Pursuant to HB 1183, there would be no minimum parking requirements for affordable housing, new construction or the retrofit of existing buildings meeting passive house requirements, modular construction, or mass timber construction. The state's definitions for the terms would be adopted into Title 18.

A new Section 18.11.120 would establish an administrative process through which an applicant could request that the reduced parking requirements of SB 5184 be applied early to their project. The applicant would be required to submit a parking assessment explaining the requested reduction, anticipated parking needs, available on-site and on-street parking, transportation options, and relevant site constraints. The alternative standards would allow parking requirements to be reduced as follows:

- One-half space per multifamily dwelling unit.
- One space per single-family dwelling.
- Two spaces per 1,000 square feet of commercial space.

No minimum parking would be required under the alternative standards for:

- Residences smaller than 1,200 square feet.
- Commercial spaces smaller than 3,000 square feet.
- Affordable housing
- Senior housing.
- Childcare centers.
- Ground-floor nonresidential space in mixed-use buildings.
- Certain residential or commercial changes of use.

Title 18 currently contains conflicting parking language for downtown and mixed-use zones. Section 18.11.010 generally requires off-street parking in the Downtown Commercial (DC) and Mixed Use (MX) districts but allows the Community Development Director the discretion to waive the requirement for certain projects. In contrast, Section 18.19.050 categorically states that downtown commercial and mixed-use areas are not required to provide on-site parking. The proposal blends the two provisions into a single, more clearly defined standard. In Downtown and Mixed-Use zones only, commercial uses and ground-floor nonresidential space within mixed-use buildings would have no minimum parking requirement – consistent with the current language in 18.19.050. Other uses – including residential – would retain parking requirements. However, for projects one-half block or less in size, the Community Development Director could reduce those requirements when the City Engineer finds that anticipated parking demand can be adequately accommodated by existing on-site parking and adjacent on-street parking. In either scenario, the Director could also require the applicant to convert adjacent on-street parking to angle parking or another approved configuration when necessary to increase parking capacity.

A new Section 18.11.110 would establish when a parking study is required. A study would be required when:

- Parking is proposed below the alternative minimum standards.
- A multifamily project containing more than 20 dwelling units seeks to use the alternative standards.
- No reasonably comparable parking standard exists for a proposed use.
- The Community Development Director determines that the scale, mix, phasing, or operating characteristics of a project warrant additional analysis.

The study would evaluate anticipated parking demand, project phasing, shared and off-site parking, on-street parking, transit access, transportation demand management, accessible parking, and other relevant site and operational conditions. The Director could impose conditions such as parking agreements, monitoring, management measures, or additional review if the use changes materially. A parking study could allow for fewer parking spaces than the parking standards or alternative minimum standards.

Chapter 18.13 – Landscaping

Section 18.13.051 establishes the minimum tree density requirements for development. When first established, the required minimum tree density was set at 20 tree units per acre. In 2023, when adopting North Shore zoning, the City established a standard of 30 tree units per acre in the North Shore subarea. Additionally, the 2023 changes required that at least 50 percent of the tree density be achieved with existing trees in most cases and that replacement trees be native or coniferous.

The proposed amendments to this section increase the citywide tree standards by increasing the minimum tree density from 20 to 30 tree units per net acre and eliminating the separate North Shore tree density standard.

Chapter 18.15 – Signs

Limited amendments are proposed to this chapter at this time. Section 18.15.040(D)(3) has been updated to provide a separate height standard for signs affixed to awnings over pedestrian areas and to resolve a conflict between the sign code and building code requirements for awnings. Awnings must maintain a minimum vertical clearance of 7 feet 6 inches above sidewalks. The current sign code requires a 10-foot clearance over sidewalks for signs. This conflict would prohibit signs from being affixed to awnings anywhere below 10 feet.

A minor change to Section 18.15.100 would prohibit the placement of temporary signs within center roadway medians. A change to Section 18.15.070 would clarify that a Master Sign Permit does not authorize signs within the public right-of-way that exceed the size limits established by Chapter 18.15.

Chapter 18.18 – Site Plan Review

The amendments refine the chapter's applicability and exemptions, clarify that middle housing and ADUs located on a single residential lot are exempt from site plan review, and remove references to outdated zoning districts.

Chapter 18.19 – Design Review

Proposed amendments to CMC Chapter 18.19 align design review requirements with the Downtown Design Manual, North Shore Design Manual, and proposed Design Overlay regulations. The proposed amendments would update references and terminology, clarify applicability of design review requirements, expand applicability to development within Design Overlay corridors, and incorporate design review into the consolidated review process by City planning staff, removing the need for a design review committee.

Chapter 18.20 – Design Overlays

The proposed new Design Overlay chapter is intended to establish corridor-focused design standards throughout the city. These new design overlay corridors would replace the existing Gateway standards and complement the new Downtown Design Manual. The

overlays would apply to properties fronting designated Tier 1 and Tier 2 corridors identified on the Design Overlay Corridors Map. Proposed standards address landscaping, lighting, signage, sidewalks, street trees, bicycle facilities, gateway features, and other corridor design elements intended to improve community appearance and pedestrian experience.

Chapter 18.22 – Mixed Employment

The proposed new Mixed Employment zone is intended to implement the Mixed Employment land use designation in the draft Comprehensive Plan and would include lands in the former Light Industrial, Business Park, and Light Industrial/Business Park zones. The purpose of the proposed Mixed Employment zone is to provide areas for a broad range of employment-focused activities that support the local and regional economy. The zone is intended to accommodate uses such as advanced manufacturing, research and development, service commercial, offices, limited retail, artisan or craft industrial uses, technology production, and other compatible employment uses. The intent is to support higher-wage jobs, business diversity, innovation, and local employment opportunities while ensuring compatibility with nearby residential and commercial areas. This supports draft plan Policy ED-4.3 to “Support a mix of light industrial, research and development, manufacturing, and office spaces through flexible zoning that allows for evolving business needs” and Policy ED-4.4 to “Support the development of business parks, incubators, and innovation hubs that integrate industrial and high-tech employment uses”.

The proposed chapter includes flexible site development standards intended to accommodate a variety of employment sites, building types, and business needs, but also includes standards to ensure quality design in grading and drainage, parking and loading, refuse and storage areas, utilities, fencing, and lighting. These standards are intended to ensure that employment areas are functional while also presenting a high-quality appearance from public streets and neighboring properties. The draft encourages shared parking between adjacent uses, limits parking between the primary street and the front of the building to visitor and accessible spaces, encourages employee parking behind buildings, and requires loading areas and truck docks to be located and screened to minimize visibility from streets and adjacent properties.

The proposed language would allow warehousing, indoor storage, and distribution activity only as an accessory use when directly associated with and subordinate to a permitted principal use on the same site. The language would prohibit stand-alone warehouse, distribution center, fulfillment center, freight terminal, mini-storage, self-service storage, and outdoor storage yard uses.

Chapter 18.23 – Planned Residential Development

Policy LU-1.4 of the draft Our Camas 2045 Plan is to “Promote the use of flexible development options (e.g., planned residential developments and development agreements) to create a variety of accessible housing types within new developments.”

This policy is implemented through Chapter 18.23 of the Zoning Code, Planned Residential Development (PRD). The proposed amendments would establish objective approval criteria for PRDs and make them subject to quasi-judicial review by the Hearing Examiner.

The proposed changes would require all PRDs to provide a minimum of 15% open space and would guarantee a 15% density bonus.

Chapter 18.24 — Mixed Use

The proposed revised Mixed Use zone establishes a requirement for a mix of uses that can be achieved through either vertical or horizontal mixed-use projects.

For vertical mixed-use development, residential uses may be located above ground-floor commercial or other nonresidential uses. A building with ground-floor commercial or nonresidential uses and residential uses above would be considered consistent with the mixed-use intent of the chapter.

For horizontal mixed-use development, where residential and nonresidential uses are provided in separate buildings or separate portions of a site, the draft requires the development to consist of a maximum of 50 percent residential uses and a minimum of 50 percent commercial or nonresidential uses. The required use mix may be measured by either site acreage or gross floor area. This provides flexibility for different development formats while still ensuring that the commercial or nonresidential component remains a meaningful part of the project.

The draft also provides for some flexibility to allow more residential in a mixed-use project. On lots smaller than 20,000 square feet, a development proposal may be allowed to be 100 percent residential. For larger sites, the approval authority may allow residential uses to exceed 50 percent of the site acreage, up to a maximum of 70 percent residential acreage, when the applicant demonstrates that the proposal will provide a superior mixed-use outcome by ensuring timely delivery of the commercial or nonresidential component. Properties that are currently zoned residential and proposed to be rezoned to Mixed Use could also be developed at 100 percent residential. The proposal also includes an incentive for affordable housing projects, allowing affordable housing to count towards the commercial component of a project when calculating the use mix.

Chapter 18.26 – Flexible Development

The Flexible Development code is similar to the PRD code because both provide flexibility intended to promote efficient land use, ensure compatibility between developments, and preserve community resources. However, the PRD code focuses on innovative residential development, while the Flexible Development code promotes sustainable and environmentally responsive design in any zoning district.

Minor amendments to this chapter expand the purpose of the flexible development program to more explicitly support climate and sustainability goals, including renewable energy, EV infrastructure, low-impact development, and tree retention.

Chapter 18.32 – Park and Open Space Zoning

There are currently four different parks/open spaces zones: Neighborhood Park, Special Use, Open Space, and North Shore – Parks/Open Space. Most properties within these zones are City-owned, although the zones also include several privately owned parcels. The proposed Parks and Open Space zone would consolidate the four existing zones, recognize the privately owned properties within the zone, and better accommodate public park projects.

Chapter 18.43 – Conditional Use Permits

The proposed amendment would increase the required performance bond amount to 150% of the cost of the proposed improvements and authorize the Hearing Examiner to require a bond when necessary. The current code assigns this authority to the City Council; however, Council does not review conditional use permits.

Chapter 18.45 – Variances

Variances are divided into minor and major categories, which differ based on the degree of variation requested and the applicable review process. Minor variances up to 10% of a numerical standard are Type I reviews, meaning they can be approved administratively by City staff. Any variance request over 10% is considered a major variance. Major variances are Type III reviews, requiring a public hearing for approval.

A proposed amendment to this chapter would allow for variances of 10% or 1 foot of setback to be approved as a minor variance. This change would allow a setback reduction of up to one foot to be reviewed administratively as a minor variance, even when the reduction exceeds 10 percent of the required setback.

Major variances would now be limited to a maximum variance of 40%. The amendments also clarify that the hearing examiner, not the defunct board of adjustment, is the approval authority for major variances. This is consistent with prior changes in the municipal code granting this authority to the hearing examiner.

Chapter 18.51 – Comprehensive Plan and Zoning Amendments

This chapter establishes procedures for amendments to the comprehensive plan, zoning map, and zoning code text, which may be requested by any party. The proposed amendments would establish application requirements for zoning text amendments and authorize concomitant rezones.

A concomitant rezone is a zoning map amendment approved with specific, binding conditions governing how the property may be developed. This tool would allow the City

to impose site-specific conditions related to matters such as permitted uses, density, design, phasing, and public improvements.

Additional Changes

Since the Planning Commission's recommendation and the City Council workshop, staff has made additional revisions to the draft Comprehensive Plan and proposed code amendments. These revisions respond to City Council feedback, comments from the Washington State Department of Commerce, and the Clark County Council's adoption of the County Comprehensive Plan. Staff has also proposed refinements to improve clarity, consistency, and implementation of the Plan's goals and policies.

All proposed revisions are identified through highlighted text or redlines in the Council packet materials. Staff is also finalizing additional revisions to the draft plan to reflect the exclusion of the Nevin property from the Camas UGA.

Land Use Element

- Clarified that public facilities and utilities are allowed within all land use designations.
- Added a policy addressing environmental justice, including efforts to avoid creating or worsening environmental health disparities.
- Added a policy to reduce and mitigate risks to life and property from wildfires through land use planning, wildfire preparedness, and fire adaptation measures.

Capital Facilities Element

- Revised Policy PFS-3.2 to emphasize maintaining a strong civic presence downtown rather than specifically requiring City Hall to remain downtown.
- Revised Policy PFS-3.3 to encourage consideration of LEED certification and other sustainable design strategies rather than expressly promoting them.
- Added maps of the City's water and sewer systems and a link to the stormwater facilities map.
- Added a policy or procedure to reassess the Land Use Element if probable funding is insufficient to meet identified capital facility needs.

Housing Element

- Expanded the discussion of barriers to affordable housing, including limited housing variety, rising housing costs, and insufficient funding.
- Added policies supporting housing choice and affordability.
- Added an explanation of how past policies were evaluated for their potential impacts on the development of affordable housing.

Transportation Element

- Expanded the discussion and added policies addressing how the City will achieve its adopted multimodal level of service standards.
- Clarified the Plan's consistency with the Regional Transportation Plan.

Climate Element

- Refined policies to provide greater clarity regarding implementation.
- Expanded the discussion of how climate policies prioritize overburdened communities and vulnerable populations.

Chapter 18.03 – Definitions

- Added definitions for emergency housing, emergency shelters, religious organizations, and co-living housing in response to Commerce comments.

Chapter 18.07 – Use Authorization

- Added machine shops as a permitted use in the Mixed Employment (ME) district, consistent with the existing Light Industrial/Business Park (LI/BP) district that ME will replace.
- Added emergency housing and shelters as permitted uses in all zones allowing hotels, consistent with RCW 35A.21.430 and RCW 36.70A.070(2)(c), in response to Commerce comments.

Chapter 18.09 – Density and Dimensions

- Reduced the minimum side yard setback on corner lots to 10 feet for cottage-style and rowhouse developments in all multifamily zones, consistent with existing standards in the MF-24 and HD-NS districts.

Chapter 18.11 – Parking

- Revised certain residential parking standards for consistency with RCW 36.70A.622, including establishing a minimum parking stall dimension of 8 feet by 20 feet.

Chapter 18.20 – Gateway Design Overlays

- Renamed the chapter to "Gateway Design Overlays."
- Revised various design standards to provide greater flexibility and additional design options, consistent with the chapter's purpose of encouraging quality development and supporting new business opportunities.

Chapter 18.22 – Mixed Employment

- Added a pathway for mixed-use development through a City Council-approved development agreement, subject to requirements intended to ensure substantial employment-generating development.

Chapter 18.28 – Co-Living Housing

- Added a new chapter establishing standards for co-living housing and allowing it as a permitted use in multifamily zones, consistent with RCW 36.70A.535 and Commerce comments.

BENEFITS TO THE COMMUNITY: The proposed Comprehensive Plan, Downtown Subarea Plan, and associated code amendments establish an updated framework for accommodating growth through 2045. The proposal establishes a new vision statement,

expands housing choices, supports economic development and employment opportunities, strengthens environmental and climate resiliency policies, promotes safe and connected multimodal transportation, and coordinates growth with public facilities and infrastructure.

STRATEGIC PLAN: This item advances multiple City strategic priorities, including Economic Prosperity, Safe and Accessible Community, and Vibrant Community Amenities. The updated plans and regulations support a diverse and resilient local economy, expand housing and development opportunities, protect community character and environmental resources, and provide a clearer and more predictable regulatory framework. The proposal also strengthens long-range coordination between land use, transportation, infrastructure, public services, environmental stewardship, and future City investments.

POTENTIAL CHALLENGES: Implementation of the updated plans and regulations will require adjustment by City staff, applicants, property owners, and the development community. Increased growth will also require continued coordination of transportation, water, sewer, public safety, parks, and other infrastructure investments. Staff will need to monitor implementation and recommend further code amendments as needed.

BUDGET IMPACT: Preparation of the Comprehensive Plan update, Downtown Subarea Plan, Downtown Design Manual, and associated development code amendments has been completed using existing City staff and previously authorized consultant resources. The amendments will facilitate future development activity, resulting in corresponding City revenues and costs.

RECOMMENDATION: The Planning Commission recommends adoption of the Our Camas 2045 Comprehensive Plan Periodic Update, Our Downtown Camas 2045 Subarea Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code with the following additional recommendations:

1. For the Downtown Plan, the City should consider additional details and plans for the following historic areas: the historic [city] steps, the Mill Ditch Green Space Connector, and the Cedar Street right-of-way.
2. Adjust the border of the new multifamily zone east of Elm Street to retain the existing zoning.
3. Recommend that the City Council look closely at the infrastructure needed to support demand for water under the new plan, and recommend a demand analysis, and transport study to understand the extent and movement of the [PFAS] contamination and consider mandatory conservation measures.

Staff recommends Council hold the public hearing, take public testimony, and direct the City Attorney to draft an ordinance adopting Our Camas 2045 Comprehensive Plan Periodic Update, Our Downtown Camas 2045 Subarea Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code.



our Downtown Camas 2045

Acknowledgments

City Staff

Doug Quinn
City Administrator

Alan Peters
Community Development Director

Robert Maul
Planning Manager

Lauren Hollenbeck
Senior Planner

Yvette Sennewald
Senior Planner

Madeline Coulter
Planner

Margot McNeely
Planning Intern

Carey Certo
Sr. Administrative Support Assistant

Scott Collins
Public Works Director

Curleigh Carothers
Engineering Manager

Rob Charles
Utilities Manager

Ken Pearrow
GIS Coordinator

Bryan Rachal
Communications Director

Mayor

Steve Hogan

City Council

Marilyn Boerke, Ward 1

Martin Elzingre, Ward 2

Mahsa Eshgi, Ward 3

Tim Hein, Ward 2

John Nohr, Ward 1

Jennifer Senescu, Ward 3

John Svilarich, At Large

Planning Commission

Troy Hull, Chair

Geoerl Niles, Vice Chair

Paul Anderson

Hannah Burak

Shawn High

Joe Keller

Joe Walsh

Downtown Advisory Committee (DAC)

Alicia Brazington
Community Member / Parks and Recreation Commission

Samantha Horner
Community Member / Library Board of Trustees

Jason Irving
Community Member/Parks and Recreation Commission

Brian Kuhta
Community Member

Rick Melching
Community Member

Kim Sogge
Community Member

Marlo Maroon
Community Member

Carrie Schulstad
Downtown Camas Association (DCA) Executive Director

Caroline Mercury
DCA Founding and Current Board Member

Marilyn Boerke
DCA Board President / Camas City Council

Randy Curtis
DCA Board Vice President

Sarah Laughlin
DCA Board Secretary

Shawn Parker
DCA Board Member

Trang Lam
Port of Camas-Washougal

WSP SERA 3J CONSULTING

DKS ECO NW

Contents

01 Introduction 4-11

02 Existing Conditions 12-21

03 Framework 22-37

04 Land Use Concept 38-51

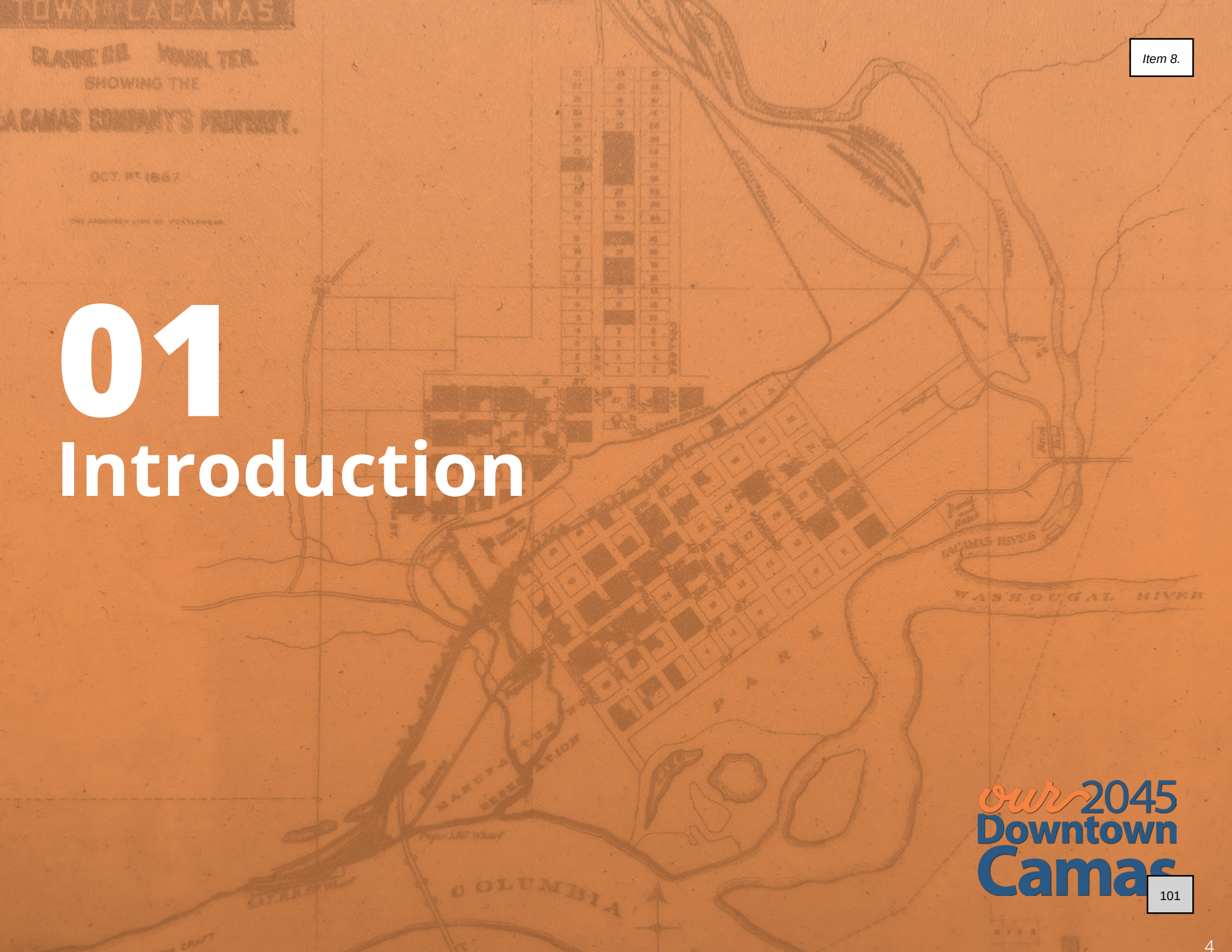
05 Open Space Network 52-65

06 Transportation 66-73

07 Infrastructure 74-77

08 Implementation 78-93

01
Introduction



our 2045 Downtown Camas

Purpose

Over the last decade, the City of Camas has grown substantially. Access to outdoor recreation, schools, and a strong community-feel are frequently cited as the City's strengths, and Downtown Camas has played a crucial role as the heart of the City, defining its unique identity in the region. Since initiating the modern economic and industrial history of Camas, Downtown has continued to transform into a core commercial district that attracts residents and visitors alike to its authentic Main Street experience along NE 4th Avenue.

Whether for daily shopping trips or a monthly themed event, Downtown Camas continues to be a local retail hub and a regional destination. To date, downtown has kept pace with the demands of overall growth in Camas, but recent market demands and fluctuations led the City and downtown to address future transformations over the next 20 years.

To address future growth, the City of Camas prepared to update its citywide Comprehensive Plan ("Our Camas 2045"). City leaders and local stakeholders recognized a need to place a special focus on Downtown Camas through a Subarea Plan ("Our Downtown Camas 2045"). Completing these plans with a synchronous planning process offered a chance to consider unique needs at both the city-scale and downtown-scale, while understanding the vision and goals for each plan are intertwined. The plans were developed through an iterative community engagement process, input from local stakeholders at key project milestones, and ongoing guidance and input from City staff.

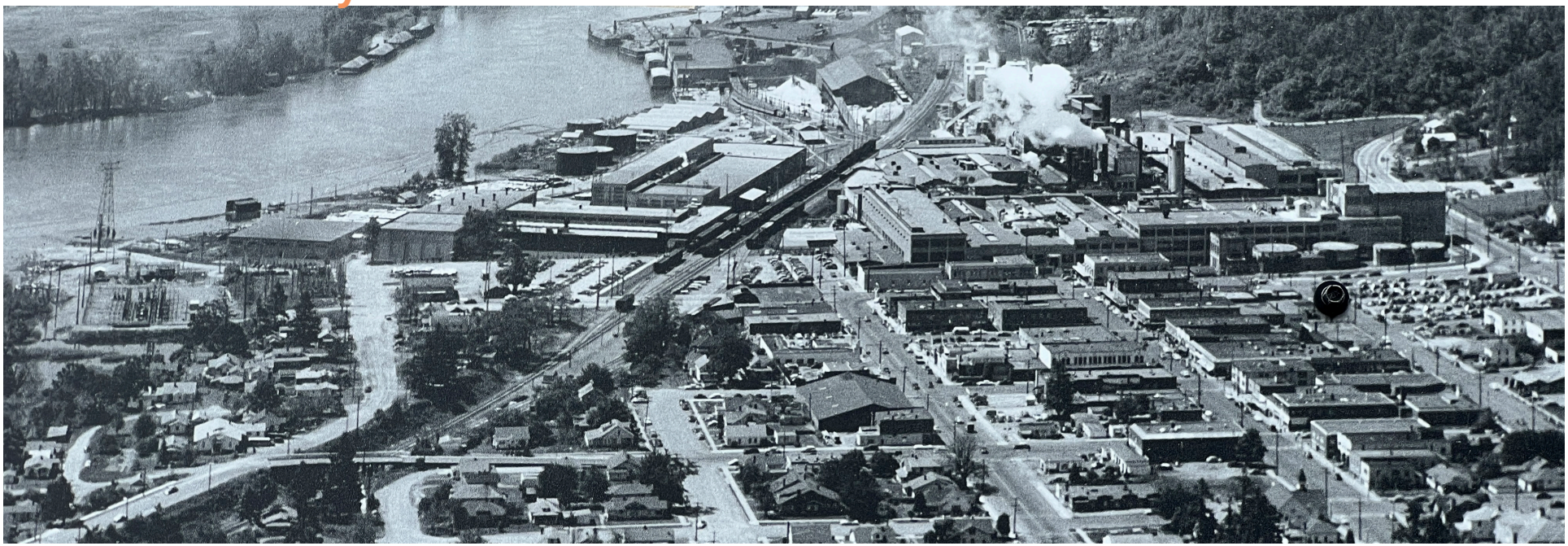


Bike Parked on Curb in Downtown Camas

The Downtown Subarea Plan considers the historic character of Downtown Camas and offers a strategy for balancing history with future transformations to make downtown a place that will continue to attract residents and visitors alike. The Subarea Plan is intended to serve as a shared commitment between city and downtown stakeholders, welcoming the development and business communities to help implement the vision. It also provides discussion about future expansion to the Camas Mill Property, when timing aligns with property owners' planning processes. The vision and goals set forth in this Plan intend to achieve the following outcomes:

1. Set the **policy direction** for future implementation in Downtown.
2. Guide development in a way that **reflects the community's vision** for the area through a set of clear and objective design guidelines.
3. Establish a framework for **connecting public and private spaces and transportation networks.**
4. Lay the groundwork for the future of the Camas Mill Property by **supporting an unrestricted environmental cleanup** level.

Context & History

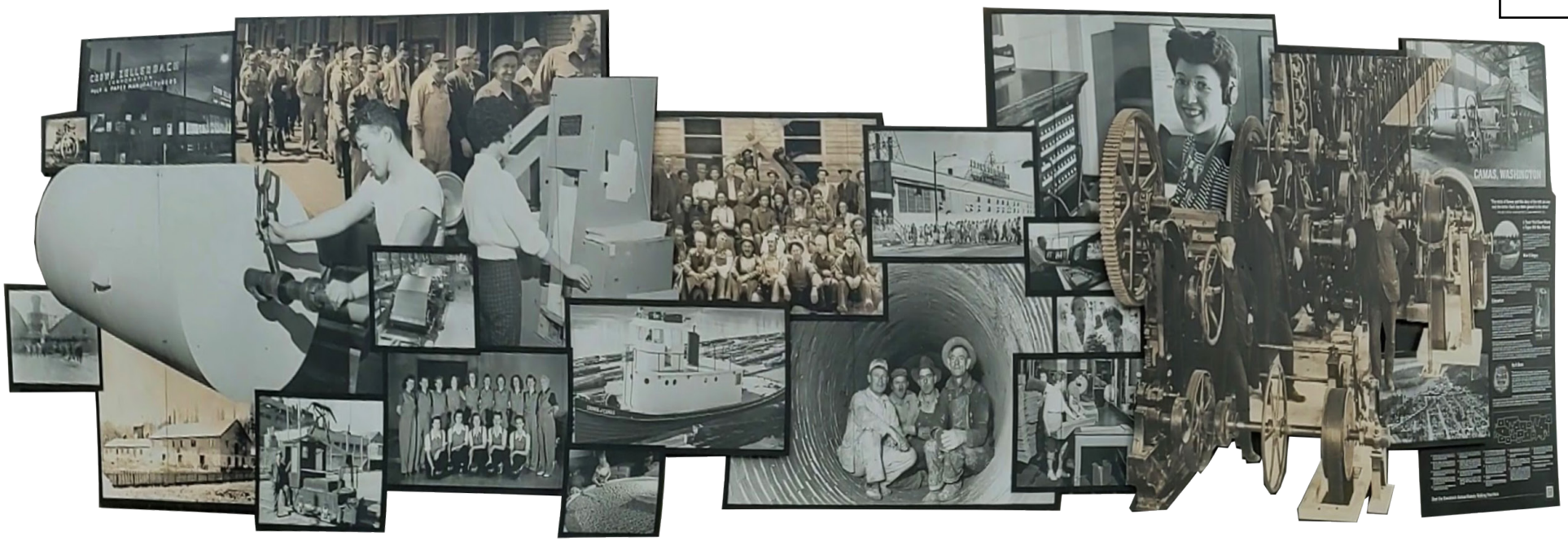


Downtown Camas has been a vital part of the city's history since its founding as the Town of Camas in *1883*. At that time, construction of the Camas Paper Mill began, which provided opportunities for the first businesses to open in down-town. These businesses served the people working at the mill and living in the town. The mill's involvement in and support of the community, as well as the standard for excellence, brought many years of civic prosperity and quality entrepreneurship to Downtown Camas.

With **increased suburban growth in the early *1960's***, anchor businesses in historic downtowns across the country were moving to shopping malls and the civic leaders of Camas grew concerned. Downtown business leaders were inspired by a transformative pedestrian shopping mall in Grand Junction, Colorado and proposed to do something similar in Downtown Camas. The effort was called "Operation 4Sight" and improvements included widened sidewalks, trees, flowers, benches, store awnings, gazebos, buried electrical and phone wires, better layout of parking spaces, outdoor telephones, and an outdoor sound system.

To communicate the potential changes to the community, civic leaders and downtown advocates temporarily redesigned NE 4th Ave with a mockup of the suggested improvements. These improvements were left in place for two months so residents could offer suggestions and get used to the changes. The community saw the benefit and the project moved forward.

Work began on the downtown mall in 1966 and was completed in *1967.* Funding came from the building owners of the downtown area, city revenues, and some federal aid. The vision of forward-thinking stakeholders at the time has created a unique experience in Camas today, including the wider pedestrian friendly sidewalks and iconic tree canopy. These efforts have helped the downtown busin



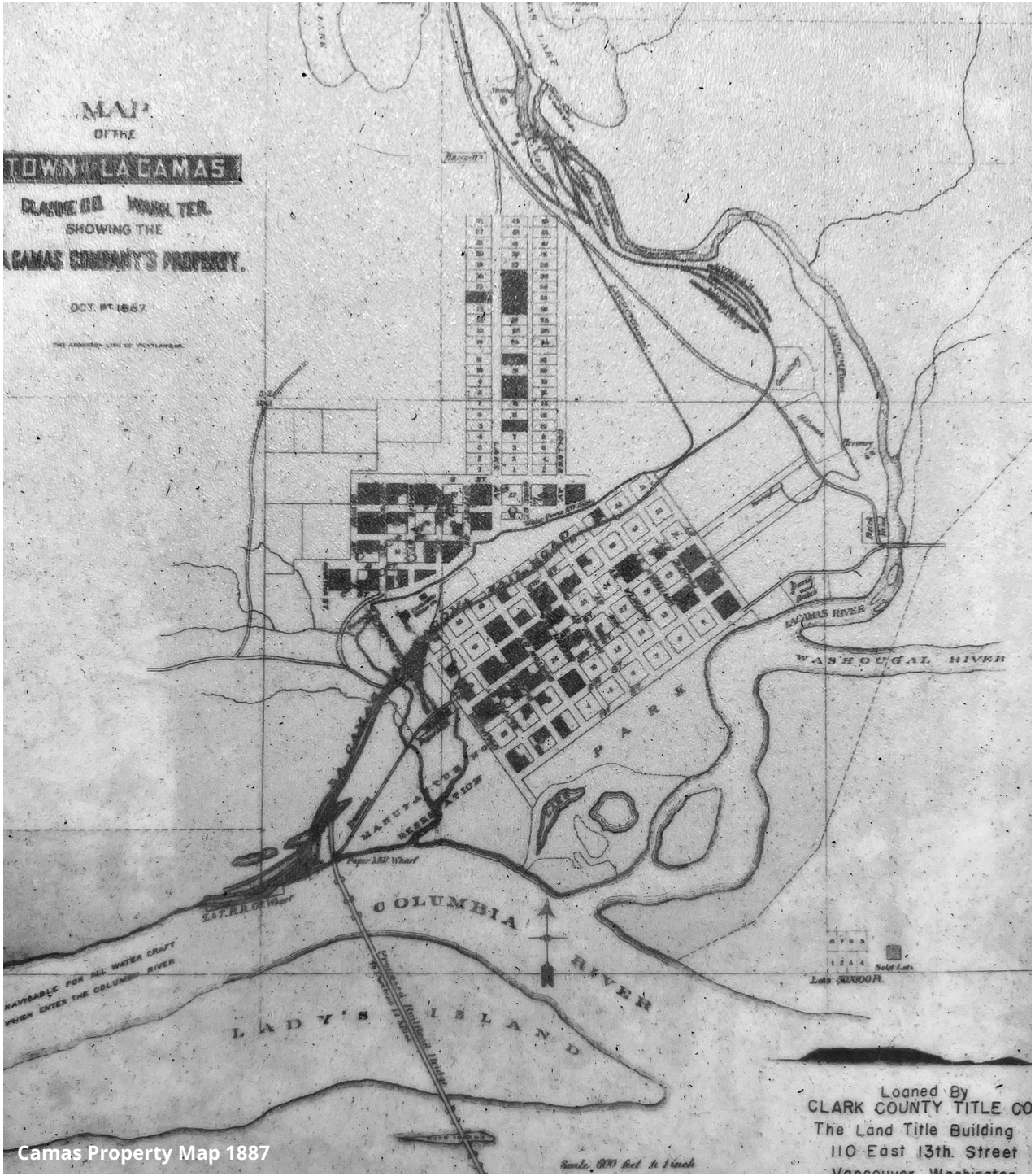
Camas Historic Mill Photo Collage at the Universal Martial Arts Building at the Corner of 4th Avenue and Adams.

district to continue to thrive.
By the *1980's* and *90's*, a steady decline was occurring in downtown as mill employment was decreasing and many anchor businesses such as JC Penney, Sears, and Sprouse Reitz were closing or relocating to the Vancouver Mall. Farrell & Eddy, an anchor retailer for 53 years in downtown, closed in 1998, along with other retailers who depended on the bigger stores to help bring people to downtown.

In the early 2000's, the City of Camas started working with business leaders and community members in a city-funded committee called the Downtown Vision Coalition *(DVC)* to create a new vision for downtown and address building vacancies and necessary improvements. Progress was slow but by 2005, new small businesses had opened in downtown, and they worked to together on events, marketing, advertising, active referrals, and camaraderie to create collective success.

The Great Recession hit in 2008 and by 2009, downtown fell to a 60% vacancy rate. The City suspended funding, but the members of the DVC looked for opportunities for continued growth. The DVC joined the Washington State Main Street Program, seeking increased expert guidance in downtown revitalization and in 2009, incorporated into the 501c3 non-profit Downtown Camas Association (DCA). The mission of the DCA, which continues today, is to create a vibrant social, cultural and economic center of the community, emphasizing preservation and a vision for the future. The DCA promotes, represents and advocates for our town locally, regionally, and nationally.

Over the years, the DCA, City, businesses, and community have all strategically worked together to bring vitality, prosperity, and quality of life to Downtown Camas. ***Today*, downtown has a vacancy rate of less than 2%**, and a variety of high-quality shops, restaurants, a preserved historic theatre, a remodeled boutique



Camas Property Map 1887

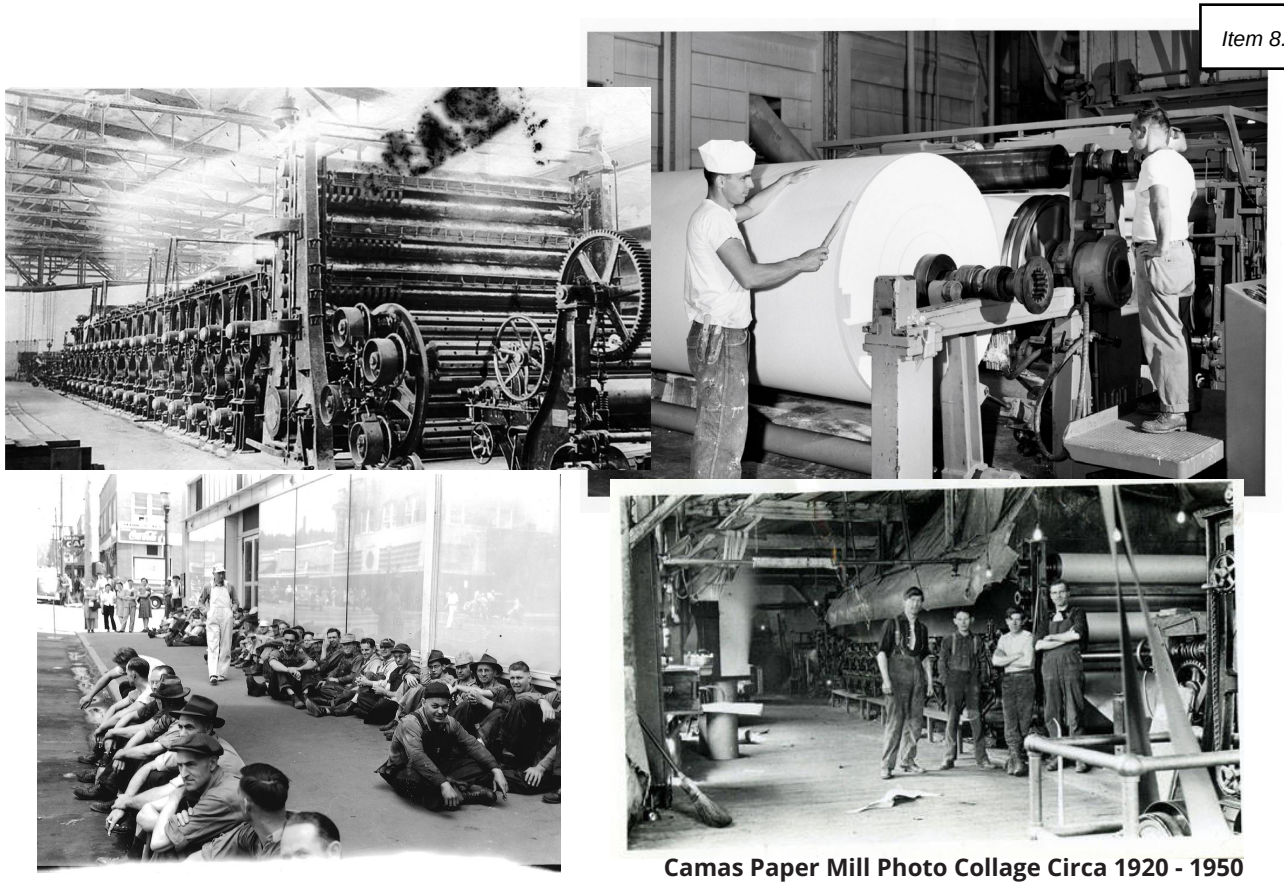
hotel, and wellness services. Businesses work together and have strong community support. The DCA and the City have put considerable effort into beautifying downtown with tree and ridgeline lighting, engaging public art, benches and seating areas, flower baskets, landscaping, bike racks, signage, and lamp posts that match the authentic downtown aesthetic.

Over 25 consistent and long-term community events are held each year in downtown to stimulate economic vibrancy, grow awareness of Camas, and to bring the community together. Thousands of volunteer hours have been contributed. Private investment continues to increase and new housing has begun developing. Collectively, these efforts have worked to strengthen and preserve our downtown, but increased planning efforts and improved infrastructure are required to continue to increase downtown vitality, livability, and sustainability.

The Downtown Subarea Plan presents this opportunity as another key milestone in the history of downtown through updated visioning, planning, and implementation over the next 20 years.

Camas Paper Mill





Camas Paper Mill Photo Collage Circa 1920 - 1950

Founded in 1883 as the LaCamas Colony Mill and later operated by Crown Zellerbach and eventually Georgia-Pacific, the Camas Paper Mill was **once one of the largest employers in the region**, shaping the economic, physical, and cultural landscape of Camas. With its iconic smokestacks and waterfront facilities, the mill not shaped Camas' identity as a mill town but also supported generations of workers and families. The mill's proximity to the Columbia River and nearby forests made Camas an ideal site for pulp and paper production, and **the downtown core emerged in tandem, serving the needs of mill workers and their families.**

In recent decades, **the role of the mill has evolved**. Significant portions of the mill's operations were shut down in 2018 and the workforce has been reduced to about 150 employees. The mill's operations and footprint have contracted in recent years and **Georgia-Pacific is currently demolishing several unused buildings**, but there is no announced plan to shut down entirely.

While r**ecognizing the role that the mill has played in Camas's history** and its significance as an economic driver, the City of Camas is working closely with the Washington Department of Ecology and Georgia-Pacific to ensure that the site is cleaned up to a high environmental standard, opening the door for potential long-term reuse. In February 2025, the City Council adopted Resolution 25-002, in support of an **unrestricted environmental cleanup level.** "Given the site's legacy and its importance to our community," the resolution states, "it is imperative to ensure the cleanup efforts are fully protective of human health and the environment and preserve future private and public redevelopment options, including the flexibility to support a broad range of **future uses from residential and commercial development to natural and recreational spaces.**

Organization of the Plan

The Downtown Subarea Plan is intended for use by a range of stakeholders in Downtown Camas: from City decision makers setting priorities for City staff to implement, to Downtown Camas Association staff and members who continue to be champions for Downtown, to property and business owners who would like to contribute to and participate in continued growth, to community members wanting safer access to and through Downtown. This Plan reinforces the city's commitment to making downtown a safe and thriving place to live, work, and play, serving as the city's "living room" for years to come. The City welcomes the development and business community to work together to honor the foundation that the historic Downtown has set, and look for ways to transform beyond the core to create space for more opportunities.

The Plan is organized in the following sections:

01 Introduction. An explanation of the purpose, context, and history.
Why plan for Downtown now? How did we get here?

02 Existing Conditions Summary. A review of the existing physical, regulatory, and market conditions that exist in Downtown Camas today.
Where are we now?

03 Framework. A summary of the engagement process that set the priorities for the Downtown Subarea Plan; a vision statement and set of goals for Downtown Camas; and an urban design framework that illustrates the opportunities and constraints.
How did the community inform the plan? What is the vision for Downtown Camas? What are the opportunities and constraints for the future of Downtown Camas?

04 Land Use Concept. Presents how the vision and goals can be achieved through new development and redevelopment, including residential, commercial, and mixed-use development types.
What could Downtown transformation look like?

05 Open Space Network. Designs for improved and new open spaces that provide more gathering space and connected recreation opportunities Downtown.
What does this mean for park and open space?

06 Transportation Concepts. Analysis of potential effects on traffic and transportation networks Downtown, as development changes occur. *How will changes to Downtown affect traffic and transportation networks?*

07 Infrastructure Improvements. Analysis of potential effects on utilities and infrastructure.
What changes to infrastructure will need to occur over the next 20 years?

08 Implementation. A strategy that reflects the policy direction and intention for the next 20 years of Downtown set by the vision and goals in the Subarea Plan.
How will we get there?

09 Appendices. Supplemental information relevant to the Subarea Plan.


JUXTAPOSITION
NE DALLAS ST



02
Existing Conditions

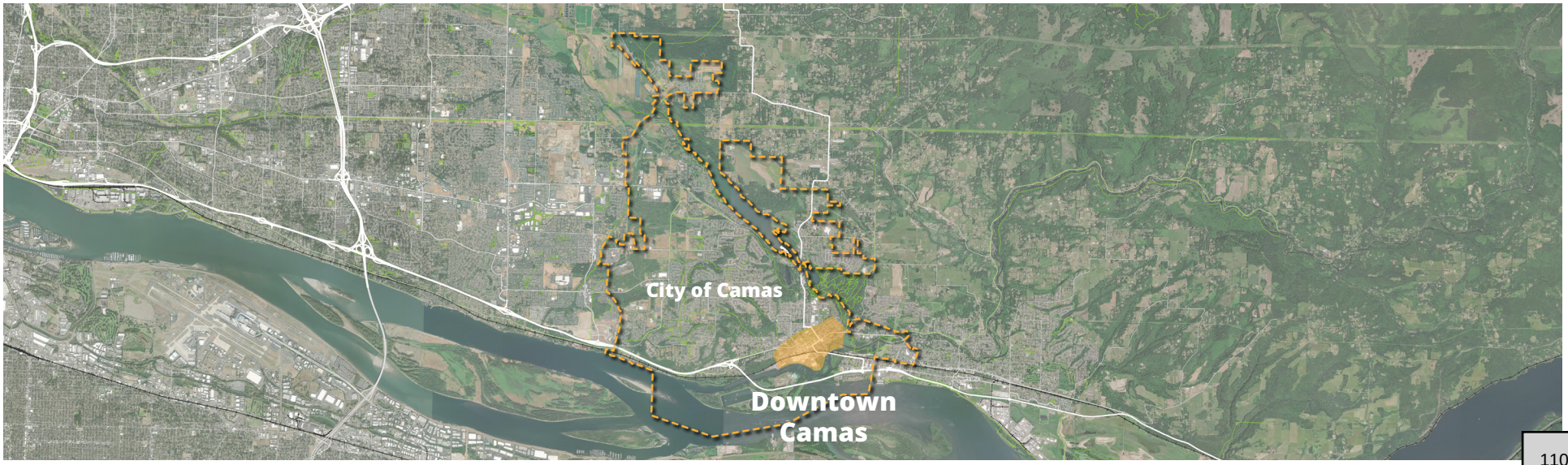
our 2045 Downtown Camas

Context

The City of Camas is well-connected to the Portland-Vancouver Metro region, located off of Washington State Route 14. Downtown Camas, the well-established, recognized core of the city, is easily accessible with a gridded street network. Its historic main street on NE 4th Avenue, with buildings fronting the sidewalk, serves as an attraction for a range of activities including retail businesses, community events, and City services. The adjacent Camas Paper Mill property helped to establish this historic character, but downtown has evolved over the years to continue to be a destination for residents and visitors, serving today's needs and offering unique community events rooted in the city's history.

The Downtown Subarea Plan considered relevant context from previous City-adopted planning efforts that encompass the downtown area including the current Comprehensive Plan "Camas 2035," the Downtown Design Manual, and the Street Tree Succession Plan. Additionally, concurrent efforts that influenced the planning process included the Our Camas 2045 Comprehensive Plan, the Parks and Open Space Management Plan, the Station 41 Replacement Project, and the Department of Ecology environmental remediation process at the Georgia-Pacific multi-year revitalization project. These projects, along with community-led efforts in Downtown, provided insight into understanding common goals and desired outcomes that affect Downtown Camas.

An early phase of planning for the future of Downtown Camas included a site assessment of existing conditions. This assessment, summarized in this section, includes findings from available data, discussions with City staff with institutional knowledge, visual assessments from site visits, and conversations with key stakeholders with lived experience in Downtown Camas.





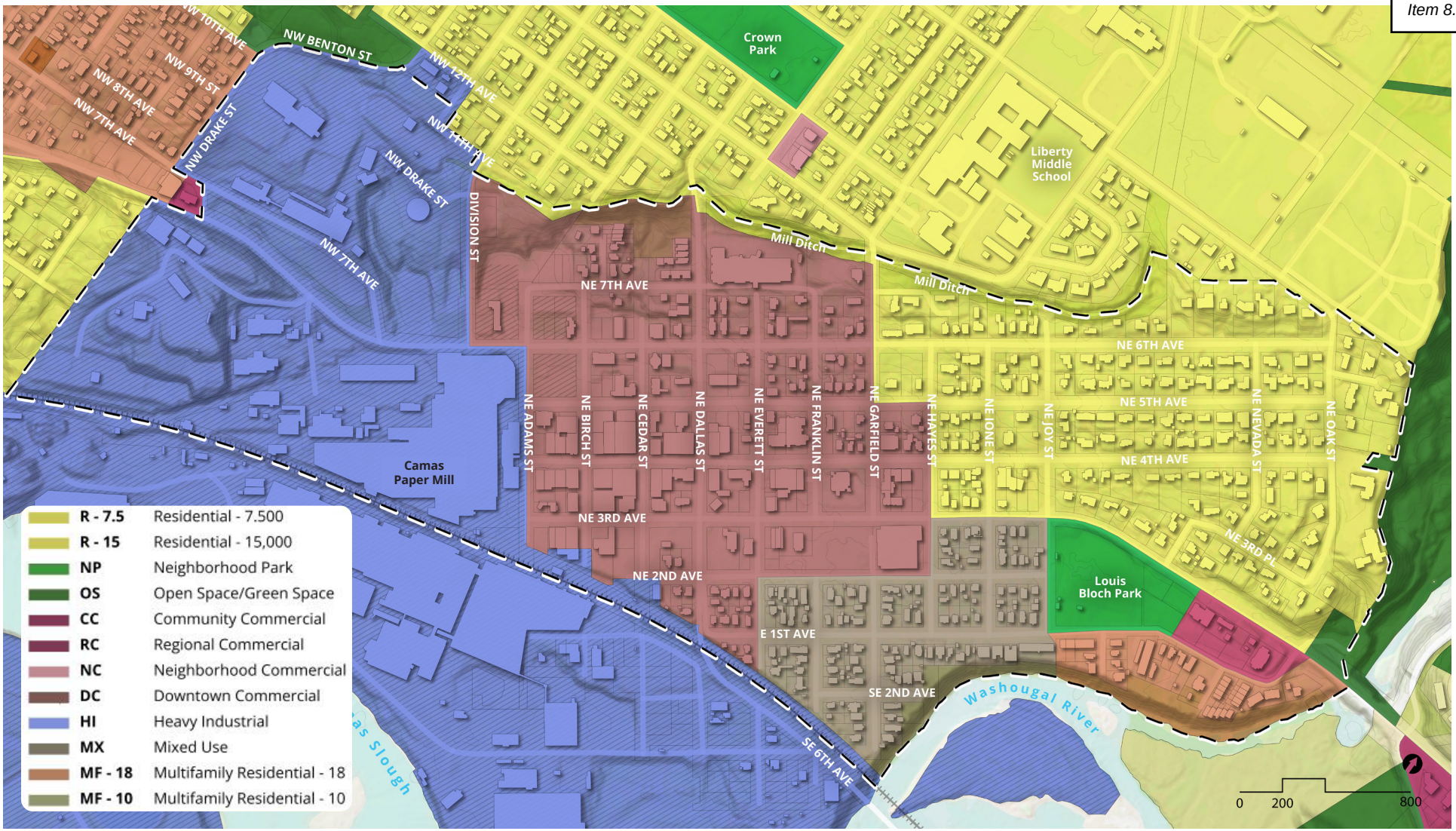
Physical Constraints

The boundary of Downtown Camas, as defined by its physical constraints, includes the Camas Paper Mill property to the west, steep slopes to the north, and the railroad tracks, Camas Slough, and Washougal River to the south and east. The downtown core is located on mostly flat land, but topography quickly changes to the north of NE 4th Ave, creating a separation of the commercial core and adjacent residential neighborhoods.



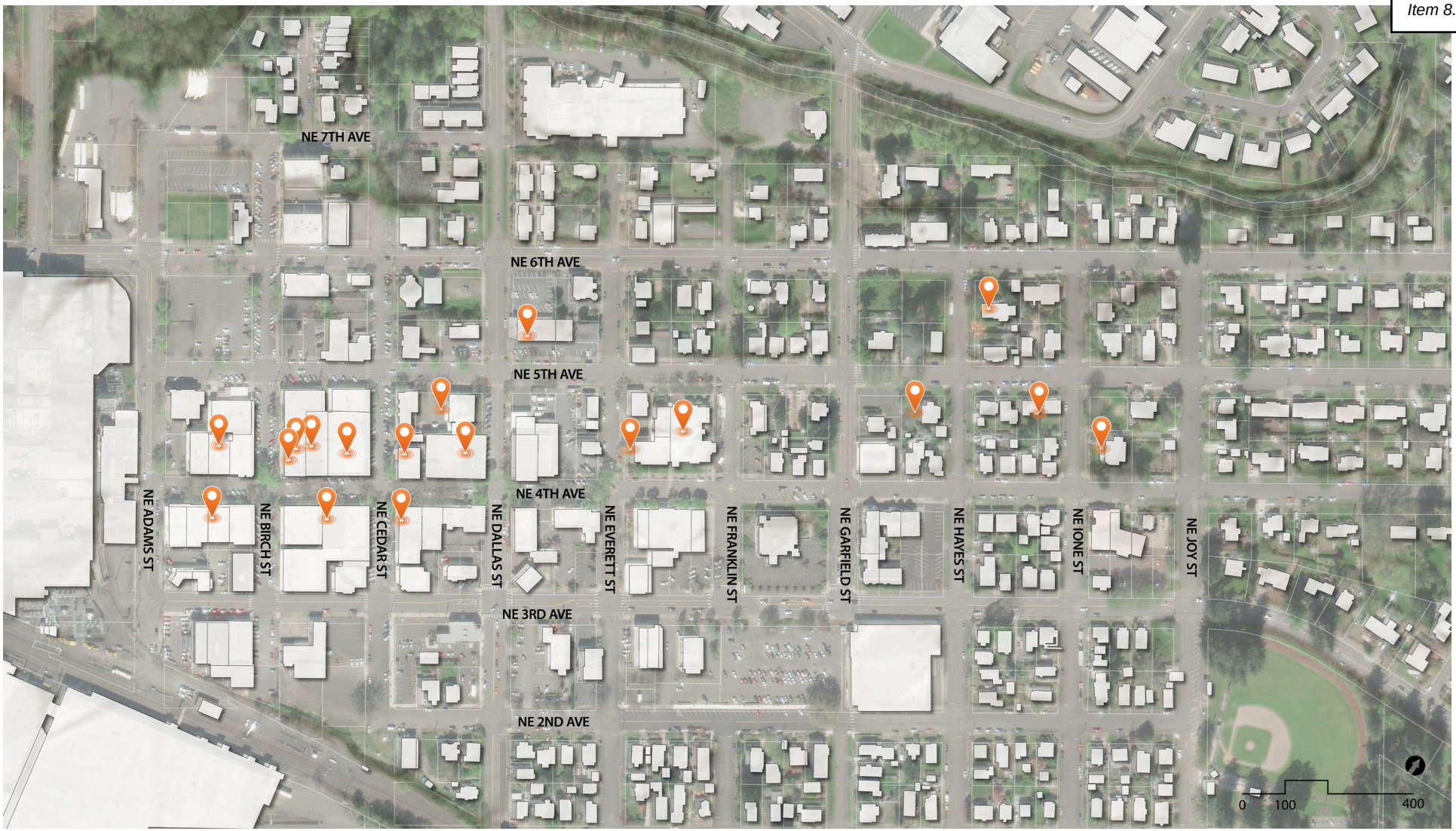
Open Space

Downtown has access to parks within a half mile including Louis Bloch Park, Crown Park, and the Mill Ditch Trail. Lacamas Creek Trail is accessible within walking distance of the eastern edge of Downtown Camas. Community stakeholders communicated a need for more recreation and gathering spaces Downtown.



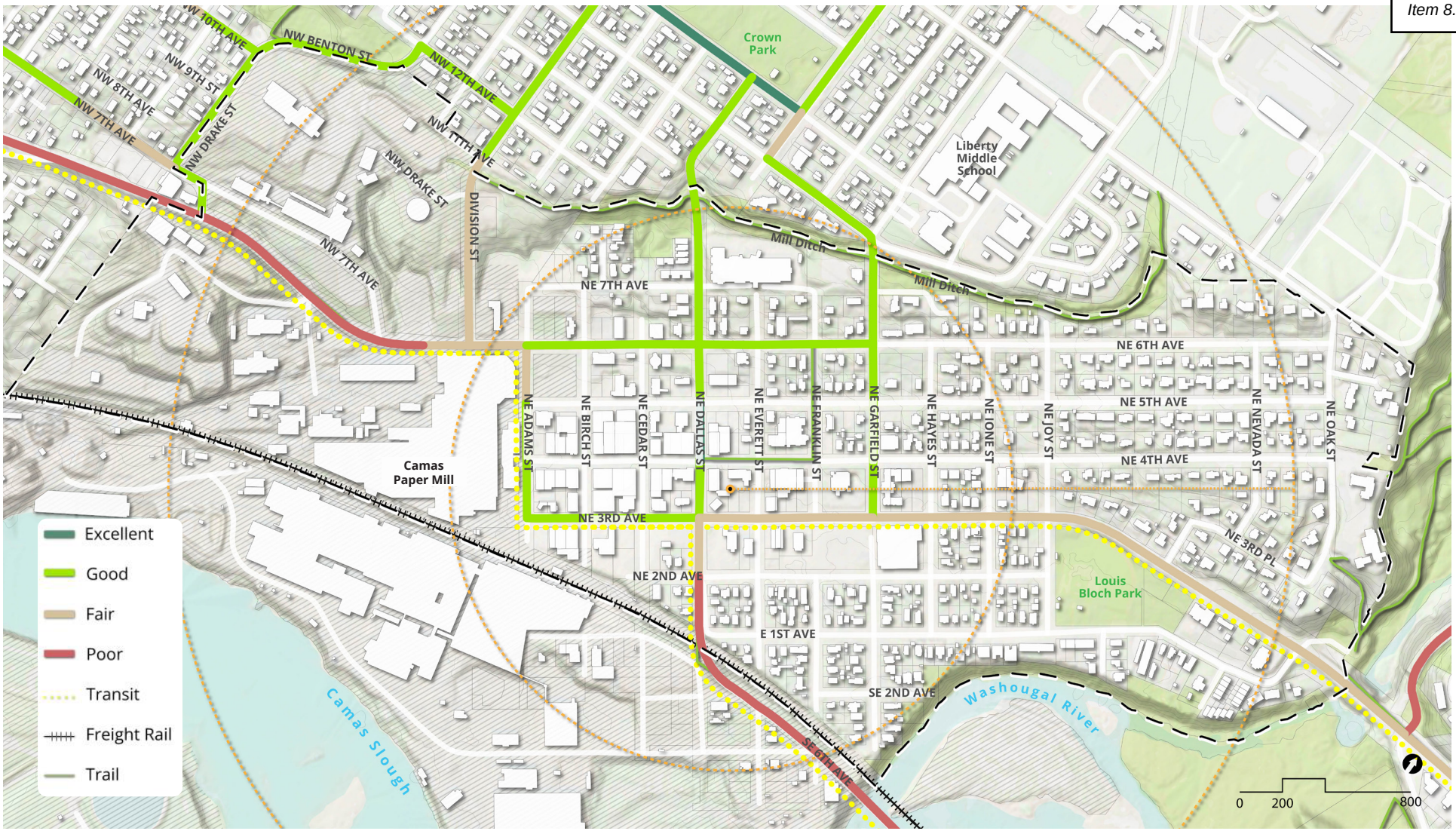
Zoning

The downtown core is zoned Downtown Commercial (DC) and Mixed Use (MX). The MX zoning district “provides for a wide range of commercial and residential uses. Compact development is encouraged that is supportive of transit and pedestrian travel.” The adjacent zones are primarily residential neighborhoods served by downtown amenities, with the exception of the Camas Paper Mill property to the west of the Downtown Core, which is zoned Heavy Industrial.



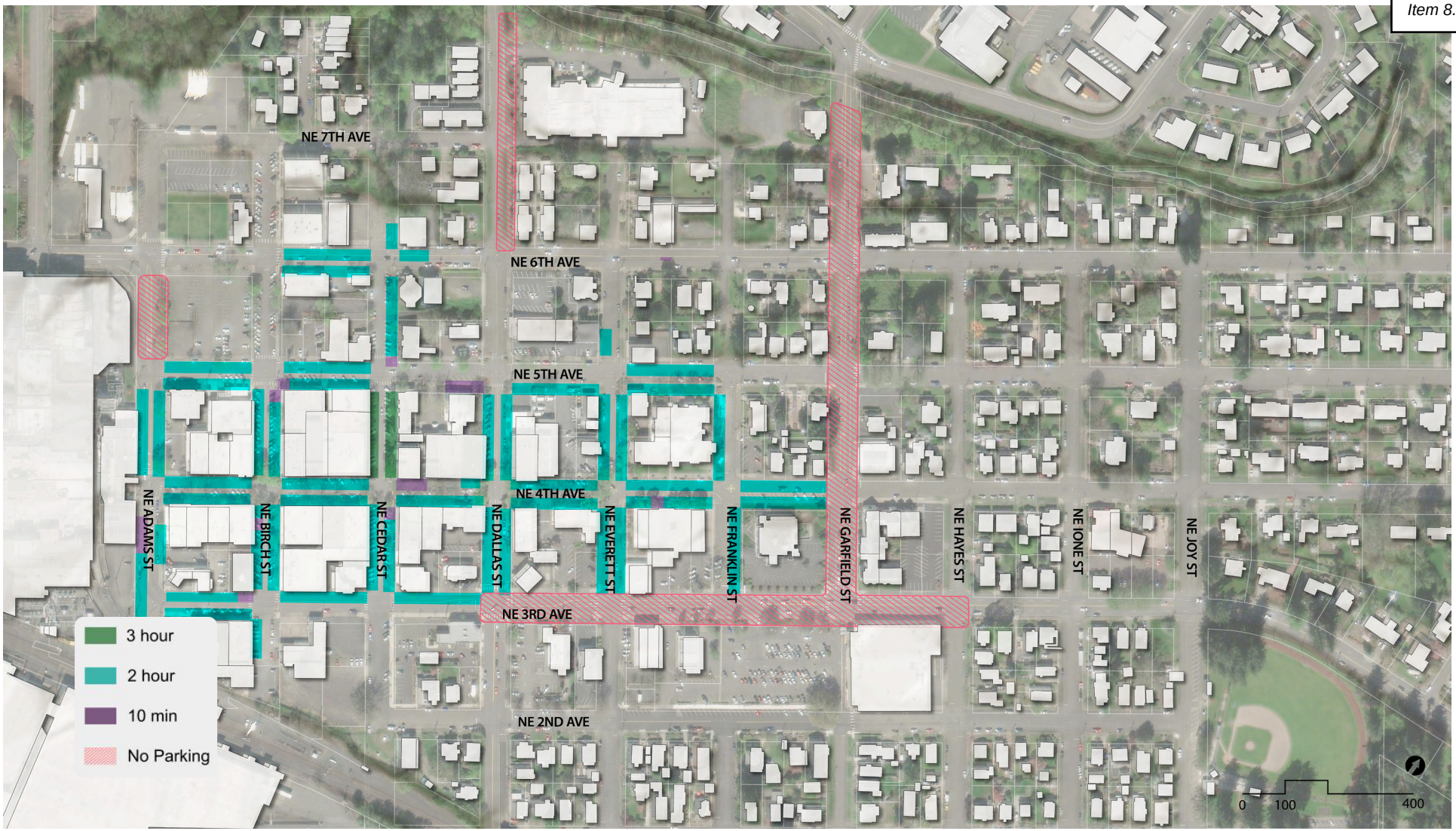
Historic Sites

Downtown includes historic sites on the National Register of Historic Places and Clark County Heritage Register, as well as those identified in the Clark County Historic Resource Inventory. Historic structures in Downtown Camas are concentrated along NE 4th Avenue, which help to define the character of 4th Avenue as Downtown's Main Street. Community members expressed a desire to preserve historic structures Downtown, seeking a balance between preservation and new transformation in the future.



Connectivity

Downtown Camas is well-connected to City services and amenities. The small block size in downtown (about 250 square feet) creates a walkable grid, and a qualitative assessment showed that the pedestrian network Downtown ranked higher than other areas of Camas. Areas along NE 3rd Avenue to NE 7th Avenue and NE Adams Street to NE Garfield Street were identified as needing sidewalk improvements. The bicycle network could also be improved, especially to the bike network along NE 6th Avenue and 3rd Avenue. These assessments were reinforced in conversations with community members who would like to see safer crossings and a better pedestrian and bicycling experience in the areas Downtown surrounding NE 4th Aver

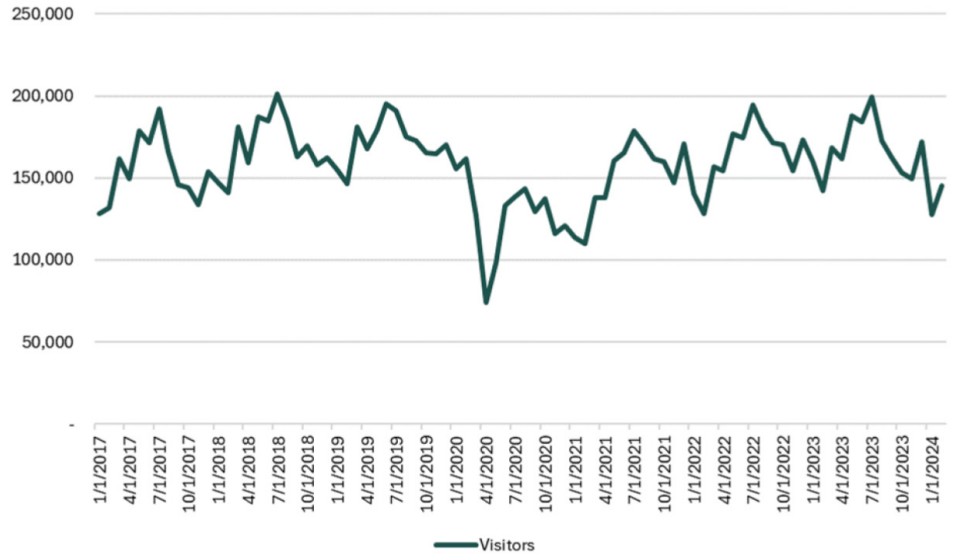


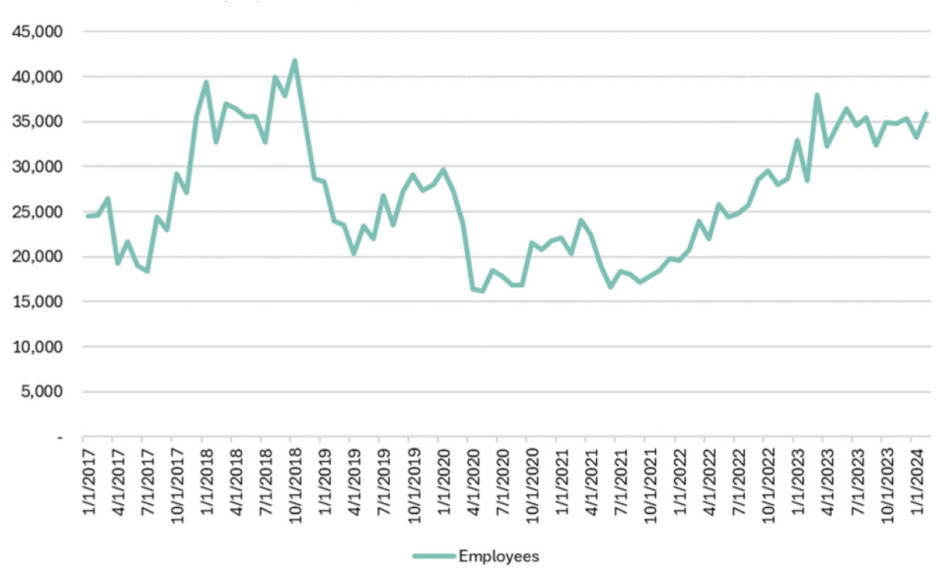
Parking

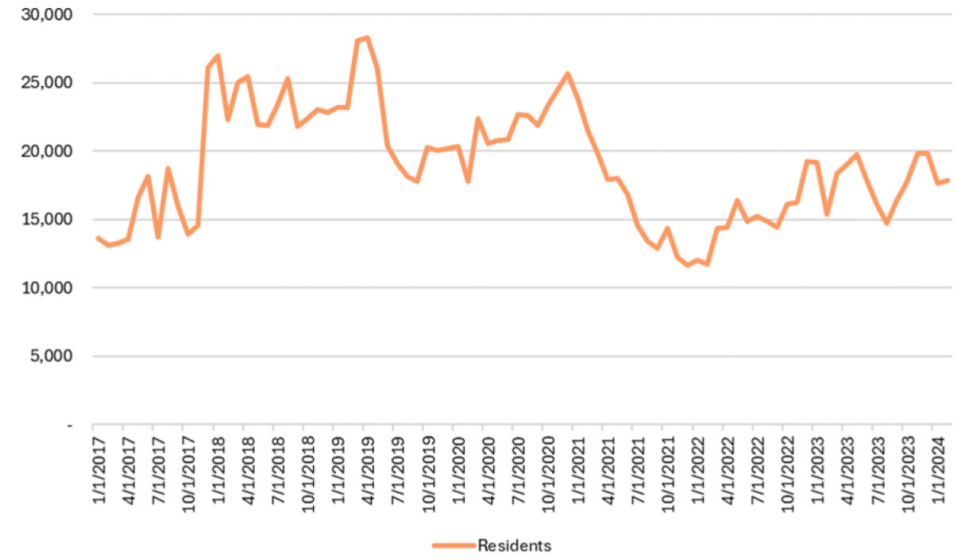
Most of the downtown core is regulated by 2-hour, non-metered parking. A few key blocks have 30-minute or 10-minute parking zones. Community members and downtown stakeholders reported a mixture of frustration and optimism related to parking downtown. Some expressed a need to reevaluate the time limits, as parking for workers at downtown businesses is difficult, given the concerns with unsafe crossings for pedestrians in areas without parking restrictions. Others offered insight that the lack of parking is a perception due to surges in demand for parking during large events. Designated off-street parking (e.g., lot or structure) was cited as a potential solution to the current parking perceptions.

Market Conditions

Visitor and employee visits to Downtown Camas increased to pre-pandemic levels and visitation by residents has been trending upward in recent years, including a healthy level of foot traffic in the downtown area. The market in Camas is on an upwards trajectory with visitors, employees, and residents coming to the downtown area for shopping, work, or other purposes.

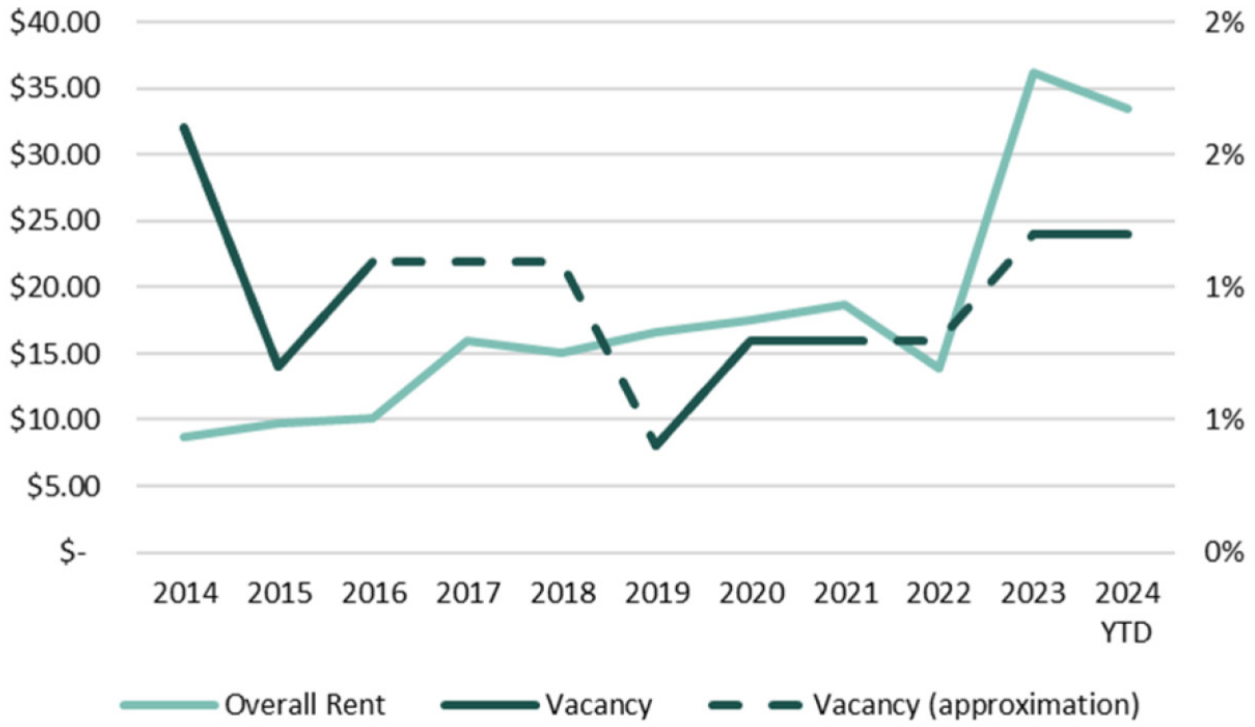






Downtown Camas Visitor, Resident, and Employee Visits, 2017-2024
Source: ECOnorthwest; placer.ai

A market analysis of retail activity in Downtown Camas showed retail rents increasing rapidly from approximately $15 per square foot in 2022 to almost $35 per square foot in 2024. Vacancy rates for retail have remained very low below 1.5 percent since 2014; lower than the retail vacancy rates in both the City of Vancouver (3.7 percent) and Clark County (3.7 percent) in 2023, which indicates increased demand for retail space above the available supply.



Average Retail Rent per Square Foot and Average Retail Vacancy Rate (Percent) in Downtown Camas, 2014-2024 Year to Date
Source: ECOnorthwest; CoStar



Retail Space for Lease - Camas,

03
Framework



our 2045 Downtown Camas

Overview



Hand-drawn diagrams from opportunities and constraints exercise completed with DAC.

Through dedicated community efforts and intentional planning, Downtown Camas has remained the authentic and functional core of the City of Camas. Careful consideration of these long-term community efforts helped to craft a future vision that builds on this strong foundation. The Downtown Subarea Plan process also welcomed new ideas to create a vision and set of goals that represent the future evolution of Downtown Camas while maintaining its historic character and charm.

This section outlines the planning process of developing the Downtown Subarea Plan, including various engagement efforts. Early engagement led to a vision, set of goals, and an urban design framework that set the foundation for the Subarea Plan.

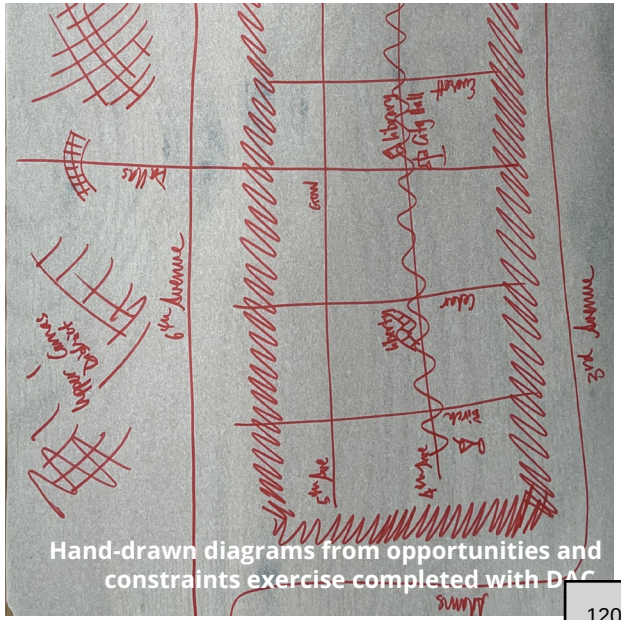
Process

Prior to beginning the Downtown Subarea Plan, City staff met with members of the Downtown Camas Association (DCA) board, City Council members, and City staff to gain a baseline understanding of the issues and priorities to address in the plan. Shortly after the official kickoff for the work, the planning team met with key stakeholders (downtown business owners, property owners, etc.) through one-on-one interviews.

These interviews focused on opportunities and constraints in Downtown Camas, from the interviewees' perspectives. These interviews helped to both reinforce findings in the existing conditions and provide new insights to issues or opportunities in the downtown area.

Additionally, the City convened a Downtown Advisory Committee (DAC) to provide feedback and discuss issues related to the Downtown Subarea Plan throughout the planning process. The DAC included members of the DCA as well as select members of the Community Advisory Committee (CAC) from the Our Camas 2045 Comprehensive Plan process. This helped to create a holistic perspective of community input on the future of Downtown Camas and bridged the efforts of the two concurrent projects. The DAC met 8 times throughout the planning process, providing feedback on draft deliverables at key milestones. Broader community engagement was completed as part of the Our Camas 2045 Comprehensive Plan process. The significant milestones of community engagement that provided insight for the Downtown Plan were:

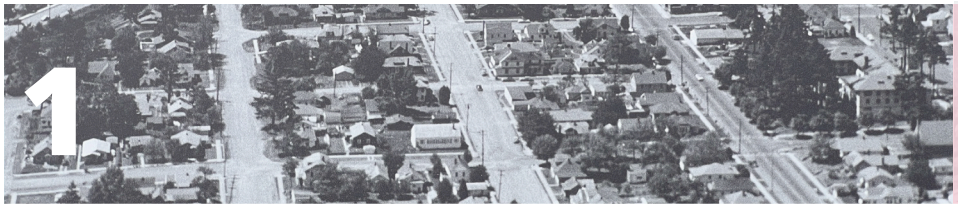
- **Community conversations.** *Discussions with a range of community groups and Downtown stakeholders early in the project to gain an understanding of existing conditions and desired outcomes.*
- **Community summits.** *Held in an open-house style, the community summits provided an opportunity for members of the Camas community to provide feedback at key moments in the development of the Subarea Plan.*
- **Surveys.** *Online surveys included information that was available at the Community Summit, allowing community members an alternative way to provide feedback at their convenience.*



Hand-drawn diagrams from opportunities and constraints exercise completed with DAC.

Goals

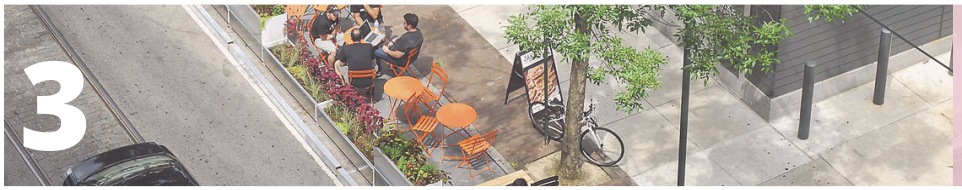
The Downtown Subarea Plan goals provide a set of themes that support the vision for Downtown Camas over the next 20 years. These themes guide the urban design framework and concepts presented in the Downtown Subarea Plan and also help set the key priorities for the implementation strategy.



Retain Downtown's **historic character** and expand its **charm**



Incentivize a range of **housing** options that welcome more people to live Downtown



Provide the right mix of **development, services, and open spaces** that support ways for people to live, work, and play Downtown



Encourage **(re)development** to expand opportunities Downtown for retail, office, and residential



Expand on **civic life** and services Downtown through strategic use of City-owned property and vibrant community events

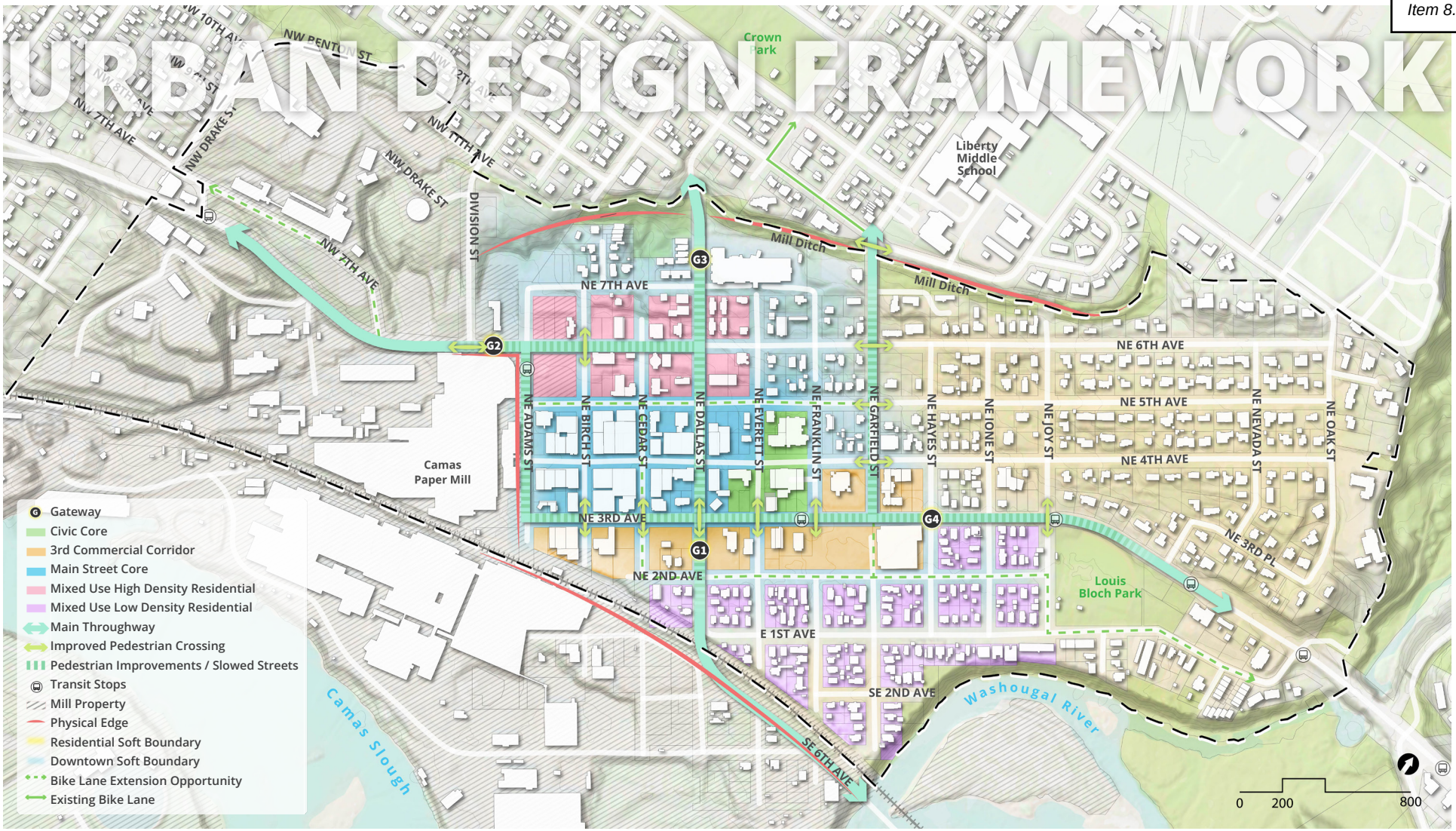


Create a **safe and connected** transportation network that makes Downtown walkable and bikeable

Vision Statement:

Charming, vibrant, and walkable, Downtown Camas is **the city's living room.** Downtown's history is complemented by new businesses and inclusive housing options. Expansion, resiliency, and a dynamic economic landscape are critical to its success. Downtown Camas **anchors the community while fostering a culture of pride, support, and connection.**

URBAN DESIGN FRAMEWORK



The urban design framework visualizes the opportunities and constraints shaping Downtown Camas' future. It highlights existing character areas that reinforce downtown's identity and potential areas for growth. The framework also highlights locations for connectivity improvements and sites for open space enhancements. As a whole, the diagram presents opportunities for expanding civic spaces, improving transportation networks, and enhancing pedestrian and bike accessibility, while also outlining existing traffic challenges and infrastructure limitations. By illustrating these elements, the framework serves as a strategic tool to guide the concepts presented in subsequent sections, ensuring downtown evolves into a more connected, vibrant, and accessible district that supports a mix of uses and community needs.



Home Converted to Business - Camas, WA


Local Non Profit in Downtown Camas - Camas, WA

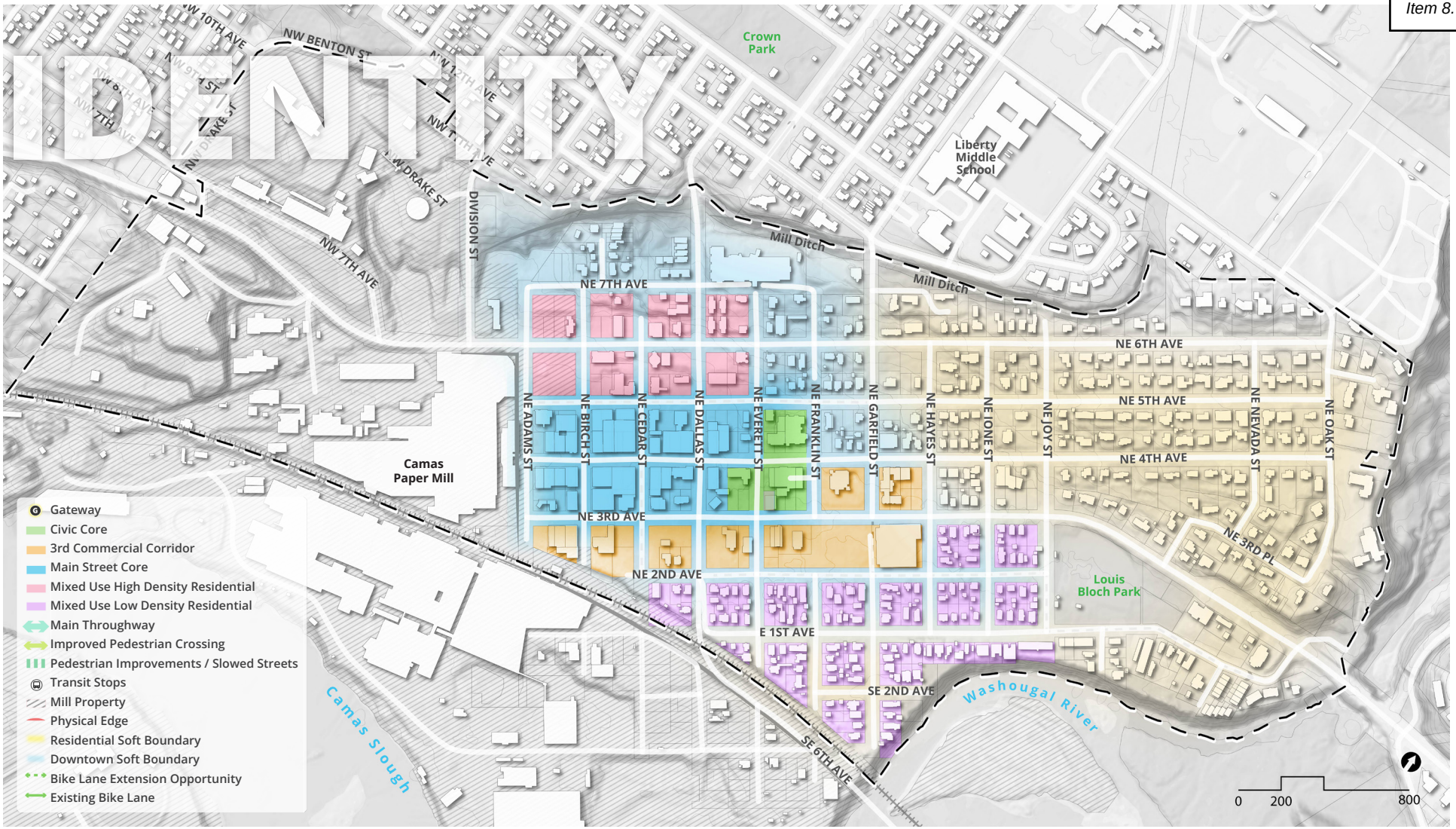

Residential to Commercial Transition - Camas, WA


NE 4th Ave Historic Shopping District - Camas, WA



Office Building Adjacent to Single Family Housing - Camas, WA


Louis Bloch Park - Camas, WA



The vision and goals for the Downtown Subarea Plan are focused on intentional growth, while preserving the unique identity that defines Downtown Camas. This begins with identifying the character areas that shape the district. The Main Street Core includes the blocks on either side of historic NE 4th Avenue, bookended by the Camas Paper Mill property to the west and the Civic Core to the east. Areas for potential growth include the Mixed-Use High Density Residential area, north of the Main Street Core, where newer apartment buildings have been constructed in recent years. South of the Main Street Core is the NE 3rd Avenue Commercial Corridor and the Mixed Use Low Density Residential, areas with existing lower density and redevelopment potential. The Land Use Concept section further defines the potential transformations of these character areas, ensuring that as downtown grows, it remains a vibrant, welcoming place that reflects the uniqueness of Camas.



Existing Mixed-Use Building - Camas, WA



Existing Interpretive Signage along NE 4th Ave - Camas, WA

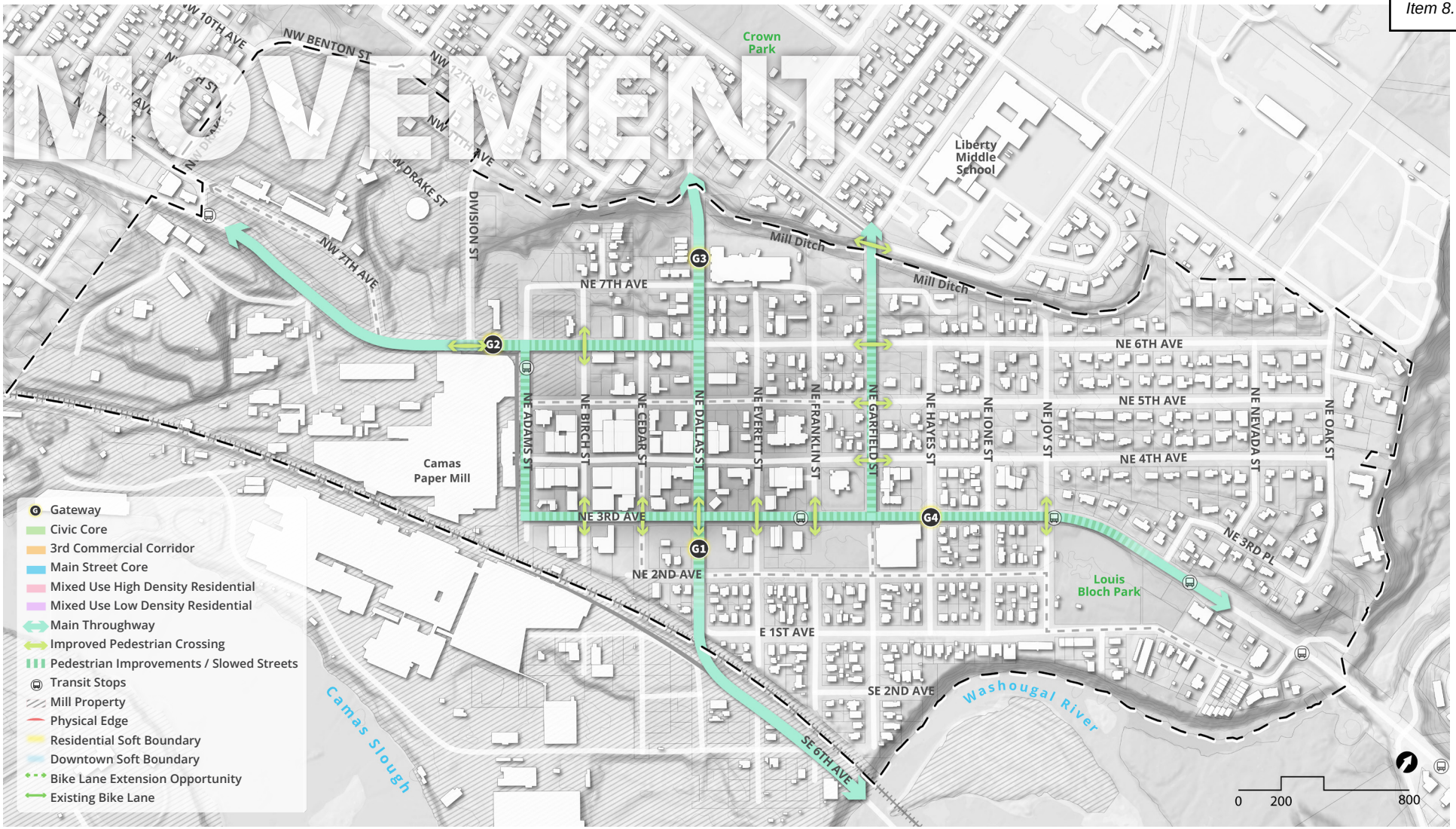


Public Library - Camas, WA



NE 4th Ave Crossing - Camas, WA

MOVEMENT



Future growth in Downtown Camas relies on a safe transportation network that balances mobility for pedestrians, bicyclists, and cars. Key pedestrian crossing improvements are identified throughout downtown as a starting place for future crossing improvement projects. Further evaluations of additional crossings, streetscape enhancements, quick-build pedestrian safety improvement projects, and a long-term pedestrian safety strategy are addressed in implementation actions DT-1 and DT-6. The introduction of additional gateways into each access point of the downtown area can serve as wayfinding solutions and enhance its unique character. By exploring innovative design solutions, such as slowed streets, this framework also identifies corridors that create a more secure and welcoming downtown environment that encourages walking and cycling.



Integrated Bus Stop and Bike Lane - Nashville, TN



Camas Paper Mill Property - Camas, WA



NE 3rd Ave crossing at NE Dallas St - Camas, WA



Inman Square Bike Lane - Cambridge, MA



Community members and local stakeholders expressed a need for expanded and enhanced recreational opportunities in Downtown Camas. The framework illustrates potential for these improvements by building upon existing open spaces like Louis Bloch Park and the Mill Ditch Trail as open space anchors on opposite ends of the Downtown boundary. Additionally, a central civic plaza or park would serve as a community gathering space. Ideally, these spaces will be connected through an improved transportation network of pedestrian and bicycle infrastructure, creating a system of accessible, active, and inviting outdoor areas for residents and visitors throughout downtown.



Wooden Parklet Structure - London, UK



Mill Ditch Trail - Camas, WA



Louis Bloch Park - Camas, WA



Terraced Park example to Connect the Mill Ditch Trail to Greater Downtown - Hudson,

Our Downtown Camas: 2045

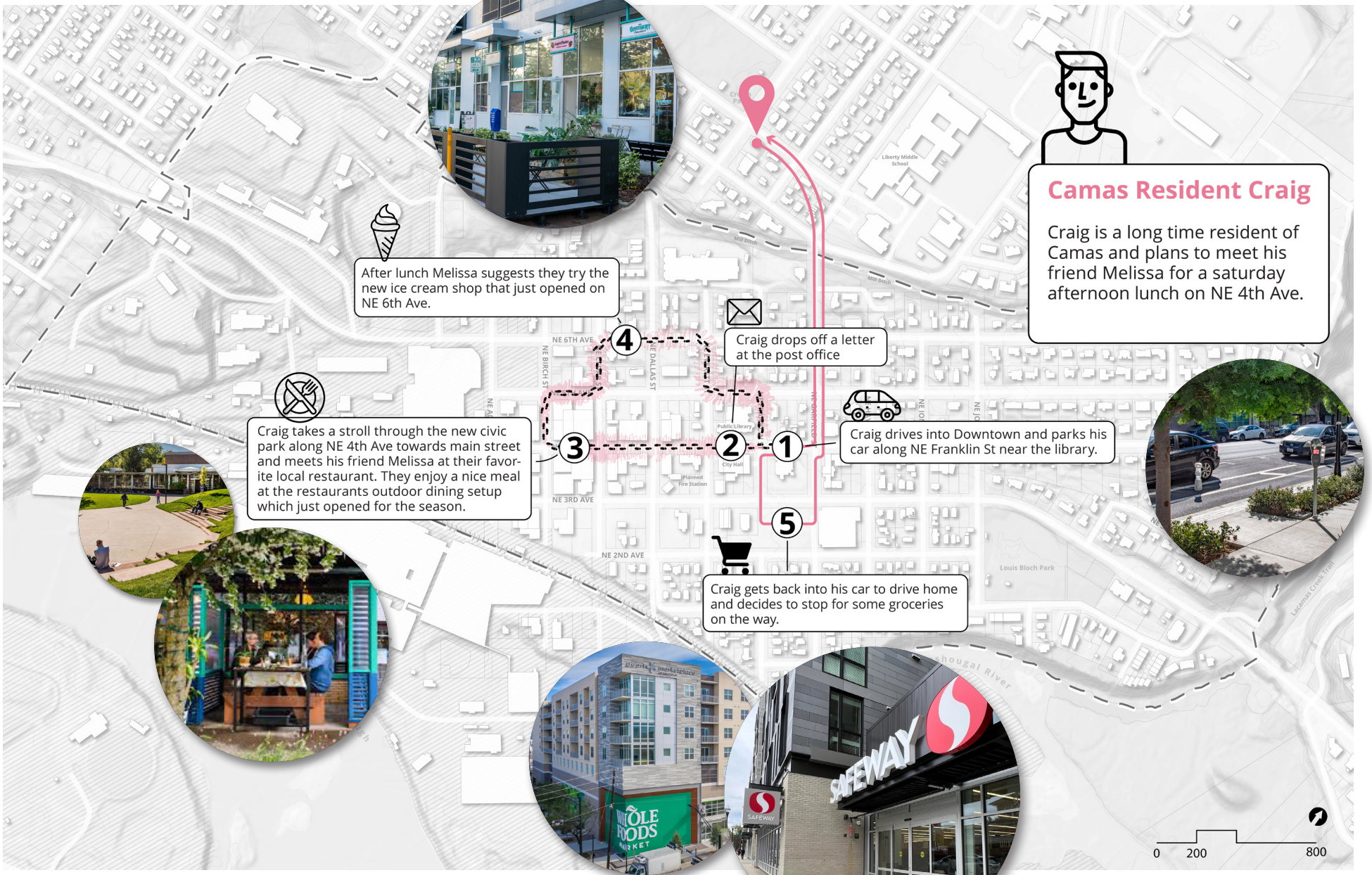
The Downtown Subarea Plan envisions a vibrant, well-connected downtown that strengthens its identity among residents and visitors alike. Expanded beyond NE 4th Ave, downtown will feature a mix of housing, retail, and office spaces, fostering a dynamic, walkable environment.

The urban design framework illustrates potential enhancements that would help achieve this improved experience of navigating Downtown Camas, but it does not highlight how different visitors may interact with these enhancements. The following pages explore a few example journeys for a future “day in the life” in Downtown Camas in 2045.

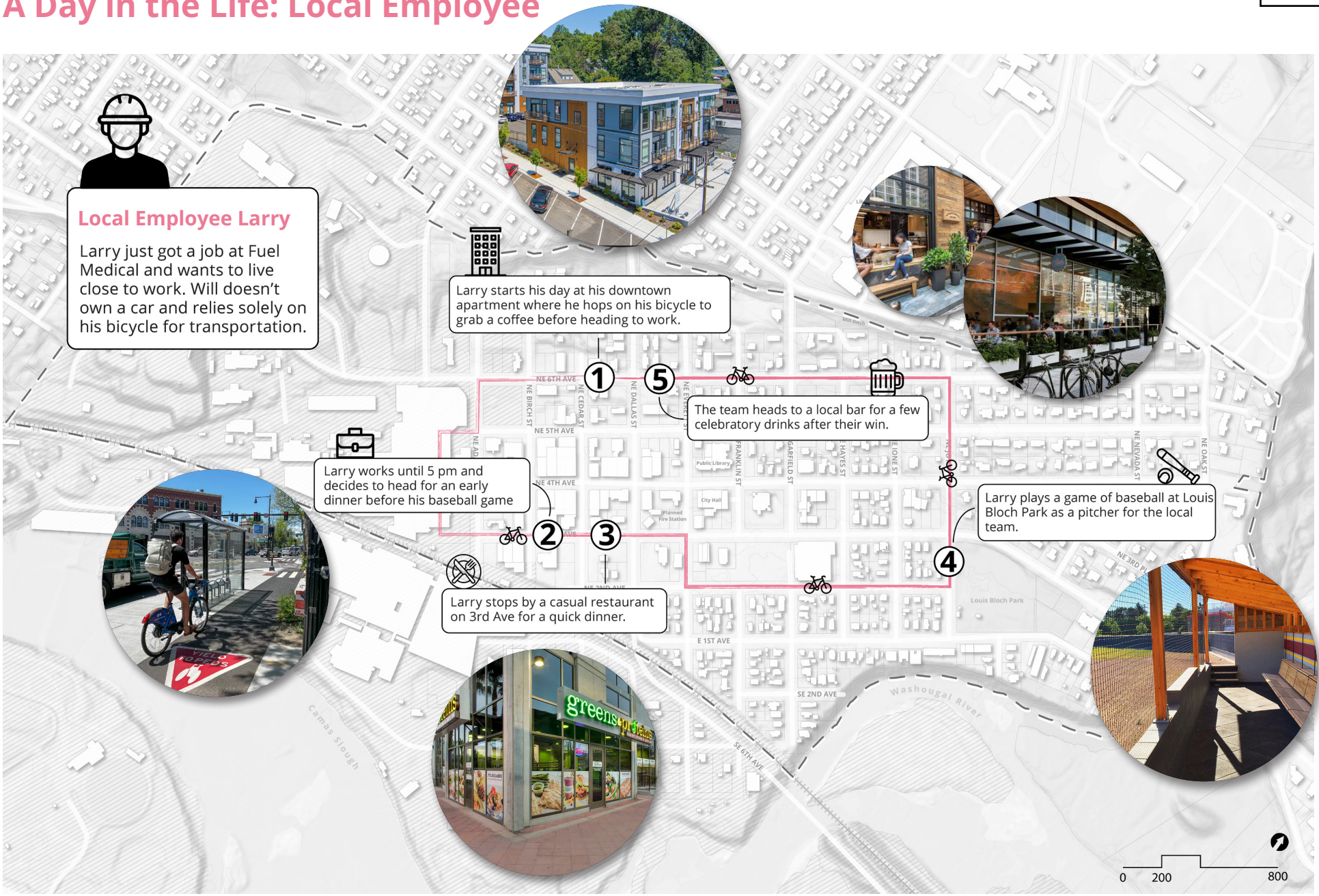


Parkelts Help Liven Downtown and Introduce More Greenery Fast and at Little Cost - Philadelphia,

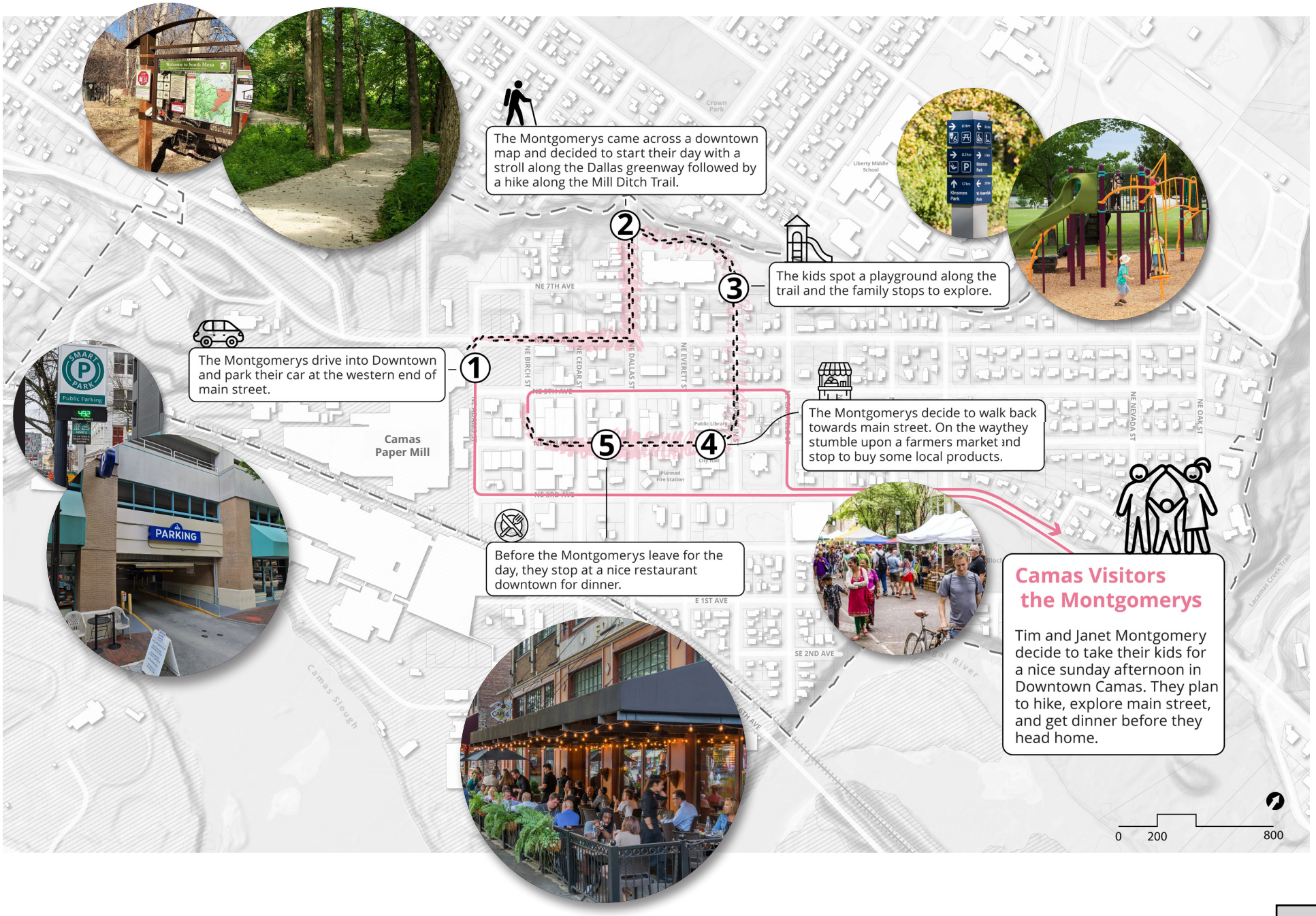
A Day in the Life: Resident



A Day in the Life: Local Employee



A Day in the Life: Visitor



Camas Visitors the Montgomerys

Tim and Janet Montgomery decide to take their kids for a nice sunday afternoon in Downtown Camas. They plan to hike, explore main street, and get dinner before they head home.

04
Land Use Concept



our 2045 Downtown Camas


Clara Apartments - Camas, WA

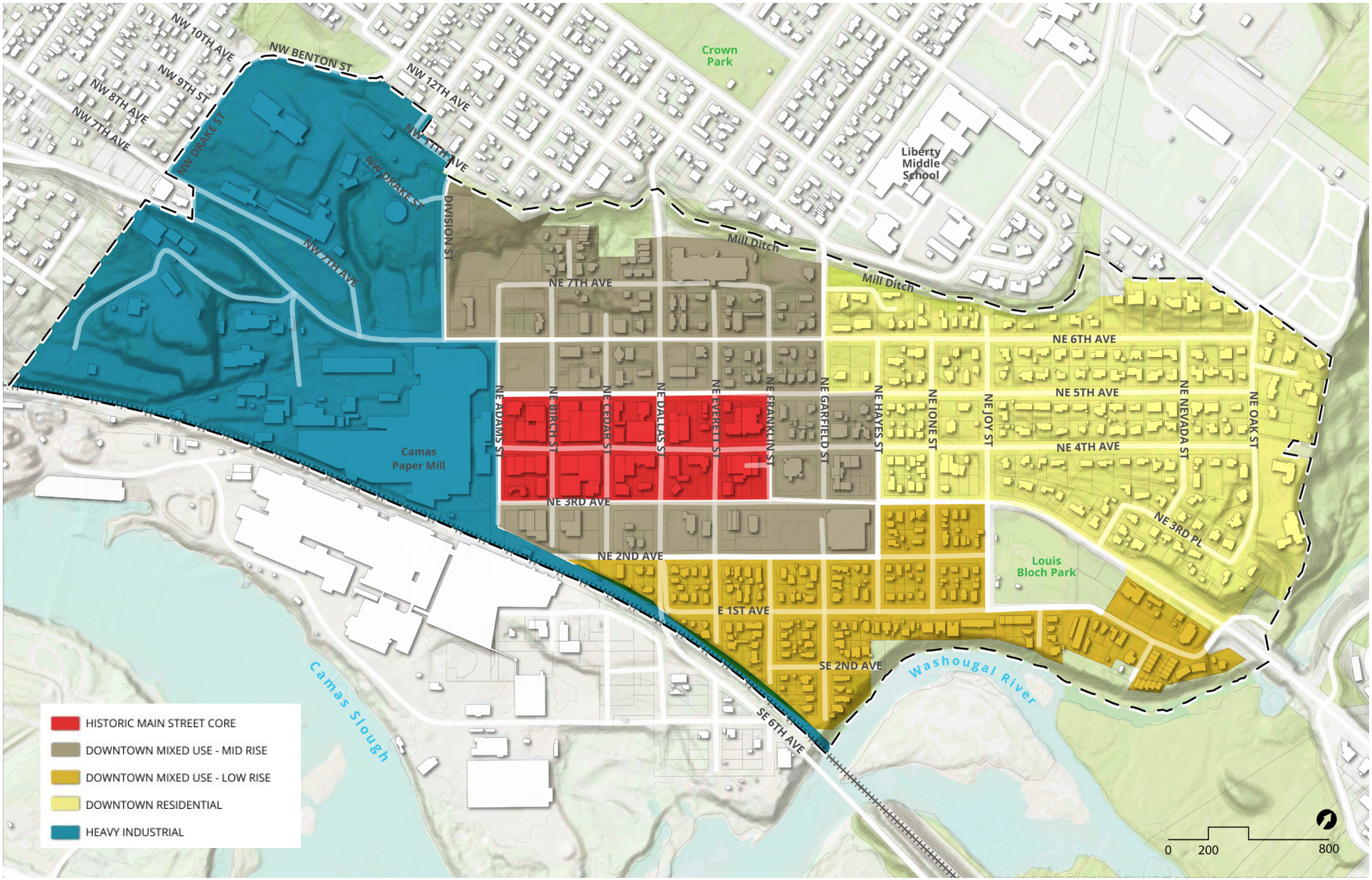
Overview

The land use concept is the result of iterative work with the Downtown Advisory Committee (DAC), City staff, and the broader community to illustrate the types of development that are appropriate for Downtown over the next 20 years. The planning team considered early feedback from stakeholders and worked with the DAC and City staff to identify potential opportunity areas.

Through evaluation of potential land use types, supplemented by market feasibility analysis, the planning team drafted three land use concepts that aligned with these potential areas of growth. Community members had an opportunity to review and provide comments on these concepts via both in-person and virtual engagement methods. Feedback on these initial concepts led to a refined land use concept that aligns with the overall Downtown Subarea Plan vision. Additionally, while the Camas Mill area remains designated Heavy Industrial, the City will closely monitor changes in this area and look for opportunities to consider future land use planning. This zone already allows a variety of commercial and recreational uses and this plan supports residential development on sites where industrial uses have ceased.

This section discusses each land use type included in the concept, supplemented with images that illustrate what these areas could look like within the context of Downtown Camas.

Land Use Concept



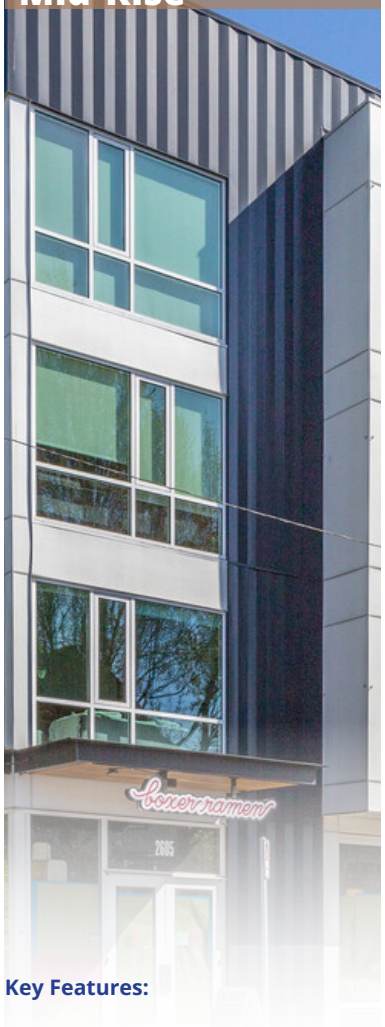
Historic Main Street Core



Key Features:

- Active retail storefronts
- Maintains historic character

Downtown Mixed-Use Mid-Rise



Key Features:

- Mid-rise apartments with active ground floor
- Live/work units
- Higher densty middle housing allowed

Downtown Mixed-Use Low-Rise



Key Features:

- Mix of low-rise apartments with active ground floor
- Live/work units
- Duplexes
- Townhomes
- Triplexes

Downtown Residential



Key Features:

- Single-family homes
- Duplexes
- ADUs

Heavy Industrial



Key Features:

- Camas Paper Mill
- Industrial and Commercial uses
- Recreational and Educational uses
- Residential development

Historic Main Street Core

The Downtown Subarea Plan identifies the Historic Main Street Core as the blocks along NE 4th Avenue, between NE 5th and 6th Avenues and between NE Adams and NE Garfield Streets. The NE 4th Avenue corridor has been the heart of Downtown Camas with its historic Main Street character. Its active retail frontages in historic buildings house a thriving business community, where storefronts are in short supply as coveted locations for Camas business owners. The NE 4th Avenue corridor hosts several events throughout the year, bringing residents and visitors of Camas to this central gathering space.

As with any unique, beloved place, there is a community desire to preserve the character of NE 4th Avenue while recognizing some potential areas for change. The streetscape defines this area as much as the buildings and uses do, with wide sidewalks, bulbouts, midblock crossings, and a mature tree canopy enhancing the pedestrian experience. Priorities in this area will include preserving existing buildings that contribute to the desired look and feel of Downtown Camas, supporting active street frontages for retail businesses, and enhancing the area's status as a central gathering space, as shown in the expansion of the Civic Hub.


Corner of NE Dallas St & NE 4th Ave - Camas, WA

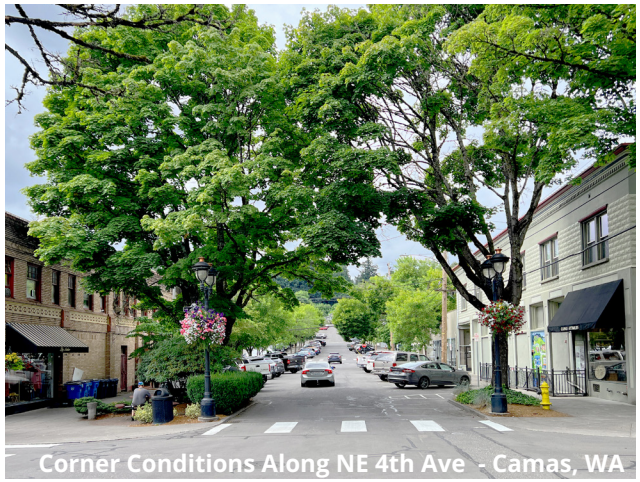


Liberty Theater - Camas, WA



Downtown Camas Gateway Signage


NE 4th Ave Street Conditions - Camas, WA


Corner Conditions Along NE 4th Ave - Camas, WA


Street Crossing Along NE 4th Ave - Camas,

Streetscape



NE Dallas St & NE 4th Ave

Slowing traffic by adding wider sidewalks and curb extensions on Dallas can create a clear north-south bike / pedestrian connection through Downtown and connect outlying parklands and greenspa

Civic Hub

With the Camas Paper Mill property as the southwest bookend to historic NE 4th Avenue, the Civic Hub will serve as the vibrant northeast gateway to downtown. This reimagined civic center will unite existing city services—the Library, City Hall, and the new Fire Station 41—into a cohesive and welcoming district. A new City Hall, strategically positioned near NE 3rd Avenue, will create opportunities for a dynamic public plaza and a flexible festival street that can host community events, farmers markets, and public gatherings

The planned Fire Station 41 includes a small civic space, which could seamlessly connect to a larger, multi-functional plaza between City Hall and the Library. This central gathering space will strengthen the identity of downtown Camas, offering an inviting destination where civic life, cultural activities, and daily social interactions thrive. By integrating walkable connections, green spaces, and public art, the Civic Hub will become a true anchor for the community, fostering engagement and reinforcing the historic charm and future growth of downtown.


Conceptual Rendering of the New Camas Fire Station 41



Public Art Street Corner Activation - Cedar Park, TX


12th Ave Square Park - Seattle, WA


Civic Park - Boulder, CO


Green Street Woonerf - Edmonton, CA


Belle Street Park - Seattle,

Streetscape



NE Everett St & NE 4th Ave

Moving City Hall south toward NE 3rd Avenue creates a civic campus with the library and opens up a great opportunity for a public plaza on NE 4th Avenue.

Downtown Mixed-Use Mid-Rise

Surrounding the Historic Main Street Core, the Mixed-Use Mid-Rise area would allow for expanded development in the blocks beyond NE 4th Avenue. Mixed-Use Mid-Rise development, typically ranging between three and five stories, would complement the retail and commercial uses along the Historic Main Street Core, while providing more opportunities for commercial space in mixed-use buildings. Frontages along NE 3rd and 5th Avenues will include a larger concentration of commercial space and active street frontages, and new development in this area could also include residential property types, such as townhomes or apartment buildings with a mix of rental and ownership options.

The priority for this area is to extend the experience of Downtown Camas as a walkable, livable area that provides a range of housing and commercial opportunities as the City grows.


Mixed Use Development - Boulder, CO



Ground Floor Grocery Store - Seattle, WA


Mid Rise Apartments - Chicago, IL


Clara Apartments - Camas, WA


Fire Clay Lofts - Denver, CO


Mixed Use Apartments - Portland,

Streetscape



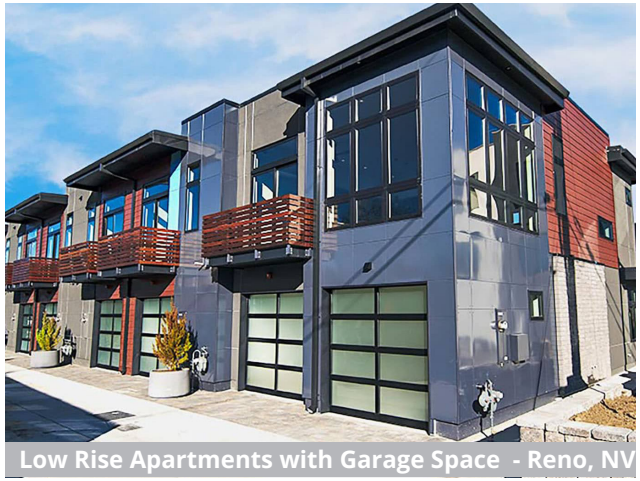
NE 5th Ave & NE Birch St

Widening sidewalks and adding bike lanes and curb extensions introduces a safer and more pedestrian-focused edge to the historic commercial district, which will see
enhanced business from new medium-density mixed-use apartment buildings.

Downtown Mixed-Use Low-Rise

With higher-density development in the Mixed-Use Mid-Rise area, there is potential for existing underutilized areas south of NE 3rd Avenue to redevelop as Mixed-Use Low-Rise. This area would remain predominantly residential, with redevelopment focusing on middle housing types such as townhomes, duplexes, triplexes, and quadplexes, while commercial development would occur in mixed-use buildings along key corridors or corner lots. As this area was previously zoned Mixed Use with several in-home businesses, the City will continue to encourage live-work land uses and development.

Streetscape improvements and enhanced crossings along NE 3rd Avenue will strengthen connections between this district and the downtown core, making it easier for residents and visitors to engage with downtown businesses, services, and public spaces.


Low Rise Apartments with Garage Space - Reno, NV



Low Rise Ground Floor Corner Market - Seattle, WA


Modern Duplex - Denver, CO


Low Rise Apartments with Ground Floor Entry - Denver, CO


3 Story Townhomes - Ottawa, ON



Low Rise Ground Floor Retail - Oklahoma City,

Streetscape



NE 2nd Ave & NE Everett St

As an important multimodal connector between the downtown historic district and Louis Bloch park, NE 2nd Ave provides pedestrians and cyclists an active but quieter thoroughfare away from the traffic of NE 3rd Ave.

Downtown Residential

The transition out of the commercial core of Downtown to the northeast leads to a lower-density existing residential area, Evergreen Terrace. Updated requirements to residential zoning codes citywide will apply to this zone. The area will remain residential, with potential for infill development as ADUs or middle housing in specific areas.

Streetscape improvements and an expanded tree canopy will enhance the neighborhood's character and walkability, while improved pedestrian crossings across Garfield Street will strengthen connections to the downtown core, making it safer and more accessible for residents.


Cottage Cluster Housing - Portland, OR


Accessory Dwelling Unit (ADU) Garage Conversion - Portland, OR


Accessory Dwelling Unit (ADU) - Portland, OR


Cottage Cluster Housing - Auburn, CA


Middle Housing Example - Shell Cove, NSW


Single Family Lots - Portland,

Streetscape



NE 6th Ave & NE Joy St

Our example residential street, NE 6th at NE Joy St, is currently 50-ft wide with curb-tight sidewalks. This street can be enhanced with curb extensions to slow traffic, improve safety and walkability, and provide planting areas for many new street trees.

05
Open Space



our 2045 Downtown Camas

Open Space Improvements

The City of Camas provides access to a range of high-quality recreation areas and open spaces, which are a major draw for residents. Many choose to live in Camas because of these exceptional parks and recreation opportunities. However, while NE 4th Avenue features wide sidewalks and a few seating areas, there is no dedicated city park or open space in the downtown core. During engagement for the Downtown Subarea Plan, community members and stakeholders expressed interest in more public spaces, community gathering areas, and stronger open space connections downtown.

This section outlines potential enhancements to existing open spaces as well as new opportunities to introduce open space into the heart of Downtown.



Local Community Garden - Vancouver



Connected Network of Open Space

The urban design framework envisions a connected network of trails, parks, plazas, and parklets to enhance outdoor recreation and green space throughout Downtown Camas. By linking existing and new open spaces, this network will provide accessible, inviting areas for relaxation, social gatherings, and community events. Strategically placed plazas and parklets will complement larger parks and trails, creating a seamless flow of outdoor spaces that encourage walking, biking, and recreation. This approach aims to integrate more greenery into downtown while fostering a vibrant, active, and connected community environment.



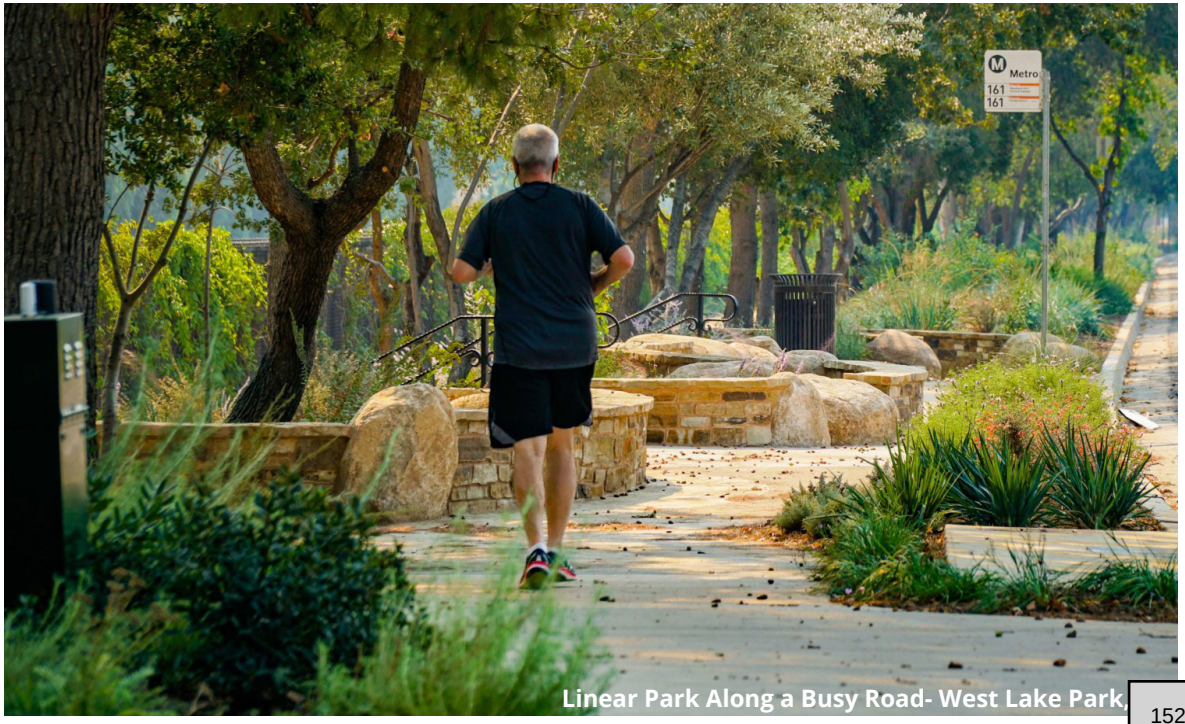
Gravel Trail Through the Woods - DuPage County, IL



Wooden Parklet Structure - London, UK



Sidewalk Landscaping Upgrades - Seattle, WA



Linear Park Along a Busy Road- West Lake Park,

Louis Bloch Park Enhancements

Planned enhancements for Louis Bloch Park aim to create a more dynamic and community-focused space. Proposed improvements include developing a designated area for programmed events and providing a flexible venue for gatherings, performances, and activities.

Upgrades to the sports facilities will enhance recreational opportunities, ensuring the park remains a hub for local athletics. Additionally, the addition of a play park for children will create a welcoming, family-friendly environment.

To support these improvements, the plan also emphasizes better connectivity between the park and the downtown core, encouraging more seamless access for pedestrians and cyclists. These enhancements will transform Louis Bloch Park into a more versatile and engaging space for residents and visitors.



A Community Event Space

The programmed event space at Louis Bloch Park will provide a dedicated area for community gatherings, performances, and seasonal events. Designed for flexibility, it will accommodate a variety of activities, from concerts to markets, fostering a lively, engaging environment that strengthens community connections and enhances downtown's cultural and social offerings.


Covered Picnic Pavillion - Hillsborough NC


Outdoor Ampitheater for Public Events - Seattle, WA

B Sports Fields Improvements

Sports field improvements at Louis Bloch Park will enhance playability and accessibility for local athletes and recreational users. Upgrades may include improved turf, lighting, and seating, ensuring a better experience for players and spectators. These enhancements will support year-round use and strengthen the park's role as a key community sports hub.


Sand Volleyball Court - Central Park, NYC


Baseball Field Dugout Improvements - Ames, IA

C Play Park

The children's play park at Louis Bloch Park will provide a safe, engaging space for families. Featuring modern play structures, seating areas, and shaded spots, it will offer opportunities for active play and social interaction. This addition will make the park more family-friendly, enhancing its role as a community gathering space.


Immersive Childrens Playscape - San Francisco, CA


Playground in Local Park - Carmel

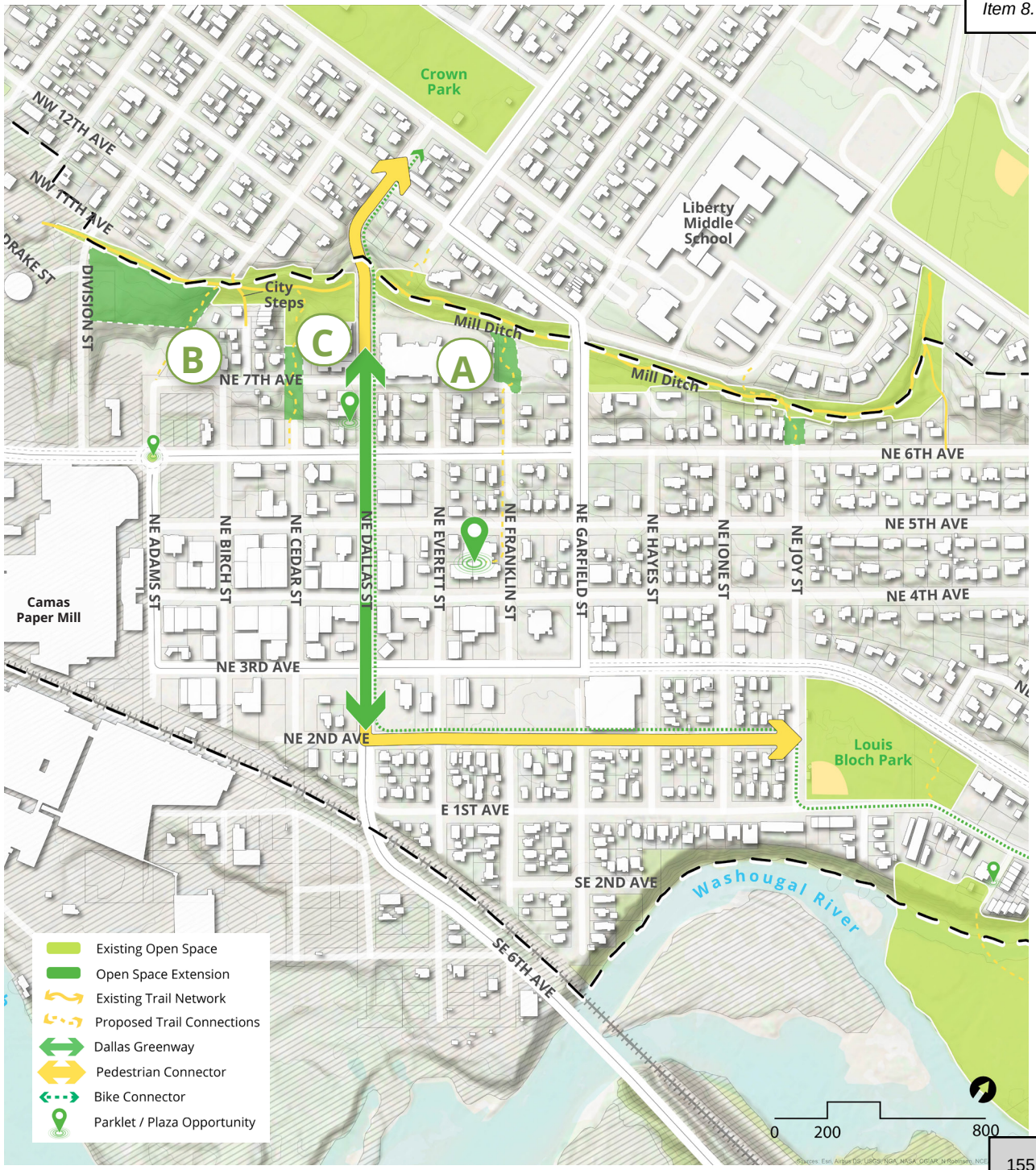
Mill Ditch Trail Improvements



Example Sketch of a Multi-Use Trail Through the Woods

The urban design framework identifies potential improvements to the Mill Ditch Trail that would enhance its accessibility and connection to Downtown Camas. Key improvements include adding wayfinding signage to better guide users to and from the trail, as well as establishing a trailhead to create a welcoming entry point.

As a historic, mostly flat, unpaved route following the former Camas Paper Mill water ditch, the 2.6-mile trail offers a unique recreational experience. Enhancing its visibility and access will encourage more use, strengthening its role as a key outdoor asset for the community.



A Trail Connections to Downtown Camas

Improvements to the Mill Ditch Trail will enhance connections to Downtown Camas through wayfinding signage and strategic access points. Strengthening links at key streets like NE Dallas and NE Garfield will make the trail more accessible, encouraging walking and biking between downtown, surrounding neighborhoods, and recreational areas.





Trailhead Signage - Boulder, CO

B Neighborhood Park Opportunities

Neighborhood park opportunities along the Mill Ditch Trail focus on transforming adjacent lots into accessible green spaces. These parks would provide seating, play areas, and natural landscaping, creating inviting community gathering spots. Strategically placed along the trail, they would enhance recreation, strengthen neighborhood connections, and improve access to Downtown Camas.


Small Park Along Trailhead - Cascade, MI


Example of a Hillside Park to Potentially Connect the Mill DitchTrail to Greater Downtown Camas

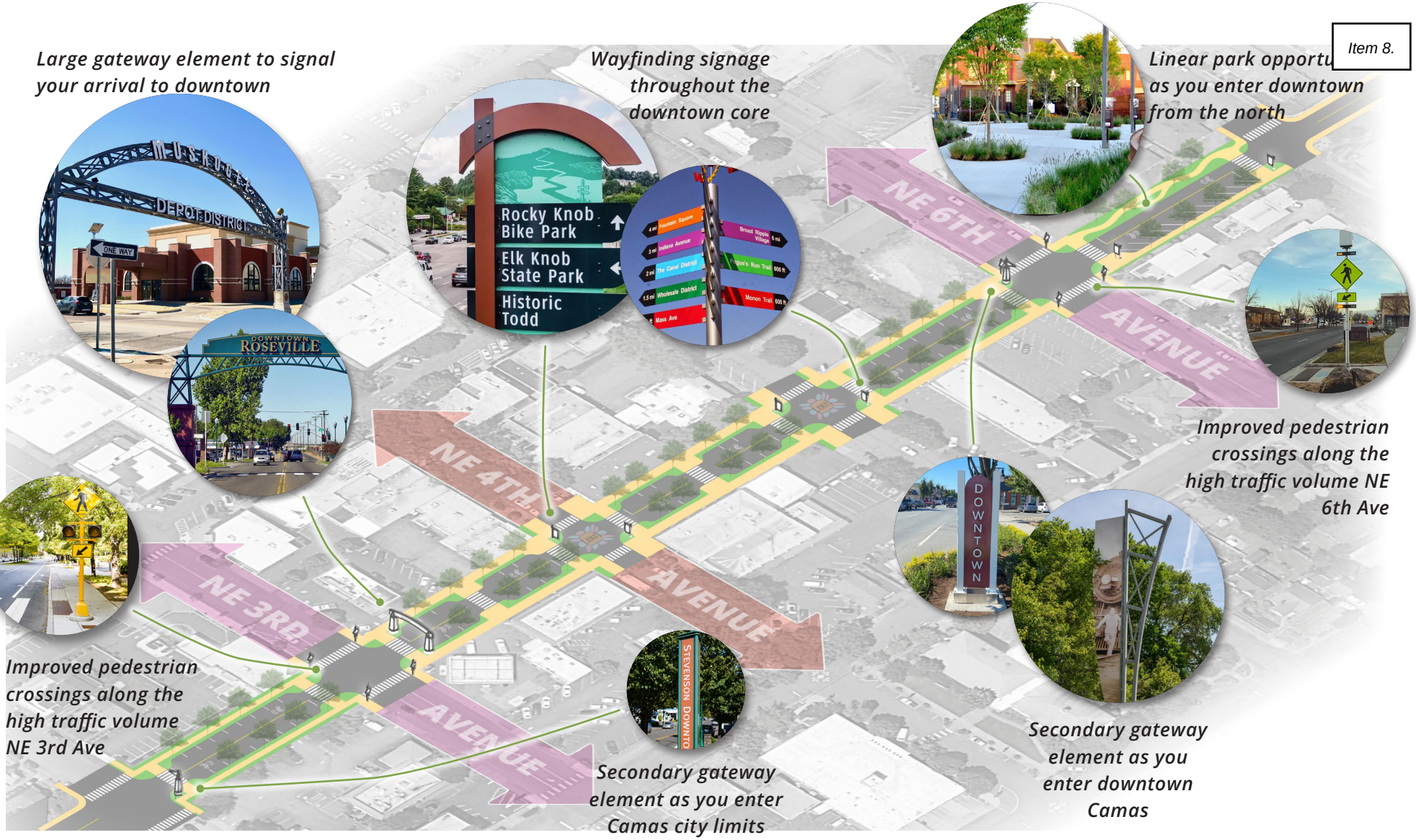
C Community Garden Sites

The plan explores opportunities for small community gardens along the Mill Ditch Trail to enhance its appeal and engage the community. These gardens would activate underutilized spaces, adding greenery and seasonal plantings while fostering community involvement. Strategically placed, they would create inviting, interactive spaces that complement the trail's natural character.


Low Impact Community Garden Site - Moraga, CA



Small Urban Farm Example - Seattle,



Dallas Linear Park

The Dallas Linear Greenway would transform NE Dallas Street into a safer, more inviting corridor for pedestrians and cyclists while maintaining vehicle access. Wider sidewalks, curb extensions, and mid-block crossings will enhance walkability and outdoor gathering spaces. The plan also introduces more on-street parking and increased street trees to improve both accessibility and aesthetics. A linear park between NE 6th and 7th Avenues will provide a welcoming green space for those arriving downtown from the north, strengthening connections to neighborhoods and surrounding parklands.

Wayfinding Elements

The wayfinding elements along the Dallas Linear Greenway will include directional signage and maps to guide pedestrians and cyclists. These features will not only improve navigation between downtown and surrounding parks but also help establish a strong downtown identity, enhancing the area's sense of place and making it more welcoming.



Park Network Wayfinding Signage - Edmonton, CA



Historic Map - Washington, DC



Urban Trail Network Map - Austin, TX

On-Street Parking Improvements

The Dallas Linear Greenway will enhance on-street parking by making existing spaces more pronounced and identifying new areas for additional parking. These improvements will provide more convenient parking options for visitors, support local businesses, and improve the overall functionality and accessibility of Downtown Camas.


On Street Parking Nestled Amongst Landscaping - Nashville, TN


Pedestrian Realm Barrier Between Parking and Sidewalks - Los Angeles, CA

Street Tree Enhancements

The Dallas Linear Greenway will incorporate additional street trees along NE Dallas Street to enhance the pedestrian experience and improve aesthetics. These tree plantings will provide shade, create a more inviting environment, and contribute to the overall greenery of the area, helping to beautify and soften the streetscape.


Green Infrastructure Streetscaping - Nashville, TN


Increased Planter Beds for Street Trees - Paramount



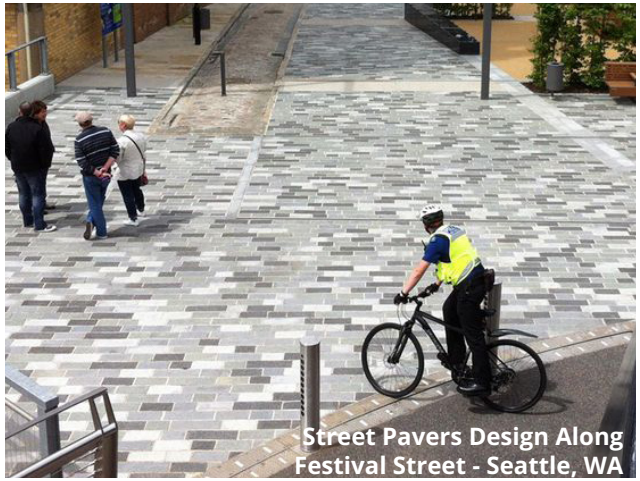
High Level Conceptual Rendering

Civic Plaza

The proposed civic plaza aims to create a vibrant public space as the heart of a potential civic campus encompassing a relocated City Hall, existing library, and new fire station. This allows for a flexible plaza on NE 4th Ave, accessible to cars but easily closed for events like the farmer's market. The plaza will anchor NE 4th Ave, strengthening connections to the downtown historic core while providing a much-needed space for community gatherings and activities.

Festival Street

The new civic plaza will serve as a central gathering space for the community, hosting events like the farmer's market and other public activities. Its flexible design will enhance downtown's social life, providing a venue for cultural events and fostering a greater sense of community.


Street Pavers Design Along Festival Street - Seattle, WA


Shared Car and Pedestrian Street - Seattle, WA

Downtown Anchor

The civic plaza will anchor downtown by providing a central, vibrant space for community events and gatherings. Its strategic location at the eastern end of the historic NE 4th Ave will draw activity, create a focal point for the area, and enhance downtown's sense of place, making it a key destination within the district.



Farmers Market - Boulder, CO


Community Event - Cleveland, OH

Center for Civic Life

The new civic campus will bring essential community services together in one area, making it easier for residents to access services. The integrated plaza will provide space for both civic activities and recreational use, offering opportunities for public events, play, and social interaction, fostering a stronger sense of community.


Encourage Residents to Stop and Hangout


Public Art Installations - Melbourne, Austri

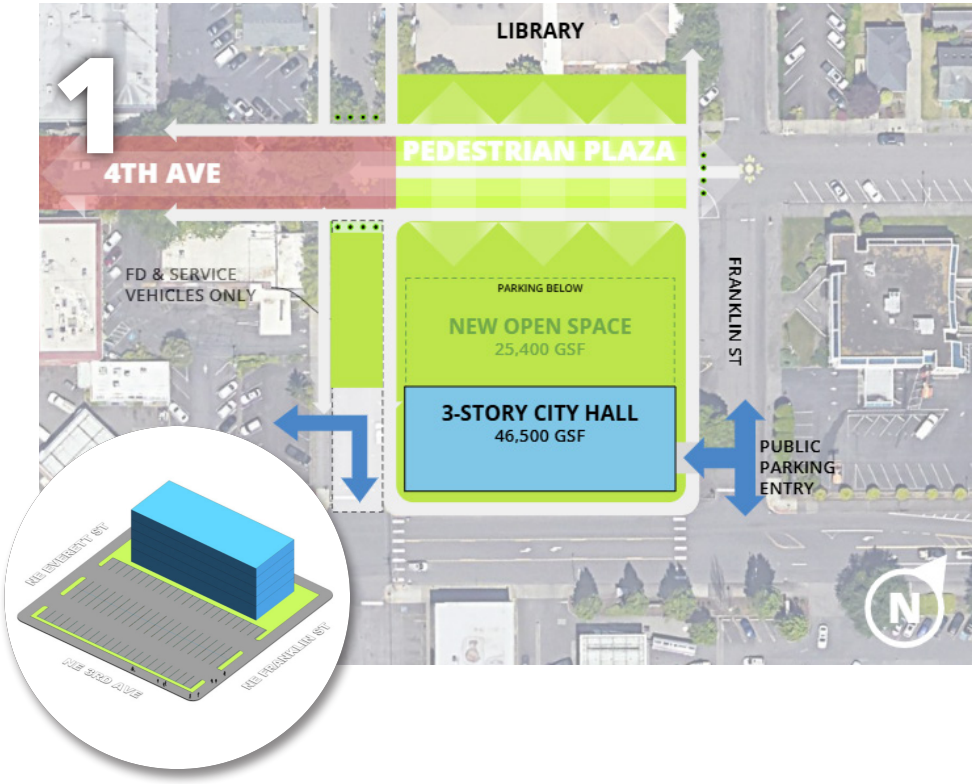
Development Feasibility Study

A development feasibility study focused on two possible scenarios for the civic plaza, considering market trends and regulatory factors. The study assessed how rising development costs, including materials, labor, and parking requirements, affect the plaza's feasibility. The study aimed to balance the need for a vibrant public space with current economic conditions, ensuring the plaza remains a practical and valuable addition to Downtown Camas.



Civic Plaza Conceptual Site Plan - Camas

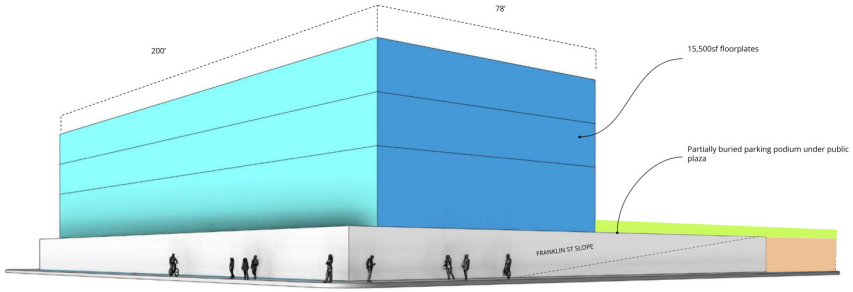
Development Scenarios



Move City Hall south to create a civic quad (public open space that stretches across 4th Ave to the Library) while simultaneously reinforcing taller construction and higher density on NE 3rd Avenue.

3-story, 46,500 sf new building = *~150% of current gsf*

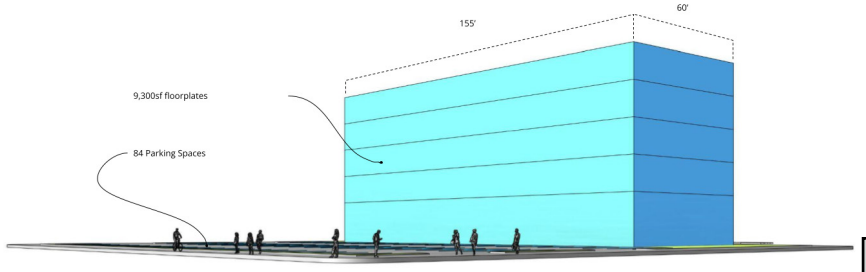
36,000 SF parking podium = *116 of 117+ required off-street parking spaces*



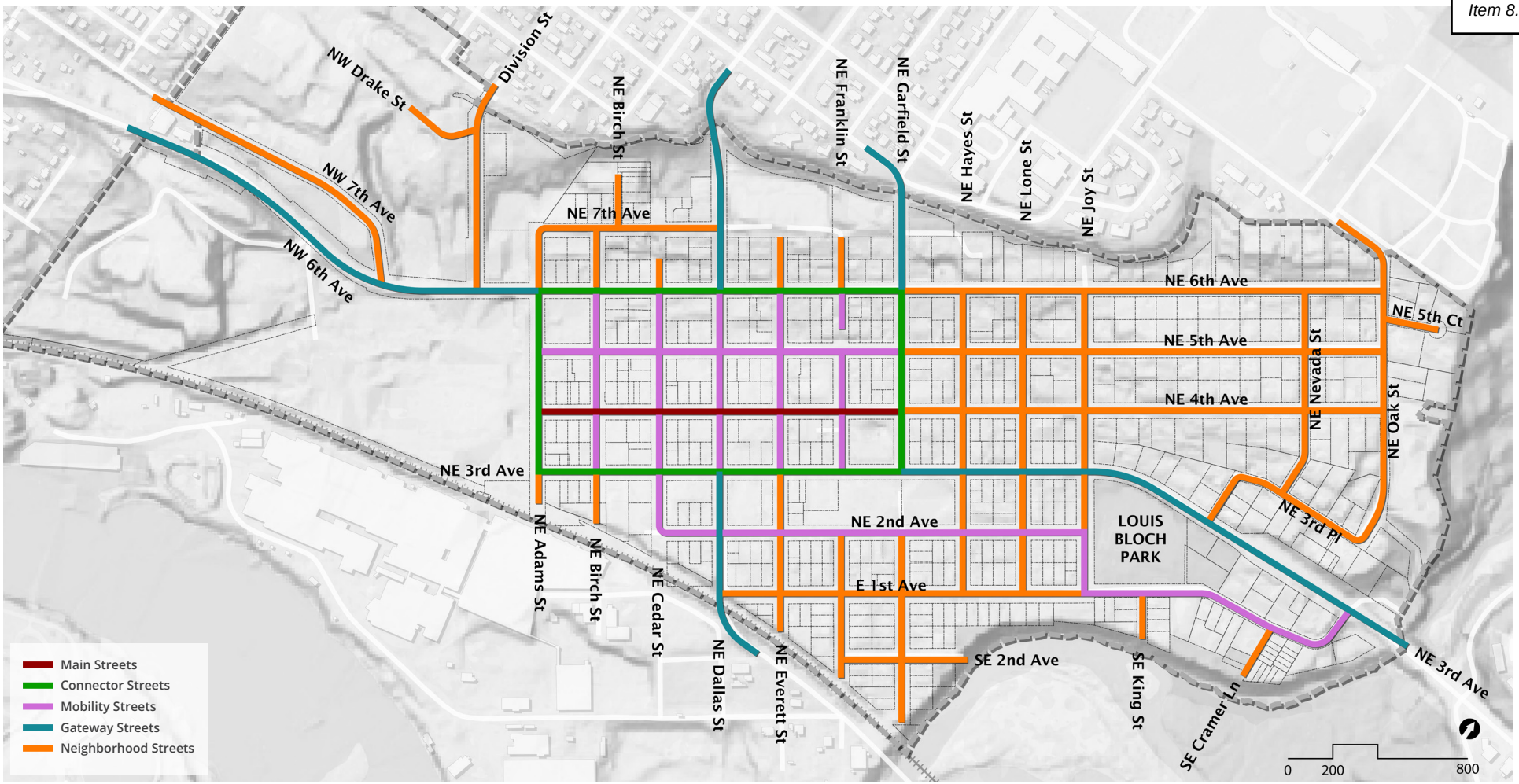
Provide surface parking off the main auto thoroughfare of NE 3rd Avenue. Maintain City Hall's intimacy with NE 4th Ave while building up to increase density. No new open space.

5-story, 46,500 sf new building = *~150% of current gsf*

23,000 SF parking podium = *84 of 117+ required off-street parking spaces*



06 Transportation



Street Network Overview

The street network of Downtown Camas supports a range of uses and needs that have evolved over time, as presented in this Plan. The core of Downtown Camas, NE 4th Avenue, is distinctive not only in its range of shops, restaurants, and other services that bring residents and visitors to Downtown, but also in its unique street type and public realm elements. Streets surrounding NE 4th Avenue support connectivity through Downtown and provide access to neighboring residential and commercial areas in the vicinity. These streets serve multiple modes of transportation, and planning for future development (as described in the Subarea Plan) will require coordination on the evolution of the street network. This section defines the street network according to five street types—Main Streets, Connector Streets, Mobility Streets, Gateway Streets, and Neighborhood Streets. These street types align with the definitions for regulation of the public realm in the Downtown Design Manual that accompanies the Downtown Subarea Plan.

Main Streets

Historic NE 4th Avenue, between NE Adam Street and NE Garfield Street, alone defines the Main Street type in Downtown Camas. It is intersected by a network of Mobility Streets and surrounded by a ring of Connector Streets. NE 4th Avenue sets the foundation for the public realm for the Historic Main Street Core land use type. NE 4th Avenue supports a range of active, ground-floor retail and service-based businesses. It creates an inviting atmosphere for pedestrians and cyclists along a curated streetscape.

Future planning for Downtown Camas will continue to consider NE 4th Avenue as a core feature of Downtown's character. This includes preserving the existing functions of the public realm and maintaining key elements including street trees, lighting, and other amenities.



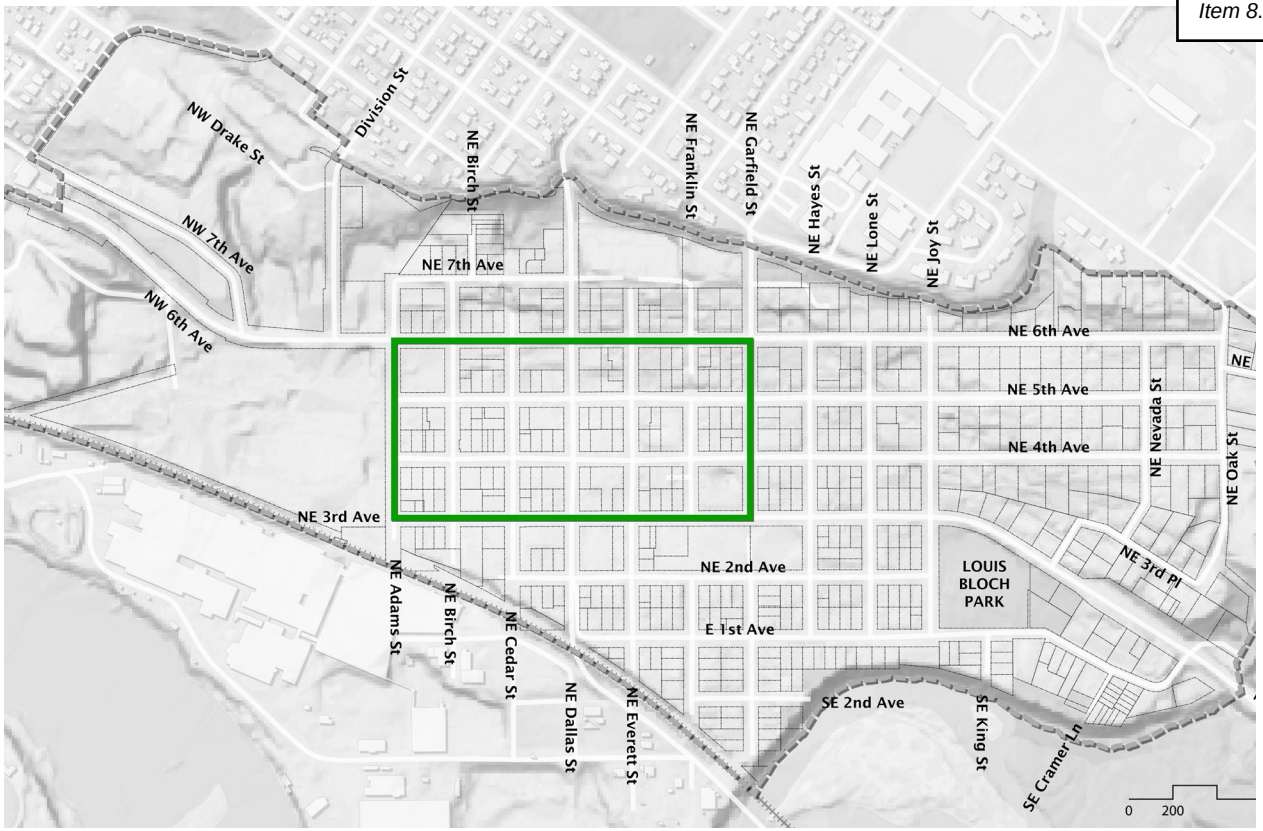


Main Streets Cross Section

Connector Streets

The Connector Streets in Downtown Camas create a buffer around the Main Street Core, with NE Adams Street to the west, NE 3rd Avenue to the south, NE Garfield Street to the east, and NE 6th Avenue to the north. These streets, as the name implies, provide key connection points to NE 4th Avenue as well as provide a link to future development in the Mixed-Use Mid-Rise area. As new residents move into these areas of Downtown, improvements to pedestrian and bicycle facilities will create more walkable and bikeable access to and through Downtown.

Connector Streets will continue to be thoroughfares for vehicles to move efficiently through Downtown Camas, while considering opportunities to create safe routes for increased pedestrian and bicycle traffic, especially at key intersections along NE 6th Avenue and NE Garfield Street. Improvements may include larger curb extensions at intersections or mid-block crossings, designated and / or protected bike routes, and efficient parking facilities.





Connector Streets Cross Section

Mobility Streets

Mobility Streets weave into the core of Downtown Camas, allowing the highly walkable and bikeable nature of the Main Street Core to permeate through newly developed areas of Downtown. NE Dallas Street (also a Gateway Street near the periphery of Downtown), will transform into a greenway that provides an intersection between mobility and recreation in Downtown Camas. Similar to Connector Streets, the Mobility Streets balance multimodal transportation, providing adequate traffic flow (and parking) for vehicles, while focusing on safety and upgraded facilities for pedestrians and bicycles. The pathway along NE 2nd Avenue provides an alternative route to busier NE 3rd Avenue for pedestrians and bicycles, and connects Louis Bloch Park to the rest of Downtown.

Similar to future planning for the Connector Streets, Mobility Streets will see improvements to curb extensions at intersections and mid-block crossings, as well as bicycle facility improvements and wayfinding.



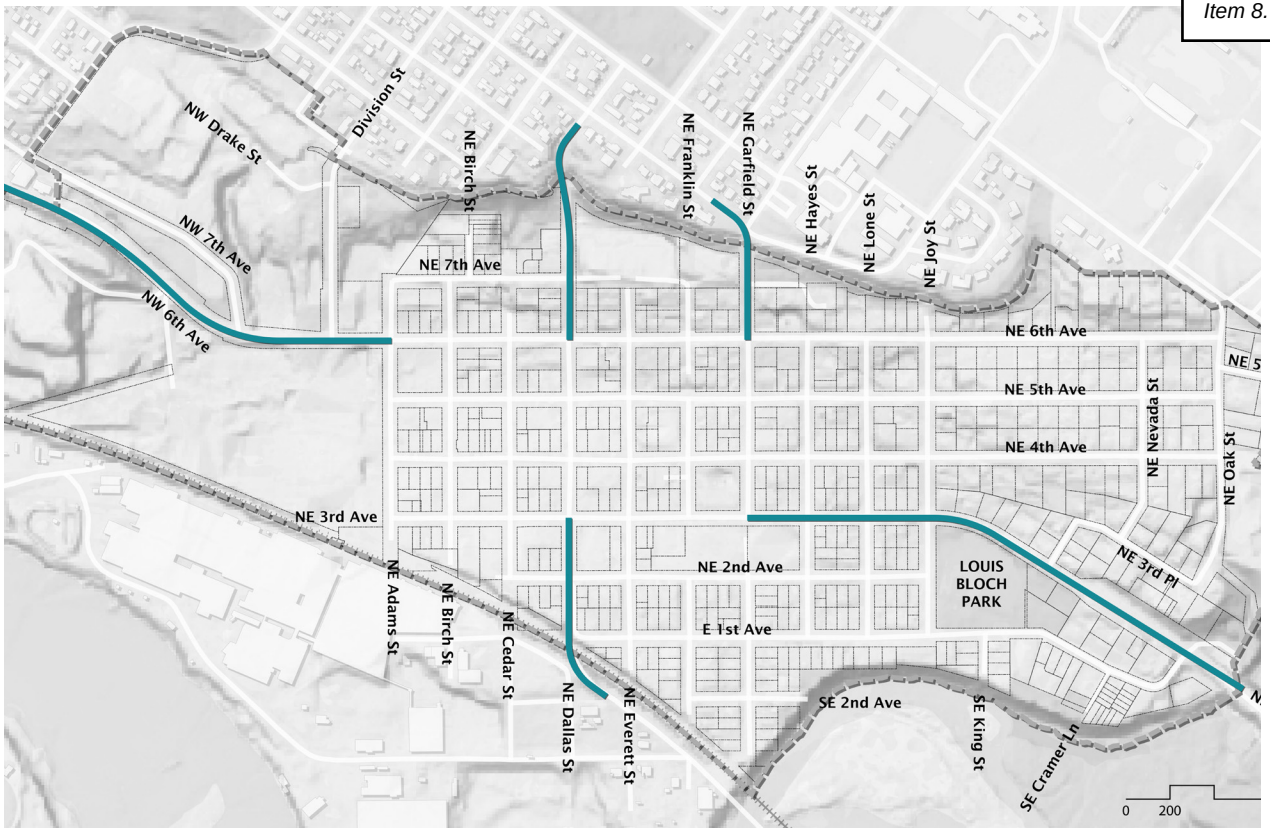


Mobility Streets Cross Section

Gateway Streets

Gateway Streets serve as the entry point that defines Downtown Camas from the rest of the city. While the land uses and landmarks surrounding the Gateway Streets (e.g., the Camas Mill) also help to signify Downtown, the street network is what helps visitors arrive in a logical and efficient manner. The Gateway Street at NE 6th Avenue allows access to Downtown from the west side of Camas, and is currently the most prominent entrance to Downtown with its proximity to the Mill. Existing signage also welcomes visitors to the area. NE Dallas Street connects the northern and southern neighborhoods and future improvements as a greenway will offer a recreation-based attraction to Downtown. NE Garfield Street is a secondary gateway street connecting neighborhoods to the north of Downtown. NE 3rd Avenue is the primary gateway for vehicles arriving from the east side of Camas or the surrounding communities.

Future planning for Gateway Streets will consider traffic flow and speed as vehicles arrive Downtown to make crossings at key intersections safer and more inviting for multi-modal travel. Improved access for pedestrians and bicycles will include protected and marked facilities as well as wayfinding.



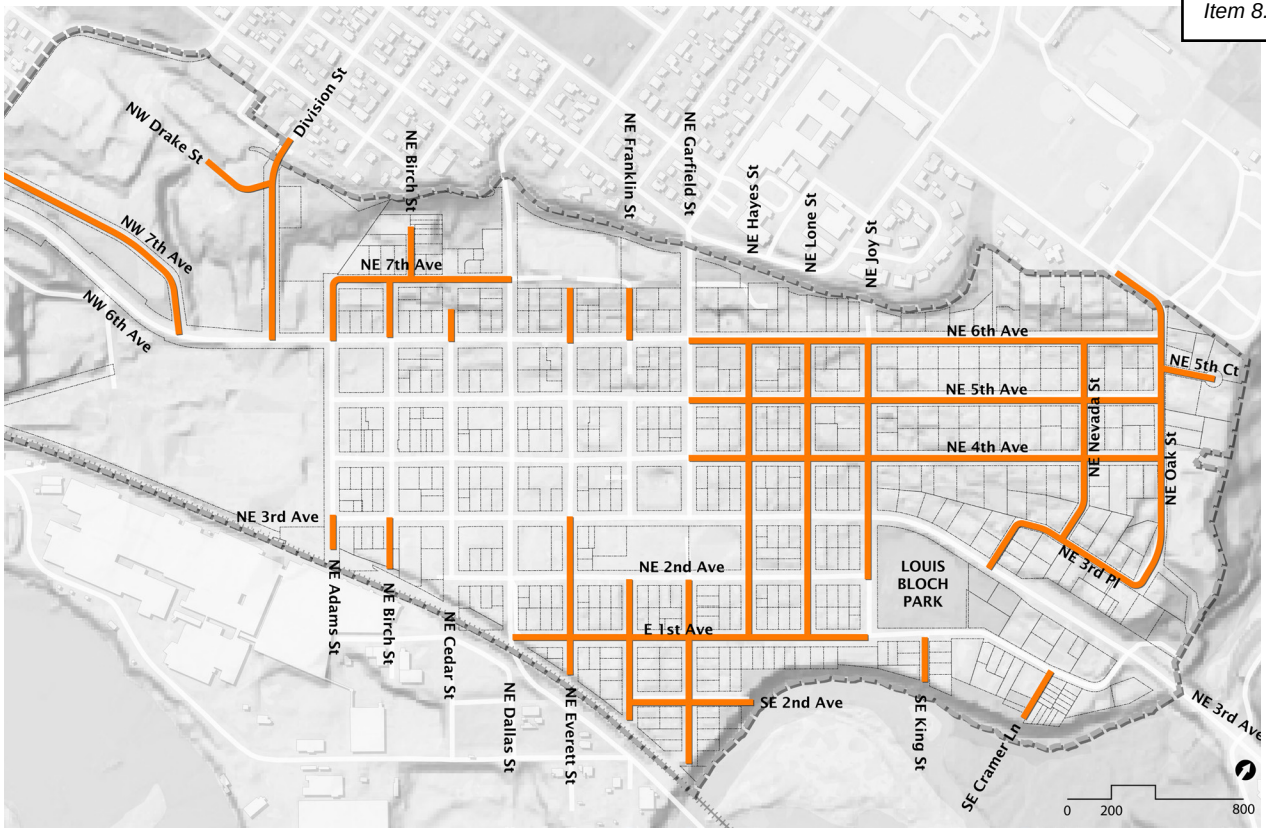


Gateway Streets Cross Section

Neighborhood Streets

The Neighborhood Streets provide all remaining intermittent connections to the street network within the lower-density residential areas of Downtown Camas. These streets will continue to primarily serve local residents within these neighborhoods, providing vehicular access at residential speeds, on-street parking, and sidewalks with improved crossing access for pedestrians.

The Neighborhood Streets also connect Downtown with adjacent open spaces, including Louis Bloch Park and the Mill Ditch Trail. The Open Space section identifies potential trail connections to Neighborhood Streets, and future intersection improvements at key intersections (along NE 6th Avenue and NE Garfield Street) will allow for safer opportunities to connect recreation and Downtown activities.





Neighborhood Streets Cross Section

Traffic Analysis

The updates to the Camas Transportation System Plan (TSP) for a planning horizon through 2045 included a traffic analysis for the Downtown Subarea Plan boundary. The analysis considered two land use scenarios, a Baseline alternative and an alternative based on the Downtown Subarea Plan's preferred land use concept. The results of this analysis are provided in Appendix A of the Downtown Subarea Plan.







Existing Conditions of Downtown Camas Streets

07
Infrastructure

Overview

The proposed land use concept defined in section 4 will create different needs for infrastructure in future development of Downtown Camas. This section summarizes the high-level review of the existing stormwater system and the potential impacts to the system under the proposed changes. (The full results and methodology used for this analysis is provided in Appendix B.) The analysis includes (1) stormwater runoff calculations and (2) a catch basin investigation.



Stormwater Drain - Downtown Camas

Stormwater Runoff

The stormwater runoff analysis includes calculations for the amount of stormwater runoff generated in both the existing and proposed scenarios, using a commonly used method (Rational Method) to determine peak runoff rates for largely impervious areas. The full methodology and formulas used in this method are provided in Appendix B. The summary results of the runoff calculations are shown in the table below.

The key variables used for this analysis included land use (existing and proposed); coverage area (acres); runoff coefficient (C) based on land use and approximate overland flow paths or slope; rainfall intensity (I); and rainfall concentration (Tc). Peak flow rates for a modeled 10-year event were then calculated as 384 and 339 cubic feet per second (cfs) for the existing and proposed scenarios, respectively.

Although these flow rate values may n reflect the exact peak flows in the real-world, they demonstrate that the changes in land usage over the next 20 years should not result in an increase in runoff. Rather, these numbers illustrate a decrease in the peak flowrate between the existing and proposed conditions.

While this analysis does not anticipate worsening flood impacts, it is recommended that the City of Camas produce detailed stormwater models of the downtown area to simulate realistic flows. More intensive modeling efforts will also allow for the identification of specific capacity issues and simulation of alternative methods for reducing flood risk.

Basin	**Sum of Acres x Runoff Coefficient** (by Land Use) (∑CA)	**Concentration** (Tc) (min)	**Intensity** (I) (in/hr)	**Peak Flowrate** (Q) (cfs)
Downtown Existing	176.34	5.00	2.18	**384.26**
Downtown Proposed	155.48	5.00	2.18	**338.81**

Catch Basin Investigation

The existing catch basins along NE 4th Avenue regularly experience ponding issues. Many of these inlets are placed in low points next to planters with full curb heights surrounding two or three sides of the catch basins. The city has observed water overflow onto the curb and sidewalk. Examples of the curbs in question are shown below.



To avoid future flooding at these catch basins, it is recommended that the city consider the following improvements. It should be noted that these are recommended from a conceptual view without knowing exactly how the storm water system is connected or how individual catch basins impact each other. Detailed as-built review, stormwater modeling, and geotechnical investigations would be required to confirm the feasibility and efficacy of each option.

- Regularly maintain all catch basins to remove any debris that may be blocking flow into the inlet and eliminate solids trapped in the sump.
- Reconstruct the curbs around the catch basins to allow for street sweeper vehicle access.

A Install curb cuts and regrade the existing planters to allow water to overflow into the planter, rather than onto the sidewalk.

B Incorporate additional planters, rain gardens, bioswales, or other stormwater best management practices (BMPs) into the new land use zones. This will have the added benefit of maintaining the towns' beauty.

C Install permeable pavement in the parking areas.

- Regrade 4th Ave. to reduce the transverse slope and avoid significant low points in the gutters. Place catch basins at the low point and connect new catch basins to the existing storm system to reduce the distance between inlets.
- Increase the number of inlets along 4th Ave between Nevada St and Joy St specifically. Current conditions reflect approximately 950 feet between inlets. The inlets at the bottom of the hill (at 4th Ave & Joy St) may become overwhelmed during extreme storms, which could lead to potential flooding downstream.
- Replace grates with larger grates that have increased spacing between bars.
- Replace catch basins with units that have sumps if the existing structures do not have sumps.

D Install slotted drains along the parking area curb.

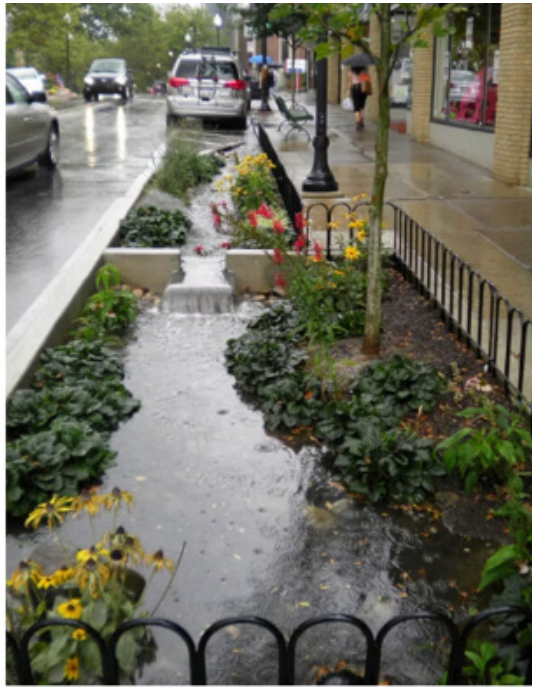
- Create underground infiltration trenches and/or drywells that could contain water from extreme storm events and slowly release it into the surrounding soil.
- Determine if the existing pipe system is undersized through stormwater modeling. Replace pipe infrastructure if capacity is found to be the issue.
- Perform CCTV storm sewer inspection to locate any breaks or blockages in the existing storm pipe network. Repair and/or replace pipes depending on the CCTV evaluation.

A Planter with Curb Cuts



B Bioswale

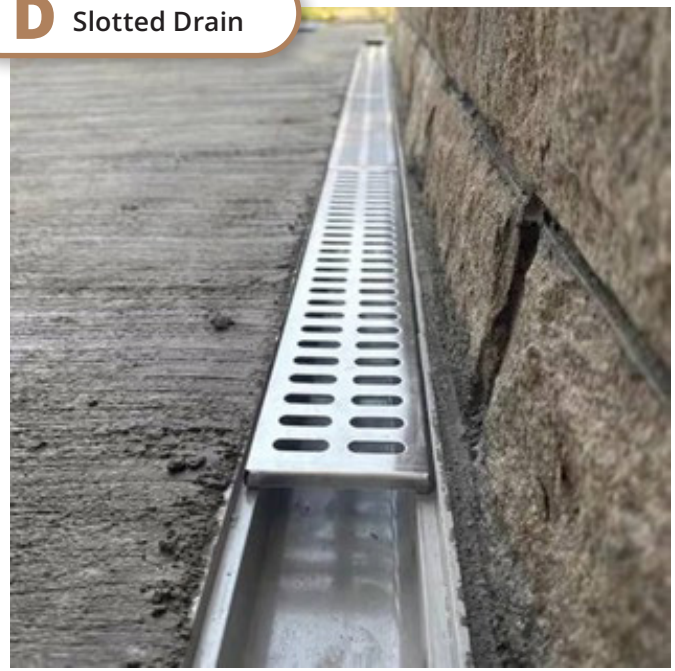




C Permeable Pavement



D Slotted Drain



08
Goals, Policies, & Implementation


Clara Apartments - Camas, WA

Overview

Over the next 20 years, City staff and community partners will work to bring the Downtown Subarea Plan's concepts and recommendations to life. The goals and policies presented in this section align with the vision statement of the Subarea Plan and set the policy direction for decision makers when reviewing priorities for City-led actions.

The implementation plan further supports the goals and policies by outlining specific strategies and actions that will lead to the desired outcomes of the Subarea Plan. The implementation plan provides guidance on the estimated timing, leadership and partnership roles, and level of priority for each implementation action. Many actions will be City-led through various City Departments, while others will require partnership with community groups or regional agencies. Over the planning period, City staff and decision makers, in coordination with key stakeholders, may reevaluate the goals, policies, and implementation actions to respond to changes in priorities or other City planning efforts that affect the Downtown area.

Goal DT-1: Architecture and Design

Retain Downtown's historic design and expand its charm.

DT-1.1: Protect and enhance downtown's design, including the integrity of the Historic Main Street Core, through clear and objective zoning standards and design guidelines.

DT-1.2: Explore improvements to public spaces that reinforce downtown's character through a streetscape plan and investments in community amenities.

DT-1.3: Ensure downtown design standards are up-to-date and reflect the goals and policies of the Downtown Subarea Plan.

DT-1.4: Promote the addition of street trees, landscape planters, green walls, and other landscaping elements that improve aesthetics, provide shade, and enhance the pedestrian experience.

DT-1.5: Incorporate public art, murals, and interactive elements to create a unique sense of place.

DT-1.6: Require new buildings to complement the existing architectural character while allowing for contemporary design elements.

DT-1.7: Encourage pedestrian-scale building design and street lighting to highlight building facades and architectural features and enhance safety and visibility.





Patrons Enjoy a Meal Outdoors at Natalia's Cafe in Downtown Camas

Goal DT-2: Downtown Housing

Provide a range of housing options that welcome more people to live Downtown.

DT-2.1: Allow development of a range of housing types, including both rental and ownership options, for a wide range of income levels within the zoning districts in the Downtown Subarea Plan boundary.

DT-2.2: Explore incentives to increase housing capacity and encourage the development of diverse housing types, ADUs, affordable housing, senior housing, and mixed-use or live/work units within Downtown.

DT-2.3: Develop design standards for new housing to complement the existing downtown development and ensure clear and objective regulations and permitting processes.

DT-2.4: Implement housing affordability strategies that meet the needs of downtown households and preserve existing affordable housing.

DT-2.5: Encourage housing downtown to provide features that foster healthy living such as community gardens, open spaces, and recreation areas.





Cottage Cluster Housing in Portland, OR

Goal DT-3: Urban Amenities

Provide the right mix of development, services, and public spaces that support ways for people to live, work, and play Downtown.

DT-3.1: Require active ground floor uses and engaging street level design in the Historic Main Street Core zoning district.

DT-3.2: Support parks and open space improvements and connectivity to Mill Ditch Trail and Louis Bloch Park, as illustrated in the Downtown Subarea Plan.

DT-3.3: Evaluate regulations that support visitor lodging and tourism activities in downtown.

DT-3.4: Explore opportunities for additional public spaces, including public plazas, pocket parks, pedestrian-only streets, and community gardens.

DT-3.5: Create a parklet program that converts downtown curbside parking spaces into community seating spaces for businesses and residents

DT-3.6: Establish a policy to require new public and private projects to provide public art, including murals, sculptures, or interactive elements within public spaces

DT-3.7: Support and incentivize business and property owners to incorporate outdoor patios, seating areas, planters, and other landscape features that contribute to an inviting and dynamic streetscape.





Green Loop Pop-up Park in Salt Lake City Utah

Goal DT-4: Economic Development

Encourage (re)development to expand opportunities Downtown for retail, office, and residential.

DT-4.1: Support partnerships with community groups focused on advocating for the future of Downtown Camas, such as the Downtown Camas Association.

DT-4.2: Evaluate the Camas Municipal Code and permitting procedures to identify ways to increase flexibility to allow businesses to expand, grow, or redevelop at existing locations.

DT-4.3: Collaborate with public agencies, private parties, and non-profits in marketing and outreach efforts that attract visitors, sustain existing local businesses, attract new development/redevelopment, and maintain the historic character of downtown.

DT-4.4: Partner with the Downtown Camas Association, Camas-Washougal Chamber of Commerce, and other similar organizations to expand incentives available to small local businesses such as credit improvement programs.

DT-4.5: Prioritize City investments that capitalize on nearby redevelopment efforts to reinforce economic and physical connections to downtown.

DT-4.6: Evaluate financing tools to help investments in community infrastructure and encourage redevelopment of key areas.

DT-4.7: Address infrastructure improvements necessary for redevelopment projects.

DT-4.8: Encourage development and redevelopment that reinforces the role of public spaces in Downtown Camas as a vibrant center of activity, particularly for vulnerable populations.

DT-4.9: Develop strategies to mitigate displacement of existing businesses downtown, particularly in areas of increased investment and redevelopment.

DT-4.10: Work to achieve a diverse set of local businesses downtown that are complementary and economically resilient, balancing needs of residents, workers, and visitors.

DT-4.11 Actively participate in the Washington Department of Ecology cleanup process for the Camas Mill and support an unrestricted cleanup level to provide for the greatest flexibility for future land use.


CAMAS

Goal DT-5: Civic Life

Expand on civic life and services Downtown through strategic use of City-owned property and vibrant community events.

DT-5.1: Ensure that City Hall and primary services remain downtown.

DT-5.2: Develop a Civic Hub as a central gathering place and include a civic plaza to support existing and new community events.

DT-5.3: Support flexibility and provide infrastructure investments at the Civic Hub along NE 4th Ave to create shared spaces and accommodate pedestrian-friendly events.

DT-5.4: Develop guidelines and permitting procedures for seasonal or temporary use of public spaces for outdoor dining, retail displays, community events, and allow for pedestrian flow and safety.





Camas Plant & Garden Fair 2024

Goal DT-6: Multimodal Connectivity

Create a safe and connected transportation network Downtown for pedestrians, bicyclists and vehicles.

DT-6.1: Encourage placemaking and wayfinding efforts downtown to develop a distinct identity and attract visitors.

DT-6.2: Ensure downtown sidewalks are wide, unobstructed, and well-maintained to accommodate all users.

DT-6.3: Implement traffic-calming measures such as curb extensions, raised crosswalks and intersections, and unique pavement treatments that improve pedestrian safety and enhance downtown design.

DT-6.4: Improve bicycle infrastructure with new dedicated bike lanes, sharrows, intersection improvements, and bicycle parking. Encourage the use of priority bicycle parking for community events.

DT-6.5: Enhance connections between the historic Main Street core and downtown residential neighborhoods, including Evergreen Terrace and south of NE 3rd Ave.

DT-6.6: Install benches, shade structures, and public seating along pedestrian routes to create a more comfortable walking environment.

DT-6.7: Ensure adequate parking downtown for continued business growth and consider developing a parking management plan. Seek out opportunities for shared use parking on the edges of the downtown district, which could also serve as a park and ride transit facility.





Two Way Protected Bike Lane - Ann Arbor, MI

Implementation Plan

The implementation plan for Downtown Camas provides specific actions for the City and key stakeholders to realize the vision and goals set forth in the Subarea Plan over the next 20 years. It is organized according to the policies previously defined in this section, identifies potential timing, project champions, and an initial prioritization, which may shift based on future City needs.

Action	Policy Alignment	Timing	Champion (Support)
DT-1 Architecture and Design			
Update and adopt design guideline manual to align with goals and policies of Downtown Subarea Plan.	DT-1.1, 1.3, 1.6, 1.7, 2.3	0-5 years	City – Community Dev.
Update and adopt zoning code to reflect updated zoning districts and intent defined in Downtown Subarea Plan.	DT-1.1, 1.7, 2.2, 3.1, 3.3, 5.4	0-5 years	City – Community Dev.
Prepare a comprehensive Downtown Infrastructure and Capital Improvement Study to identify streetscape plans, priority projects, implementation strategies, trail connections, and funding opportunities.	DT-1.2, 1.4, 1.5, 6.2, 6.3, 6.6	5-10 years	City – Public Works (Community Dev. and Parks)
DT-2 Housing			
Develop incentives for new housing development downtown.	DT-2.2	5-10 years	City – Community Dev.
Evaluate permitting processes to identify ways to streamline new residential development.	DT-2.2, 2.3, 2.5	0-5 years	City – Community Dev.
DT-3 Urban Amenities			
Explore options for improving downtown's connectivity to Louis Bloch Park.	DT-3.2	5-10 years	City – Parks (Community Dev. and Public Works)
Complete improvements to Mill Ditch Trail.	DT-3.2	5-15 years	City – Parks (Community Dev.)
Amend Parks and Recreation plans as needed to look for opportunities for parks and open space downtown.	DT-3.4	0-5 years	City – Parks (Community Dev.)
Develop code requirements for temporary and enhanced use of the public right-of-way and public spaces.	DT-3.5	0-5 years	City – Public Works (Community Dev. and Parks)
Review public art program guidelines and align with downtown goals.	DT-1.5, 3.6	0-5 years	City – Community Dev. (Parks and Public Works)
Explore options for useable open space requirements in new development.	DT-3.7	5-10 years	City – Parks (Community Dev.)

Action	Policy Alignment	Timing	Champion (Support)
Explore funding opportunities for urban amenities in the public realm to address ongoing operations and maintenance costs.	DT-1.2, DT-3.2, DT-3.4, DT-3.6, DT-5.3	5-10 years	City – Community Dev. (Public Works and Parks)
DT-4 Economic Development			
Work with downtown advocacy groups on refinements to façade improvement programs.	DT-4.1	5-10 years	City – Community Dev.
Review additional changes to municipal code to support business retention / attraction.	DT-4.2, 3.3, 5.4	0-5 years	City – Community Dev.
Develop strategy for retaining existing businesses.	DT-4.7	5-15 years	City – Community Dev.
Explore programs to assist business owners / downtown building owners for space improvements.	DT-4.3, 4.4, 4.6, 4.7, 4.8	0-5 years	City – Community Dev.
Work to attract employers that provide living-wage jobs through target industries research and site selection exercises.	DT-4.9	0-15 years	City – Community Dev.
Adopt code amendments that allow future residential and mixed-use redevelopment of the Camas Mill property, and actively participate in the Department of Ecology agreed order process to advocate for cleanup standards that support unrestricted future land use.	DT-4.11	0-5 years	City – Community Dev.
DT-5 Civic Life			
Advance planning and feasibility analysis for the Civic Plaza concept.	DT-5.1, 5.2, 5.3	5-15 years	City – Community Dev. (Public Works, Parks)
Evaluate public realm improvements that better support community events and seasonal activities, including opportunities to improve comfort, accessibility, infrastructure, and flexibility of use.	DT-5.3, 5.4, 6.6	5-10 years	City – Community Dev. (Public Works, Parks)
DT-6 Multimodal Connectivity			
Identify, prioritize, and implement quick-build pedestrian safety improvements downtown using low-cost, interim treatments that can be evaluated and refined over time as part of a long-term pedestrian safety strategy.	DT-6.3	0-10 years	City –Public Works (Community Dev.)
Develop a placemaking and wayfinding strategy.	DT-6.1	5-10 years	City – Community Dev. (Public Works)
Prioritize construction of the Transportation System Plan's recommended pedestrian and bicycle facilities in downtown area.	DT-6.4, 6.5	5-15 years	City – Public Works (Community Dev.)
Develop a comprehensive parking strategy addressing off-street parking requirements and management of on-street spaces.	DT-6.7	0-10 years	City – Community Dev. (Public Works)



DOWNTOWN
DESIGN MANUAL

City of Camas, WA

August 2026

Acknowledgments.

CITY STAFF

Doug Quinn
City Administrator

Alan Peters
Community Development Director

Robert Maul
Planning Manager

Lauren Hollenbeck
Senior Planner

Yvette Sennewald
Senior Planner

Madeline Coulter
Planner

Carey Certo
Administrative Support Assistant

Scott Collins
Public Works Director

James Carothers
Engineering Manager

CITY COUNCIL

Mayor Steve Hogan

Marilyn Boerke
Ward 1

John Nohr
Ward 1

Martin Elzingre
Ward 2

Tim Hein
Ward 2

Masha Eshghi
Ward 3

Jennifer Senescu
Ward 3

John Svilarich
At-Large (All Wards)

PLANNING COMMISSION

Troy Hull
Chair

Geoerl Niles
Vice Chair

Joe Walsh

Shawn High

Joe Keller

Paul Anderson

DOWNTOWN ADVISORY COUNCIL

Alicia Brazington
Community Member/Parks and Recreation Commission

Samantha Horner
Community Member / Library Board of Trustees

Jason Irving
Community Member / Parks and Recreation Commission

Brian Kuhta
Community Member

Rick Melching
Community Member

Kim Sogge
Community Member

Marlo Maroon
Community Member

Carrie Schulstad
DCA Executive Director

Caroline Mercury
DCA Founding / Current Board Member

Marilyn Boerke
DCA Board President / Camas City Council

Randy Curtis
DCA Board Vice President

Sarah Laughlin
DCA Board Secretary

Shawn Parker
DCA Board Member

Trang Lam
Executive Director / Executive Director, Port of Camas-Washougal

Table of Contents.

1.0 PREAMBLE
1.1 Overview of the Manual
1.2 Applicability of Sections
1.3 How to Use this Manual

ZONING CODE

2.0 THE REGULATING PLAN

3.0 BASE ZONING DISTRICTS
3.1 Historic Main Street Core
3.2 Downtown Mixed-Use: Mid Rise
3.3 Downtown Mixed-Use: Low Rise
3.4 Downtown Residential
3.5 Other Zoning Districts

4.0 USE AND PARKING
4.1 Use Table
4.2 Active and Passive Retail Uses

5.0 THE STREET NETWORK

DESIGN STANDARDS

6.0 FRONTAGE STANDARDS
6.1 Alcove
6.2 Café
6.3 Civic
6.4 Forecourt
6.5 Porch
6.6 Shop
6.7 Stoop
6.8 Walkup
6.9 Yard

7.0 PUBLIC REALM STANDARDS
7.1 Main Street Public Realm
7.2 Connector Street Public Realm
7.3 Mobility Street Public Realm
7.4 Gateway Street Public Realm
7.5 Neighborhood Street Public Realm

8.0 GENERAL STANDARDS
8.1 General
8.2 Landscaping
8.3 Hardscaping
8.4 Lighting
8.5 Screening
8.6 Public Art

9.0 DEFINITIONS & MEASURES


STOP



PREAMBLE



Figure 1. Downtown Camas, Washington

1.1 Overview of the Manual.

This design manual, prepared as part of the Our Downtown Camas 2045 Downtown Subarea Plan, serves as a practical tool for implementing updated zoning regulations and design standards in Downtown Camas. Fully aligned with the City's adopted code, the zoning sections and design standards are supported by clear illustrations and visual aids, enabling applicants to interpret and apply requirements with confidence.

The design manual integrates key zoning standards that collectively shape the downtown's built environment. Zoning components include the regulating plan, base zoning districts, detailed provisions for land use and parking, and street types, creating a clear framework to guide future growth. These standards ensure predictability while supporting flexibility for high-quality development.

Complementing the zoning standards, the design standards offer frontage type definitions, public realm expectations, and recommended best practices to inform project design and review. Together, these elements foster cohesive, attractive, and pedestrian-friendly development that reflects the community's vision for a vibrant, well-designed downtown.

	DESIGN MANUAL SECTION	1.0 *Preamble*	2.0 *The Regulating Plan*	3.0 *Base Zoning Districts*	4.0 *Use and Parking*	5.0 *The Street Network*	6.0 *Frontage Standards*	7.0 *Public Realm Standards*	8.0 *General Standards*	0.0 *Definitions & Measures*
PROJECT TYPE	**OCCUPANCY** A change of occupancy to an existing building or structure.	✓	✓	✗	✓	✗	✗	✗	✗	✓
	MINOR ALTERATION Little or no exterior changes to buildings or structures; and no structural work.	✓	✓	✗	✗	✓	✗	✓	✓	✓
	MINOR ALTERATION WITH USE / OCCUPANCY CHANGE Minor alteration (per this table) with change in use or occupancy.	✓	✓	✗	✓	✓	✗	✓	✓	✓
	ADDITION OR MAJOR EXTERIOR CHANGE Changes to exterior or square footage addition of less than fifty (50%) percent with or without a change in use or occupancy.	✓	✓	✓	✓	✓	✓	✓	✓	✓
	NEW CONSTRUCTION All new buildings and changes to exterior or square footage addition of 50% or more.	✓	✓	✓	✓	✓	✓	✓	✓	✓
	OTHER	*See **Chapter 18.55 Administration and Procedures***								

Figure 2. Applicability of Project Type by Manual Section

1.2 Applicability of Sections.

✓ SECTION IS APPLICABLE

✗ SECTION IS NOT APPLICABLE

Because this document combines zoning regulations with a range of design standards for future development, it is important to clearly identify which sections apply to each type of project within Downtown Camas. Distinguishing levels of project impact ensures that each development or modification is reviewed by the appropriate portion of the design manual proportional to its scale and potential influence on the area. Minor alterations with little or no exterior change, or a simple change in use, generally pose minimal impacts on urban design, public space, and community character, and therefore do not require the same level of review as larger projects. In contrast, substantial exterior modifications, additions, and new construction can significantly shape the public realm and architectural identity. The table on this page identifies which sections apply. In the event of a conflict between this manual and other regulations, the more stringent shall be applicable.



Figure 3. Chart Vibrant Frontage Along 4th Avenue

1.3 How to Use this Manual.

The following diagram illustrates the overall process and core components for using this guide during permitting to ensure all applicable requirements are met. The planning official may modify or adapt this process as needed to address site-specific conditions, ensure compliance, and coordinate with other relevant sections of the zoning code.

After completing the review in **Section 1.2** to confirm which provisions of this document apply, the steps that follow provide a clear, sequential overview of how to use this manual.

STEP #1
IDENTIFY PROJECT LOT OR LOTS ON THE REGULATING PLAN.

STEP #2
REVIEW STANDARDS IN THE BASE ZONING DISTRICTS.

STEP #3
VERIFY ADHERENCE TO USE AND PARKING STANDARDS.

STEP #4
CONFIRM APPLICABILITY OF DESIGN STANDARDS.

STEP #5
SELECT FRONTAGE TYPE AND VERIFY ADHERENCE TO STANDARDS.

STEP #6
VERIFY ADHERENCE TO PUBLIC REALM STANDARDS FOR STREET TYPE AND GENERAL STANDARDS FOR ALL IMPROVEMENTS.

Figure 4. How to Use this Document Flow

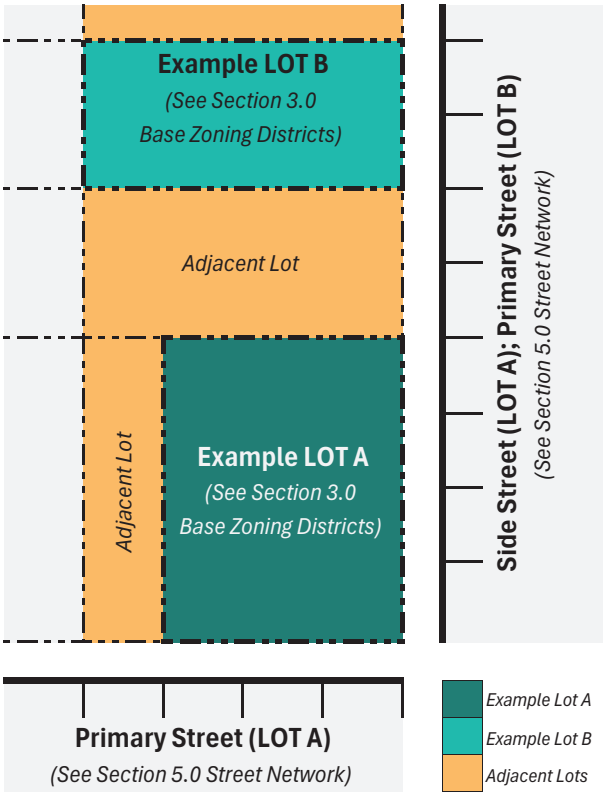


Figure 5. Typical Lot and Street Type Diagram

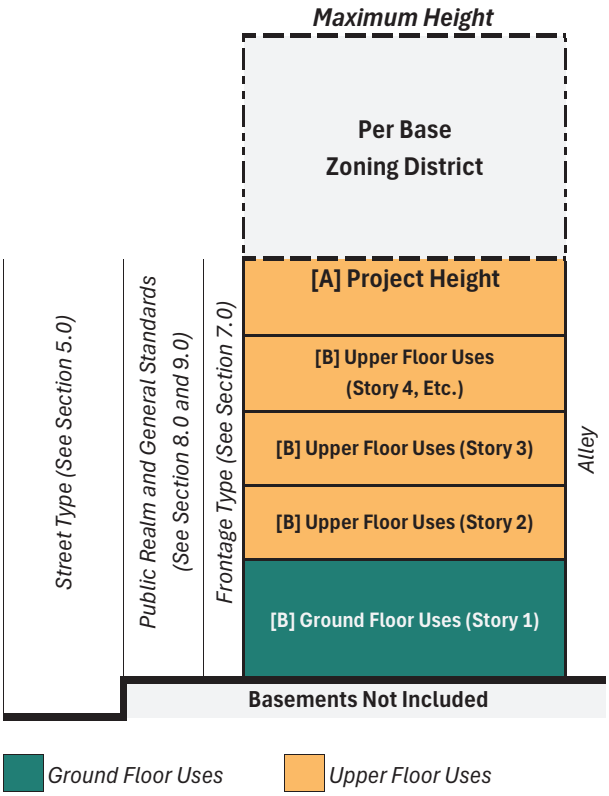


Figure 6. Typical General Standards: Height and Use

STEP 1: IDENTIFY PROJECT LOT OR LOTS ON THE REGULATING PLAN.

Begin by referencing the regulating plan **(Section 2.0)** and documenting the lot to determine:

- Which of the four (4) base zoning districts **(Section 3.0)** or existing zoning districts the lot or lots are located in; and
- Which of the five (5) street types **(Section 5.0)** are applicable to the lot or lots for all frontages onto public rights-of-way.

NOTE: Projects may contain lots with more than one (1) base zoning district or street type. Projects that fall within the Heavy Industrial district, open space district, or districts not listed in this manual must refer to the zoning code.

STEP 2: REVIEW STANDARDS IN THE BASE ZONING DISTRICTS.

Each base zoning district defines unique goals, building form parameters, height limits, and other requirements suited to its intended form and function (e.g., Historic Main Street, Downtown Mixed-Use, etc.). Refer to the specific base zoning district **(Section 3.0)** identified in Step 1 for specific requirements and review each for adherence to the purpose and intent, applicability, and standards. The general standards for each district include:

- **[A] Building height:** Measurement in feet (FT) and above-grade number (#) of stories.
- **[B] Building uses:** Primary use types **(See Section 4.0)** for percentage allowable on ground floor areas, ground floor frontages, and upper floor areas.

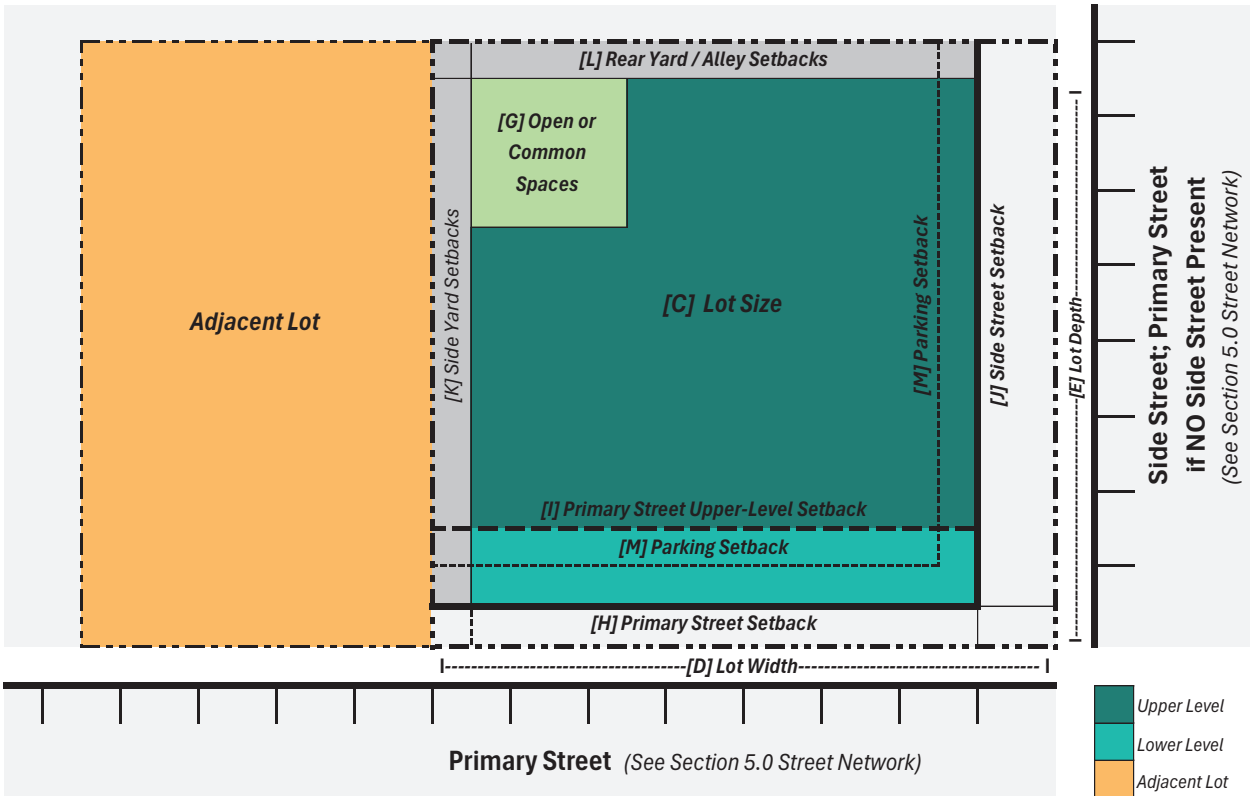


Figure 7. Typical Development Standards: Lot and Setback Requirements

In addition to the general standards that apply to all lots, each lot is also subject to specific development standards governing lot dimensions and setbacks. The development standards for each district include:

- **[C] Lot size:** Maximum lot size in square feet (SF) or the proportion of a typical downtown block (i.e. 1/8, 1/2, Etc.).
- **[D] Lot width:** Minimum dimension in linear feet (LF) of the lot from the primary street.
- **[E] Lot depth:** Minimum dimension in linear feet (LF) of the lot from the property line on the primary street.
- **[F] Lot coverage:** Minimum percentage (%) of the new building footprint (SF) respective to the lot (SF).
- **[G] Open or common spaces:** Required square footage (SF) of space on the lot for each dwelling unit provided on the lot.
- **[H] Primary street setbacks:** Maximum distance in linear feet (LF) of the placement of the building facade on the ground floor from the property line on the primary street.
- **[I] Primary street upper-level setbacks:** Minimum distance in linear feet (LF) of the placement of building facades on a designated upper-level from the ground floor building facade on the primary street.
- **[J] Side street setbacks:** Maximum distance in linear feet (LF) of the placement of the building facade from the property line on the side street.
- **[K] Side yard setbacks:** Maximum distance in linear feet (LF) of any building facades from property lines on adjacent lots.
- **[L] Rear yard / alley setbacks:** Minimum distance in linear feet (LF) of any building facades from property lines at the rear of the yard or onto an existing or proposed alley.
- **[M] Parking setbacks:** Minimum distance in linear feet (LF) of the placement of any structured or surface parking facilities or storage of vehicles on the site from the primary street or side street.

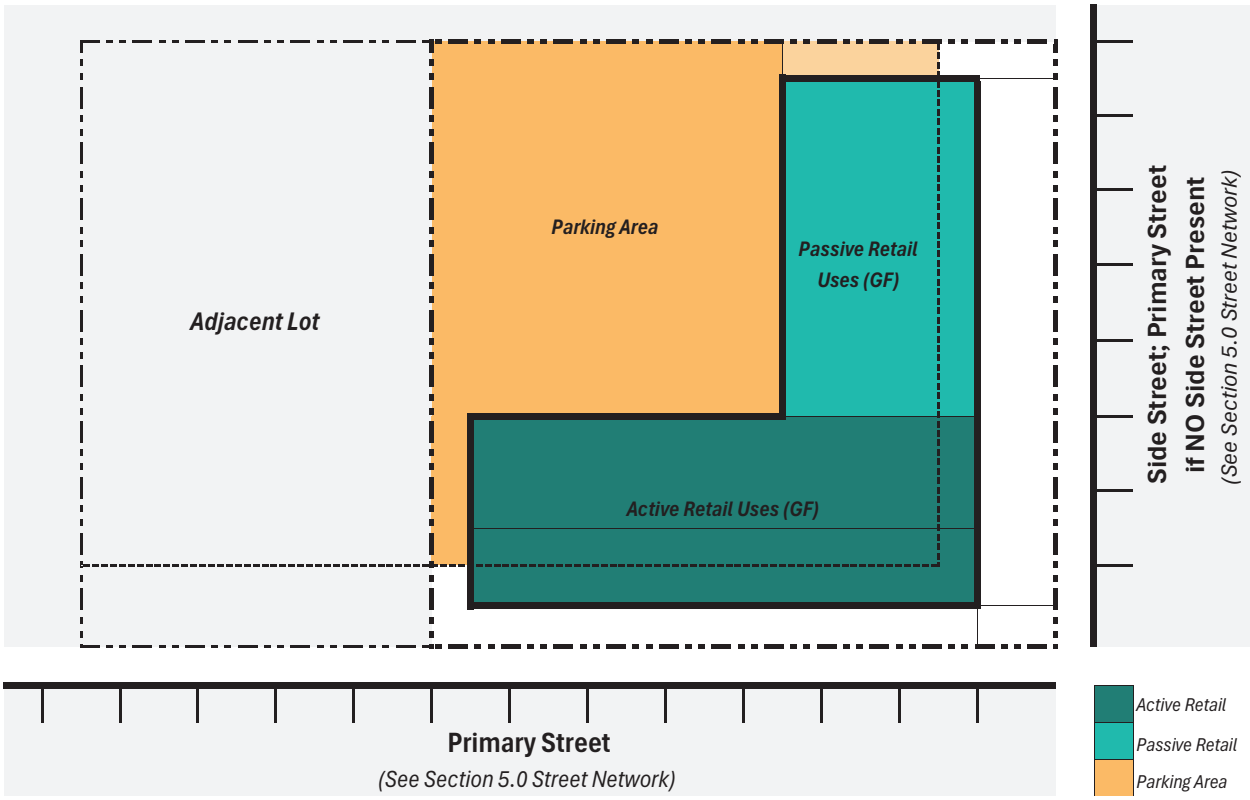


Figure 8. Typical Lot and Street Type Diagram

STEP 3: VERIFY ADHERENCE TO USES AND PARKING STANDARDS.

Based on the intended uses, consult the applicable use tables (**Section 4.0**) to determine which uses are permitted, conditional, or prohibited on the ground floor and upper floors. After confirmation, refer to the zoning code and review the corresponding parking requirements to ensure compliance with parking ratios. Primary use categories include the following:

- Active retail uses.
- Communication, utilities, and facilities uses.
- Educational uses.
- Incidental uses.
- Industrial uses.
- Manufacturing and/or processing uses.
- Passive retail uses.
- Recreational, religious, and cultural uses.
- Residential uses.
- Temporary uses.

Active Retail Uses VS Passive Retail Uses

Commercial uses are organized into two (2) categories per Section 4.2: Active Retail Uses and Passive Retail Uses. This distinction differentiates uses that generate high levels of foot traffic and pedestrian activity from those that contribute at a more limited scale. The purpose of this classification is to ensure that ground-floor spaces in designated downtown areas support vibrant, active streetscapes. Active Retail is intended to be concentrated along primary streets where pedestrian activity is most critical, while Passive Retail is better suited to side streets. Verify active retail uses and passive retail uses are appropriate per the table.

Figure 9. Overview of Active and Passive Retail

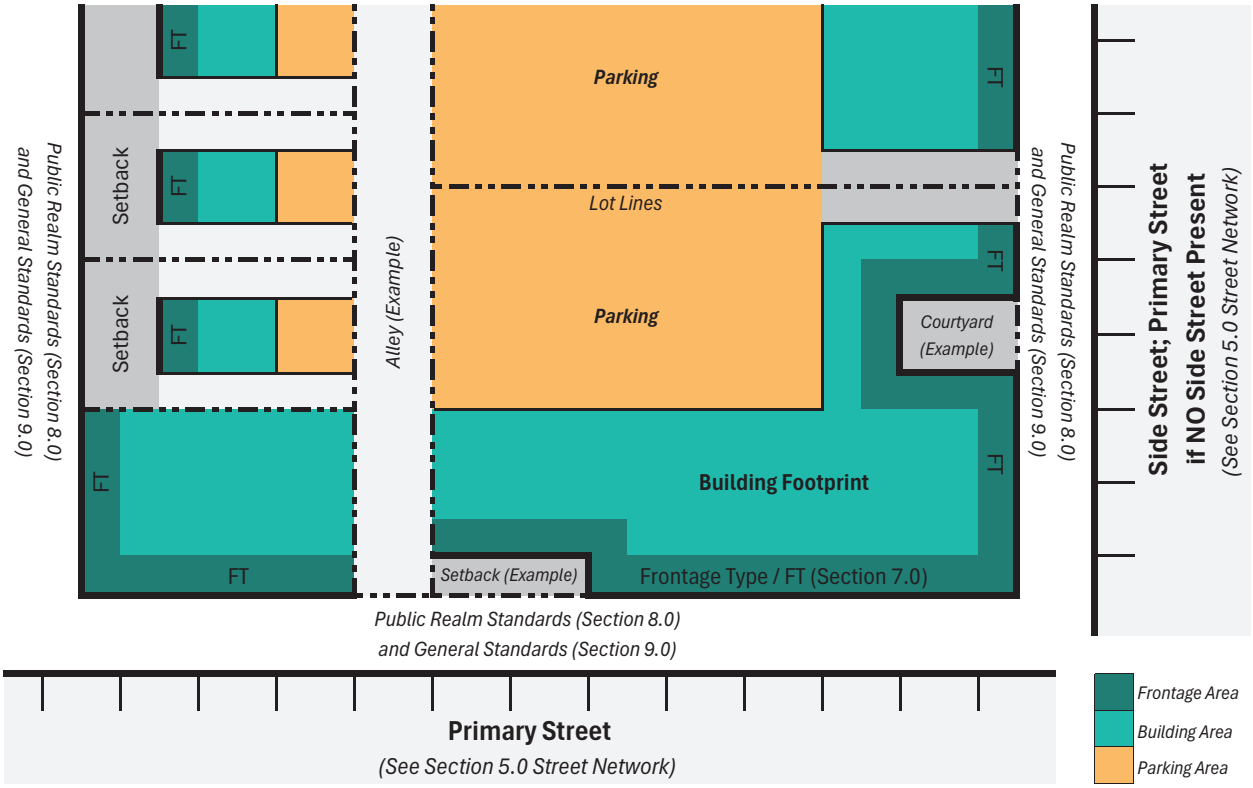


Figure 10. Typical Public Realm Diagram

STEP 4: CONFIRM APPLICABILITY OF DESIGN STANDARDS.

Confirm applicability **(Section 1.2)** of the design standards based on permit application, including applicability of frontage standards **(Section 6.0)**, public realm standards **(Section 7.0)**, and general Standards **(Section 8.0)**.

STEP 5: SELECT FRONTAGE TYPE AND VERIFY ADHERENCE TO STANDARDS.

If applicable to the lot, review the allowable frontage types **(Section 6.0)** for each street type. This includes adherence to any specific standards or dimensions for the frontage type. And although these standards are fairly minimal, frontage has a critical role in shaping public space and making sure the space between the public right of way and the building facade are lively, engaging, and conducive to walkability and pedestrian activity.

STEP 6: VERIFY ADHERENCE TO PUBLIC REALM STANDARDS FOR STREET TYPES AND GENERAL STANDARDS FOR ALL IMPROVEMENTS.

Where applicable, verify that each street type complies with the public realm standards **(Section 7.0)** and that all public realm improvements meet the general standards **(Section 8.0)**. While requirements vary by street type, general standards apply universally. Confirm with the planning official whether additional zoning code provisions apply. Supplemental public realm guidance is provided on the opposite page.



Figure 11. The Zones of Public Realm

The Zones of the Public Realm

For this design manual, the public realm is described through three (3) zones that extend from the curb edge to the building façade. These zones provide a framework for organizing streetscape elements and building frontage.

[1] Facade Zone: This zone is the vertical plane of the building face adjoining the sidewalk or setback, regulated to maintain cohesive street character through controls on blank walls, horizontal articulation, entrances, and other facade elements.

[2] Encroachment Zone: A flexible area between the building façade (including any setback) and the sidewalk circulation zone, accommodating elements such as signage, awnings, displays, seating, and weather protection that activate and support building uses.

[3] Amenity Zone: A flexible area between the sidewalk and curb, with a wide range of dimensions, accommodating trees, landscaping, lighting, furnishings, transit stops, bicycle parking, and related amenities enhancing safety, comfort, and character.

Note on the Sidewalk Area: *The primary clear path for pedestrian circulation, free of any obstructions, ensuring accessibility, safety, and comfort while connecting building entrances, transit stops, and public spaces along a streetscape.*

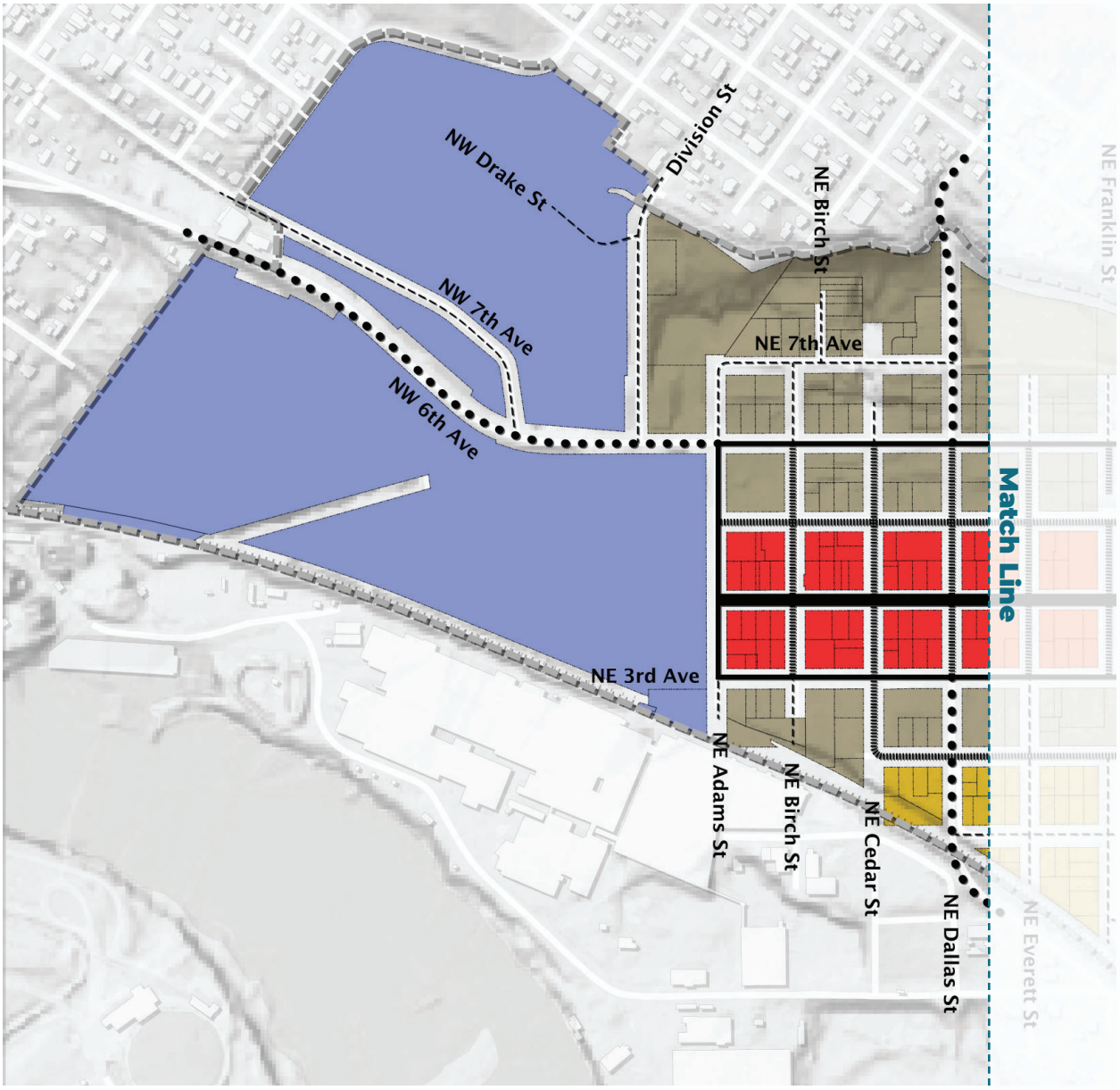
Figure 12. Overview of the Zones of the Public Realm


334
AUTUMN LEAF
BOOKS
CHURCH



ZONING CODE

SECTION 2.0 REGULATING PLAN
SECTION 3.0 BASE ZONING DISTRICTS
SECTION 4.0 USE AND PARKING
SECTION 5.0 THE STREET NETWORK



2.0 The Regulating Plan.

The purpose of the regulating plan is to provide applicants with a clear, parcel-specific map of which base zoning districts and street types apply to each property within Downtown Camas. The base zoning districts guide applicants to the applicable general and development standards, while the street types direct them to the corresponding frontage and public realm requirements. Although the regulating plan functions as a visual navigation tool, each parcel is also formally codified with its assigned districts and street types to ensure clarity and regulatory certainty throughout the development process.

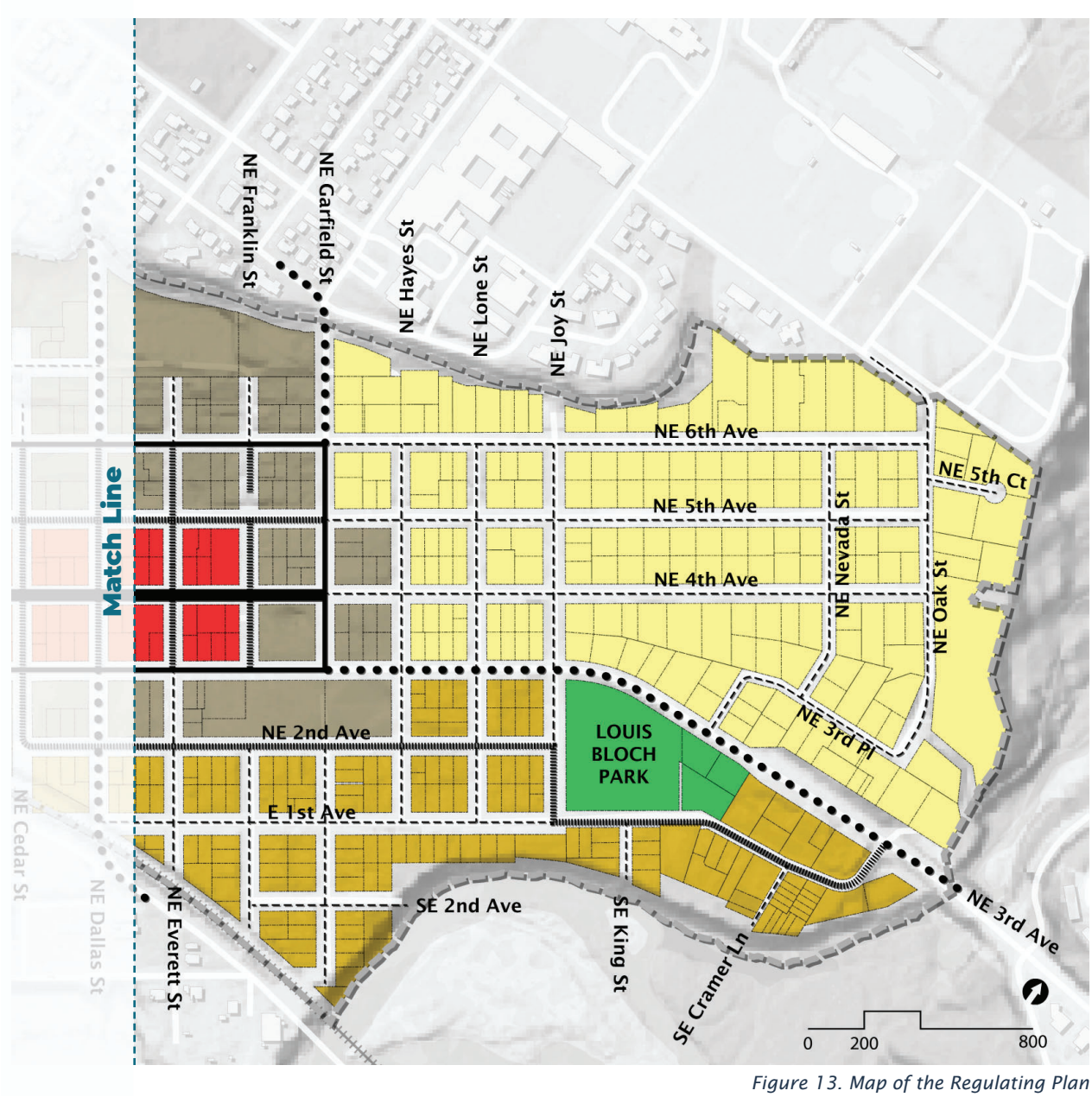


Figure 13. Map of the Regulating Plan

BASE ZONING DISTRICTS.

*See **Section 3.0** for further details.*

- 3.1 Historic Main Street Core
- 3.2 Downtown Mixed-Use: Mid Rise
- 3.3 Downtown Mixed-Use: Low Rise
- 3.4 Downtown Residential
- 3.5 Heavy Industrial (HI)
- 3.5 Neighborhood Park (NP)

STREET TYPES.

*See **Section 5.0** for further details.*

- 5.1 Main Streets (MNS)
- 5.2 Connector Streets (CNS)
- 5.3 Mobility Streets (MBS)
- 5.4 Gateway Streets (GWS)
- 5.5 Neighborhood Streets (NHS)

3.0 Base Zoning Districts

The Downtown Camas Transect Framework guides growth across four (4) base zoning districts, transitioning from the walkable Historic Main Street Core to surrounding residential and employment areas. Each district reflects context-appropriate building types, scale, and uses. Mid- and low-rise mixed-use zones provide housing and commerce near the core, while the Downtown Residential district preserves neighborhood character with gentle infill—balancing preservation, growth, and walkability for a cohesive downtown.



3.1
Historic Main Street Core.

The most compact and walkable district, featuring continuous street-facing buildings with minimal setbacks and active ground floors. Uses include retail, dining, civic, and upper-story office or residential. Architecture emphasizes preservation, human scale, and a fine-grain frontage pattern.



3.2
Downtown Mixed-Use: Mid Rise.

A vibrant, higher-density urban zone with buildings ranging in heights. Supports a mix of residential, commercial, and civic uses with structured parking and active ground-floor frontages. Streets are multimodal, with wide sidewalks, trees, and transit access.

PURPOSE OF THE BASE ZONING DISTRICTS.
The purpose of the base zoning districts is to provide the appropriate general and development standards for each district that will regulate the built form, including: building heights, building uses, lot sizes, lot widths, lot depths, lot coverage, open or common spaces, primary street setbacks, side street setbacks, side yard setbacks, rear yard/alley setbacks, and parking setbacks. See **Chapter 18.05 Zoning Map and Districts** of the Camas Municipal Code for codified base zoning districts.

Figure 14. Base zoning district Transect Diagrams



3.3
Downtown Mixed-Use: Low Rise.

A transitional zone with a range of building types and a mix of neighborhood-serving retail, offices, and housing, including a range of missing middle housing. Slightly deeper setbacks and increased landscaping support a softer urban edge while maintaining pedestrian orientation and urban form.



3.4
Downtown Residential.

A primarily residential area defined by smaller-scale housing types—such as cottages, duplexes, triplexes, fourplexes, and accessory dwelling units—often on existing single-family lots. The district maintains a lower-density character while allowing incremental infill that respects existing neighborhood patterns and historic scale.



Figure 15. Sample Historic Main Street Character

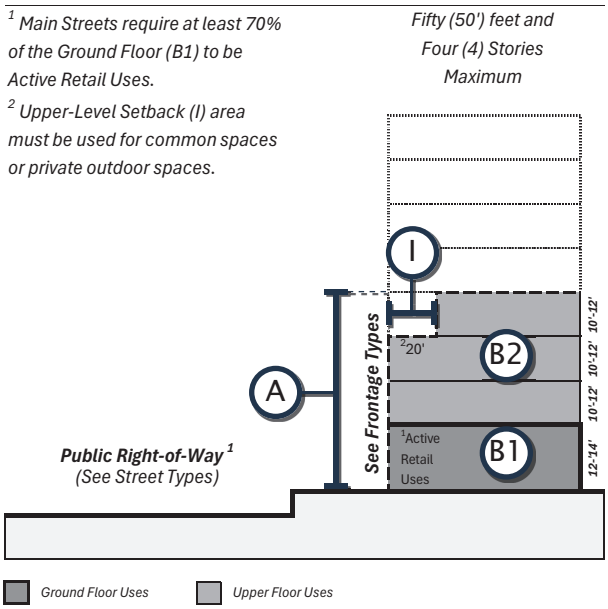


Figure 16. Height and Use Diagram (A-B)

3.1 Historic Main Street Core.

PURPOSE AND INTENT.

1. To continue the historic pedestrian-oriented characteristic along NE 4th Avenue, between NE Adams and NE Garfield Streets and enhance that same character throughout the district;
2. To recognize and accommodate primary retailers along 3rd, 4th, and 5th Avenue between Adams Street and Garfield Street within the Downtown Camas boundary;
3. To preserve the existing historic architectural character with design standards;
4. To preserve the historic character of primary uses, include a limited mix of small and local retail shops, restaurants, bars, and cafes;
5. To encourage and accommodate the adaptive reuse of existing development and emphasize multimodal accessibility and connectivity; and
6. Mixed use within this district refers to vertical mixed use where active primary uses are on the ground floor and secondary uses are above.

APPLICABILITY.

See **Chapter 18.05: Zoning Map and Districts** for further details.

GENERAL STANDARDS.

[A] Building Height.

- Maximum Fifty (50') feet and four (4) stories.
- An upper-level setback (See [I]) of twenty (20') feet along Main Streets would ensure that new development along 4th Avenue is setback for the fourth level as part of a development.

[B] Building Uses.

See **Section 4.0 Use and Parking** for further details.

- **[B1] Ground Floor Uses:** Main Streets must occupy at least seventy (70%) percent ground floor area and frontages with active retail uses. All other street types must occupy at least seventy (70%) percent of ground floor area and frontages with active retail uses or passive retail uses. Municipal uses may occupy up to one hundred (100%) percent of the ground floor area and frontages on any street type between 3rd Avenue and 5th Avenue east of Everett Street. Other uses may occupy as pursuant to **Section 4: Use and Parking** of this document.
- **[B2] Upper Floor Uses:** May occupy up to one hundred (100%) of upper floor area on any street type with other uses permitted within this zone pursuant to **Section 4: Use and Parking** of this document. Municipal uses may occupy up to one hundred (100%) percent of the upper floor on any street type between 3rd Avenue and 5th Avenue east of Everett Street.

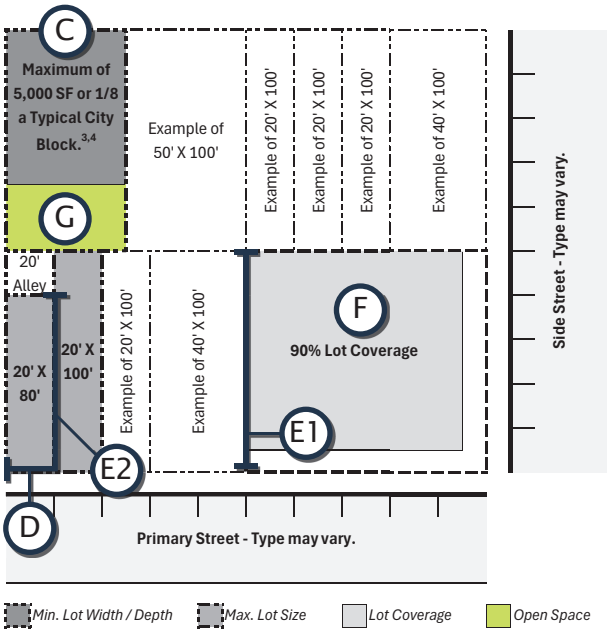


Figure 17. Lot Requirements Diagram (C-G)

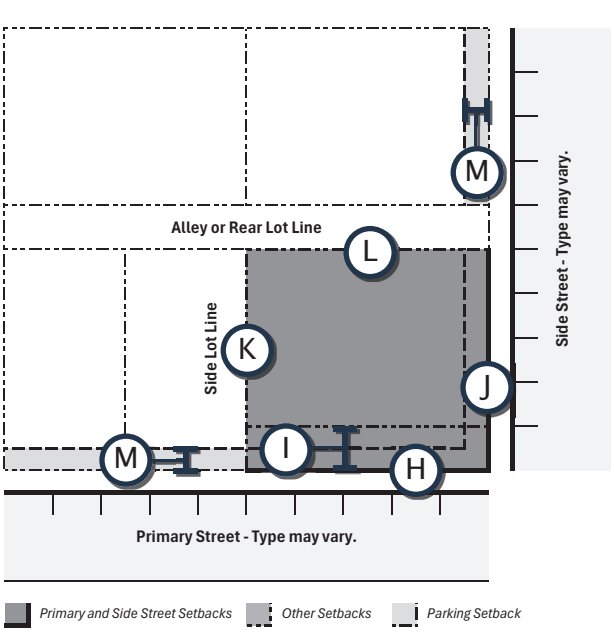


Figure 18. Setback Requirements Diagram (H-M)

DEVELOPMENT STANDARDS.

LOT REQUIREMENTS

[C] Lot Size.

- Maximum five thousand (5,000 SF) square feet or one-eighth (1/8) of a typical city block when located west of NE Dallas St.
- Maximum ten thousand (10,000 SF) square feet or one-quarter (1/4) of a typical city block when located east of NE Dallas St.
- Lot sizes are not applicable to any municipal uses.

[D] Lot Width.

- Minimum twenty (20') feet.

[E] Lot Depth.

- [E1] Minimum one hundred (100') feet.
- [E2] Minimum eighty (80') feet with provision of alley.

[F] Lot Coverage.

- Minimum ninety (90%) percent.
- Coverage may be decreased for municipal uses.

[G] Open or Common Spaces.

- Minimum square feet of usable, shared open or common space per dwelling unit: Ten (10 SF) square feet per dwelling unit.

SETBACK REQUIREMENTS

[H] Primary Street Setback

- Maximum distance of Ground Floor Facade from public ROW on Primary Street: Zero (0') lot line.
- Setback may be increased for municipal uses.

[I] Primary Street Upper-Level Setback

- Minimum distance from Ground Floor Facade for upper-levels in building: Minimum twenty (20') feet for stories three (3) or more. Upper-Level Setback area must be used for common spaces or private outdoor spaces.

[J] Side Street Setback

- Zero (0') feet maximum (Zero Lot Line).

[K] Side Yard Setback

- Zero (0') feet maximum (Zero Lot Line).

[L] Rear Yard / Alley Setback

- Not applicable.

[M] Parking Setback

- Minimum five (5') feet from primary street lot line; and never in front of the primary street or side street facade line.
- See **Section 4.0 Use and Parking** for parking ratios.



Figure 19. Sample Downtown Mixed-Use: Mid Rise Character

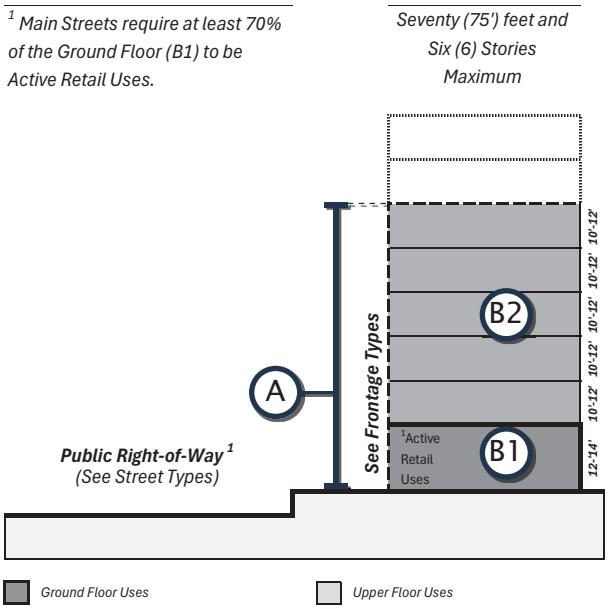


Figure 20. Height and Use Diagram (A-B)

3.2 Downtown Mixed-Use: Mid Rise.

PURPOSE AND INTENT.

1. To recognize and accommodate a mix of uses including retail and residential, within the downtown mixed use – low rise zone within the Downtown Camas boundary;
2. To promote the development of low-rise apartments with active ground floor, live/work units, duplexes, townhomes, triplexes, and quadplexes; and
3. To encourage and accommodate higher density middle housing.

APPLICABILITY.

See **Chapter 18.05: Zoning Map and Districts** for further details.

GENERAL STANDARDS.

[A] Building Height.

- Maximum seventy-five (75') feet and six (6) stories.
- An upper-level setback (See [I]) of twenty (20') feet when located on 5th Avenue directly across from Historic Main Street Core district would ensure that new development near the historic downtown is sensitive to historic buildings.

[B] Building Uses.

See **Section 4.0 Use and Parking** for further details.

- **[B1] Ground Floor Uses:** Main Streets must occupy at least seventy (70%) percent ground floor area and frontages with active retail uses. Mobility Streets and Gateway Streets must occupy at least seventy (70%) percent ground floor area and frontages with active retail uses or passive retail uses. All other streets may occupy a maximum of seventy (70%) percent ground floor area and frontages with residential uses. Other uses may occupy as pursuant to **Section 4: Use and Parking** of this document.

- **[B2] Upper Floor Uses:** May occupy up to one hundred (100%) of upper floor area on any street type with other uses permitted within this zone pursuant to **Section 4: Use and Parking** of this document.

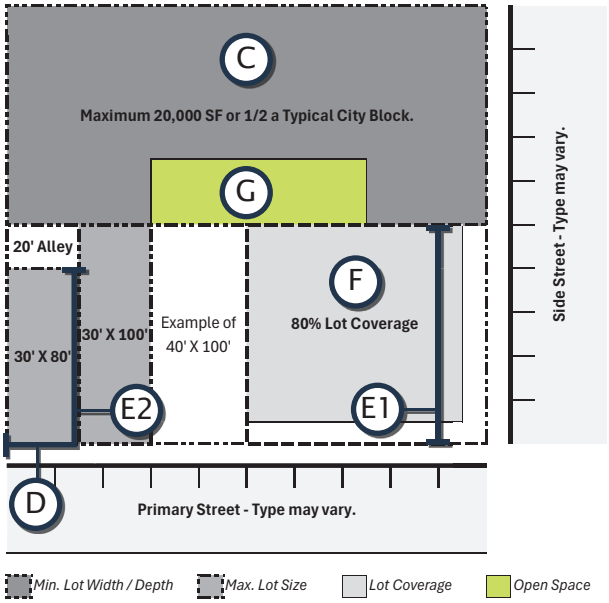


Figure 21. Lot Requirements Diagram (C-G)

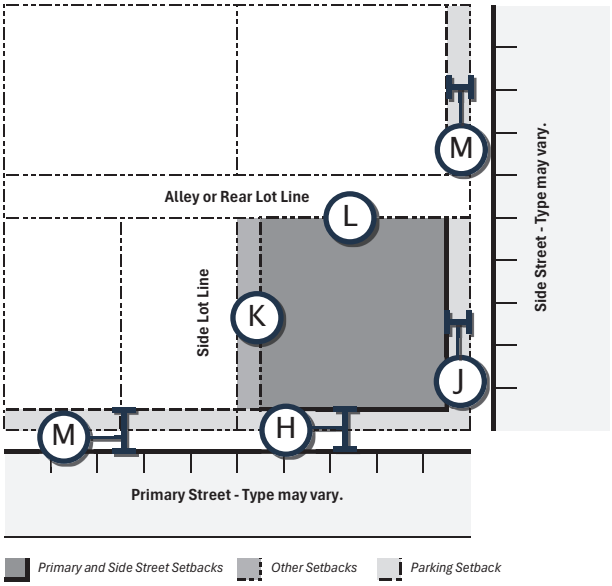


Figure 22. Setback Requirements Diagram (H-M)

DEVELOPMENT STANDARDS.

LOT REQUIREMENTS

[C] Lot Size.

– Maximum twenty thousand (20,000 SF) square feet or one-half (1/2) of a typical city block.

[D] Lot Width.

– Minimum thirty (30') feet.

[E] Lot Depth.

– [E1] Minimum one hundred (100') feet.
– [E2] Minimum eighty (80') feet with provision of alley.

[F] Lot Coverage.

– Minimum eighty (80%) percent.

[G] Open or Common Spaces.

– Minimum square feet of usable, shared open or common space per dwelling unit: Fifty (50 SF) square feet per dwelling unit.

SETBACK REQUIREMENTS

[H] Primary Street Setback

– Maximum distance of Ground Floor Facade from public ROW on Primary Street: Ten (10') feet.

[I] Primary Street Upper-Level Setback

– Minimum distance from Ground Floor Facade for upper-levels in building located on 5th Avenue directly across from Historic Main Street Core: Minimum twenty (20') feet for stories three (3) or more. Upper-Level Setback area must be used for common spaces or private outdoor spaces.

[J] Side Street Setback

– Maximum distance of Ground Floor Facade from public ROW on side street: Ten (10') feet.

[K] Side Yard Setback

– Maximum five (5') feet.

[L] Rear Yard / Alley Setback

– Not applicable.

[M] Parking Setback

– Minimum five (5') feet from primary street lot line; and never in front of the primary street or side street facade line.
– See **Section 4.0 Use and Parking** for parking ratios.

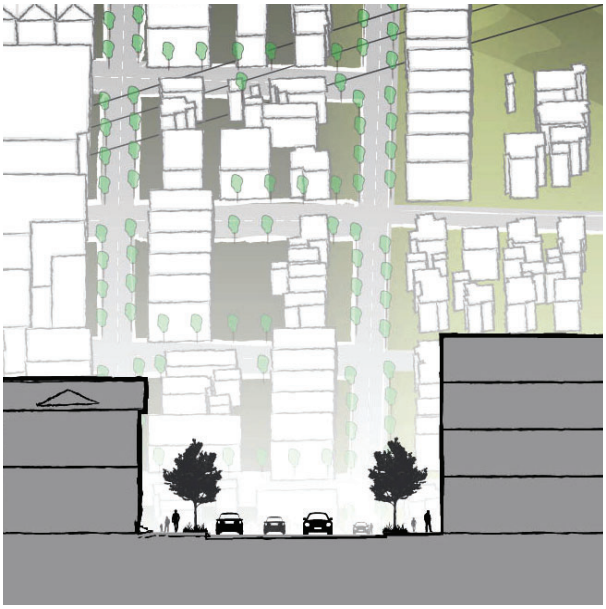


Figure 23. Sample Downtown Mixed-Use: Low Rise Character

3.3 Downtown Mixed-Use: Low Rise.

PURPOSE AND INTENT.

1. To recognize and accommodate a mix of uses including retail and residential, within the downtown mixed use – low rise zone within the Downtown Camas boundary;
2. To promote the development of low-rise apartments with active ground floor, live/work units, duplexes, townhomes, triplexes, and quadplexes; and
3. To encourage and accommodate the adaptive reuse of existing development and emphasize multimodal accessibility and connectivity.

APPLICABILITY.

See **Chapter 18.05: Zoning Map and Districts** for further details.

[1] *Residential Uses are only allowed on the Ground Floor (B1) of Neighborhood Streets.*

[2] *Upper-Level Setback (I) area must be used for common spaces or private outdoor spaces.*

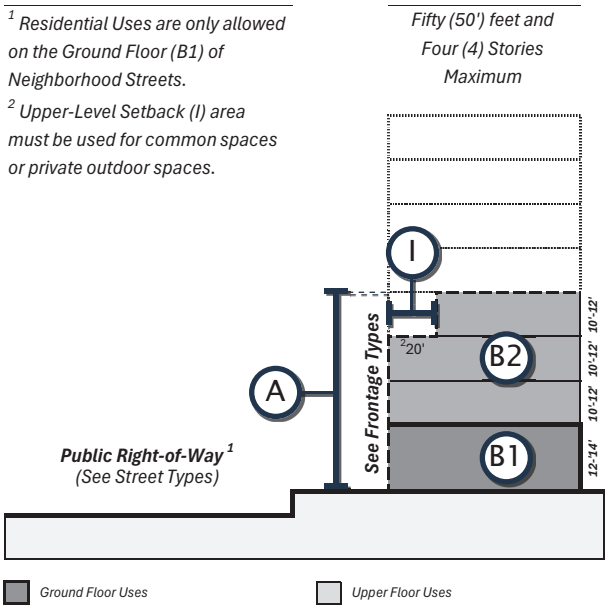


Figure 24. Height and Use Diagram (A-B)

GENERAL STANDARDS.

[A] Building Height.

- Maximum (50') feet and four (4) stories.
- An upper-level setback (See [I]) of twenty (20') feet along all street types will ensure that new development is sensitive to existing residential areas.

[B] Building Uses.

See **Section 4.0 Use and Parking** for further details.

- **[B1] Ground Floor Uses:** Active retail uses and passive retail uses may occupy up to seventy (70%) of ground floor area and frontage on Gateway Streets and Mobility Streets. Residential uses may occupy up to one hundred (100%) percent of ground floor area and frontages on any street. Other uses may occupy as pursuant to **Section 4: Use and Parking** of this document.

- **[B2] Upper Floor Uses:** May occupy up to one hundred (100%) of upper floor area on any street type with other uses permitted within this zone pursuant to **Section 4: Use and Parking** of this document.

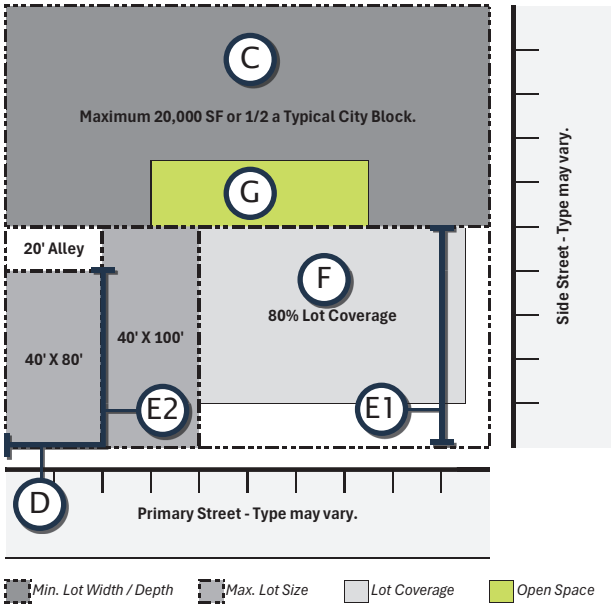


Figure 25. Lot Requirements Diagram (C-G)

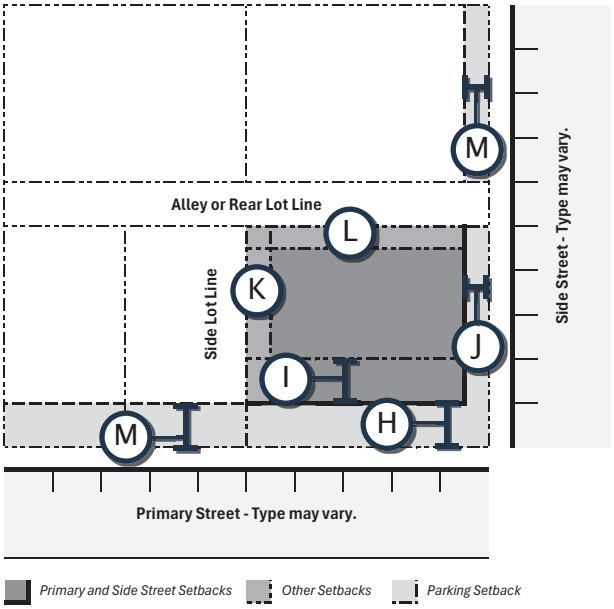


Figure 26. Setback Requirements Diagram (H-M)

DEVELOPMENT STANDARDS.

LOT REQUIREMENTS

[C] Lot Size.

- Maximum twenty thousand (20,000 SF) square feet or one-half (1/2) of a typical city block.

[D] Lot Width.

- Minimum forty (40') feet.

[E] Lot Depth.

- [E1] Minimum one hundred (100') feet.
- [E2] Minimum eighty (80') feet with provision of alley.

[F] Lot Coverage.

- Minimum eighty (80%) percent.

[G] Open or Common Spaces.

- Minimum square feet of usable, shared open or common space per dwelling unit: Fifty (50 SF) square feet per dwelling unit. This provision is not required for single-family residential (attached or detached).
- Requirement does not apply to single-family residential projects.

SETBACK REQUIREMENTS

[H] Primary Street Setback

- Maximum distance of Ground Floor Facade from public ROW on Primary Street: Fifteen (15') feet.

[I] Primary Street Upper-Level Setback

- Minimum distance from Ground Floor Facade for upper-levels in building: Minimum twenty (20') feet for stories four (4) or more. Upper-Level Setback area must be used for common spaces or private outdoor spaces.

[J] Side Street Setback

- Minimum distance of Ground Floor Facade from public ROW on Primary Street: Five (5') feet.
- Maximum distance of Ground Floor Facade from public ROW on Primary Street: Ten (10') feet.

[K] Side Yard Setback

- Maximum five (5') feet.

[L] Rear Yard / Alley Setback

- Minimum five (5') feet.

[M] Parking Setback

- Minimum five (5') feet from primary street lot line; and never in front of the primary street or side street facade line.
- See **Section 4.0 Use and Parking** for parking ratios.



Figure 27. Sample Downtown Residential Character

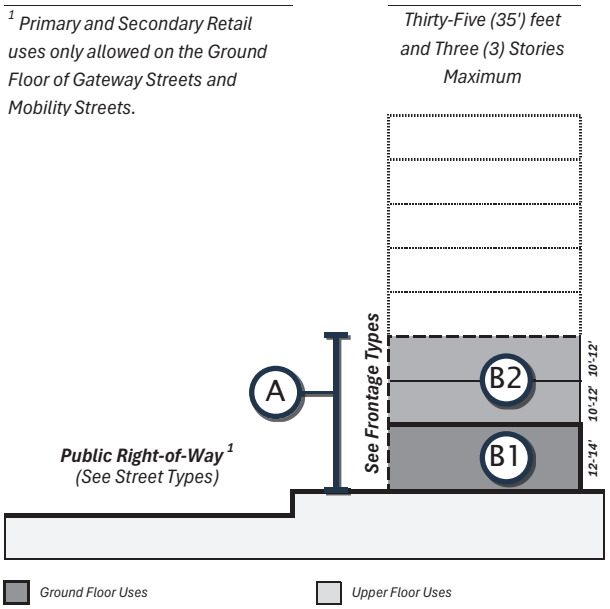


Figure 28. Height and Use Diagram (A-B)

3.4 Downtown Residential.

PURPOSE AND INTENT.

1. To recognize and preserve existing single-family housing stock within the Downtown Camas boundary while supporting gradual redevelopment and the addition of middle housing consisted with the neighborhood's established character;
2. To encourage and accommodate the transitional permeability of existing residential development with downtown commercial activity and emphasize the neighborhood's character and walkability.

APPLICABILITY.

See **Chapter 18.05: Zoning Map and Districts** for further details.

GENERAL STANDARDS.

[A] Building Height.

- Maximum twenty-five (25') feet and two (2) stories on Neighborhood Streets; and
- Maximum thirty-five (35') feet and three (3) stories on all other street types.

[B] Building Uses.

See **Section 4.0 Use and Parking** for further details.

- **[B1] Ground Floor Uses:** Active retail uses and passive retail uses may occupy up to seventy (70%) percent of ground floor area and frontages on Gateway Streets and Connector Streets. Residential uses may occupy up to one hundred (100%) percent of ground floor area and frontages on any street. Other uses may occupy as pursuant to **Section 4: Use and Parking** of this document.
- **[B2] Upper Floor Uses:** May occupy up to one hundred (100%) of upper floor area on any street type with other uses permitted within this zone pursuant **Section 4: Use and Parking** of this document.

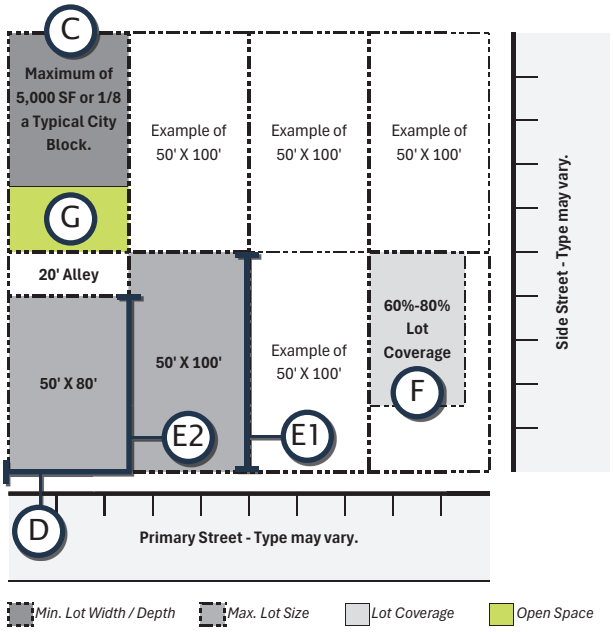


Figure 29. Lot Requirements Diagram (C-G)

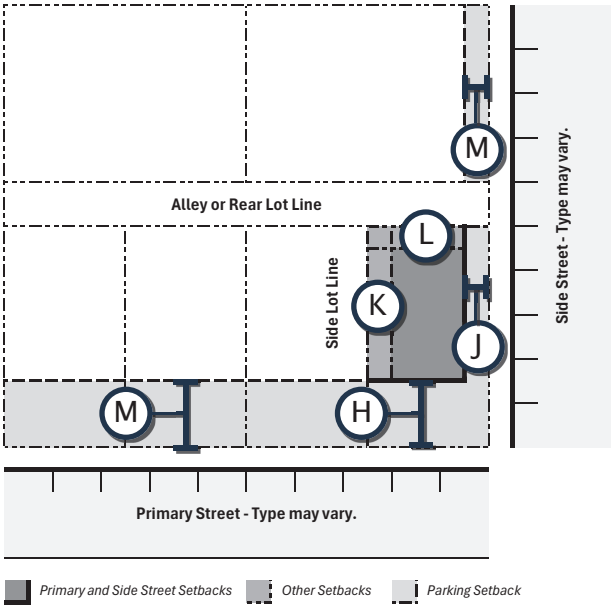


Figure 30. Setback Requirements Diagram (H-M)

DEVELOPMENT STANDARDS.

LOT REQUIREMENTS

[C] Lot Size.
- Maximum five thousand (5,000 SF) square feet or one-eighth (1/8) of a typical city block.

[D] Lot Width.
- Minimum fifty (50') feet.

[E] Lot Depth.
- [E1] Minimum one hundred (100') feet.
- [E2] Minimum eighty (80') feet with provision of alley.

[F] Lot Coverage.
- Minimum sixty (60%) percent.
- Maximum eighty (80%) percent.

[G] Open or Common Spaces.
- Not applicable.

SETBACK REQUIREMENTS

[H] Primary Street Setback
- Minimum distance of Ground Floor Facade from public ROW on Primary Street: Fifteen (15') feet.
- Maximum distance of Ground Floor Facade from public ROW on Primary Street: Twenty-five (25') feet.

[I] Primary Street Upper-Level Setback
- Not applicable.

[J] Side Street Setback
- Minimum distance of Ground Floor Facade from public ROW on Primary Street: Ten (10') feet.

[K] Side Yard Setback
- Minimum five (5') feet; Maximum ten (10') feet.

[L] Rear Yard / Alley Setback
- Minimum five (5') feet.

[M] Parking Setback
- Minimum twenty (20') feet from primary street lot line; and never in front of the primary street or side street facade line.
- See **Section 4.0 Use and Parking** for parking ratios.

4.0 Use and Parking.

PRIMARY USE TYPES[1]	UF/GF	Historic Main Street	Downtown Mixed-Use (Mid Rise)	Downtown Mixed-Use (Low Rise)	Downtown Residential
Active Retail Uses	UF	P[2]	X	X	X
	GF		P	P	P[3]
Communication, Utilities, and Facilities Uses	UF	X[4]	X[4]	X[4]	X[4]
	GF				
Educational Uses	UF	P	P	P	X
	GF	X			
Incidental Uses	UF	*Varies widely, see CMC Chapter 18.07.060.*			
	GF				
Industrial Uses	UF	X	X	X	X
	GF				
Manufacturing and/ or Processing Uses	UF	X	X	X	X
	GF				
Passive Retail Uses	UF	P[1]	P[1]	P[1]	X
	GF	X[1]			P[3]
Recreational, Religious, and Cultural Uses	UF	*Varies widely, see CMC Chapter 18.07.060.*			
	GF				
Residential Uses	UF	P[1]	P	P	P
	GF	X			
Temporary Uses	UF	T	T	T	T
	GF				

P PERMITTED X PROHIBITED T TEMPORARY

Figure 31. Allowable Use by Floor for all Base Zoning Districts

4.1 Use Table.

The following use table provides use authorization for the ground floor (GF) and upper floors (UF) for each base zoning district. Please see **CMC Chapter 18.07.060 Downtown Zoning Districts** for all individual land uses. Please see **CMC 18.11 Parking** for all parking requirements. In the event of a conflict, the zoning code shall supersede this manual.

NOTES:

(1) Verify all individual land uses per CMC Chapter 18.07.060 Downtown Zoning Districts. Verify all percentages allowable per district in Section 3.0 Base Zoning Districts.

(2) Active Retail Uses are required on Ground Floor (GF) of Main Streets.

(3) Active Retail and Passive Retail Uses only permitted on Ground Floor (GF) when located on Gateway Streets or Connector Streets.

(4) Refer to CMC Chapter 18.35 for Wireless Communication Facilities.

4.2 Active and Passive Retail Uses.

To support enforcement of the zoning code provisions in this design manual, commercial uses are classified as either active retail uses or passive retail uses per **CMC Chapter 18.07.060 Downtown Zoning Districts**. These uses are as follows:

[A] Active Retail Uses.

Active retail refers to street-facing, ground-floor uses that encourage walkability and activate sidewalks, such as shops, cafés, restaurants, and other active, customer-oriented businesses. Active retail uses include:

- Antique shop
- Appliance sales and service
- Artisanal/craft/makers
- Bakery (retail)
- Barber and beauty shops
- Book store
- Bowling alley/billiards
- Building, hardware and garden supply store
- Candy; confectionery store
- Clothing store
- Coffee shop, cafe or kiosk
- Day care, mini-center
- Delicatessen (deli)
- Department store
- Event center
- Feed store
- Fitness center/sports club
- Florist shop
- Food cart/food truck/ food delivery business
- Furniture store
- Grocery, neighborhood scale
- Grocery, small scale
- Hotel, motel
- Laundry/dry cleaning (retail)
- Liquor store
- Nursery, plant
- Office supply store
- Pet shops
- Pharmacy
- Photographic/ electronics store
- Restaurant
- Restaurant, fast food
- Second-hand/ consignment store
- Specialty goods production (e.g. brew pub)
- Taverns
- Theater, except drive-in

[B] Passive Retail Uses.

Passive retail refers to commercial activities that primarily serve building occupants or a smaller customer base—such as boutique offices, lobby kiosks, or specialty shops—which typically generate less foot traffic and require less window visibility. Passive retail uses include:

- Animal kennel, commercial boarding
- Animal shelter
- Automobile repair (garage)
- Automobile sales, new or used
- Automobile service station
- Automobile wrecking
- Bakery (wholesale)
- Banks, savings and loan
- Boat building
- Boat repair and sales
- Bus station
- Cabinet and carpentry shop
- Convention center
- Day care center
- Day care, adult
- Day care, family home
- Equipment rental
- Funeral home
- Furniture repair; upholstery
- Gas/fuel station
- Gas/fuel station with mini market
- Grocery, large scale
- Hospital, emergency care
- Household appliance repair
- Industrial supplies store
- Laundry (self-serve)
- Laundry/dry cleaning (industrial)
- Machine shop
- Manufactured home sales lot
- Medical or dental clinics (outpatient)
- Mini-storage/vehicular storage
- Newspaper printing plant
- Nursing, rest, convalescent, retirement home
- Parcel freight depots
- Pawnshop
- Permanent supportive housing
- Plumbing, or mechanical service
- Printing, binding, blue printing
- Professional office(s)
- Public agency
- Real estate office
- Recycling center
- Recycling collection point
- Recycling plant
- Research facility
- Roadside produce stand
- Sand, soil, gravel sales and storage
- Sexually oriented business
- Shoe repair and sales
- Smoke shop
- Stock broker, brokerage firm
- Truck terminals
- Veterinary clinic
- Warehousing, wholesale and trade
- Warehousing, bulk retail



Figure 32. Map of the Street Network In the Downtown Core

5.0 The Street Network.

The street network weaves together and unifies the base zoning districts throughout downtown. The street network plan illustrated above identifies the five (5) street types assigned to all streets within the Downtown area, as also shown in the regulating plan in Section 2.0: The Regulating Plan.

For the purposes of this design manual, these street types assign standards for frontage types, general improvements, and specific street-type standards. They also define activities and standards for the façade zone, encroachment zone, sidewalk zone, and amenities zone, with variations that help shape the distinct character of each street.

STREET TYPES.

- 5.1 Main Streets (MNS)
- 5.2 Connector Streets (CNS)
- 5.3 Mobility Streets (MBS)
- 5.4 Gateway Streets (GWS)
- 5.5 Neighborhood Streets (NHS)

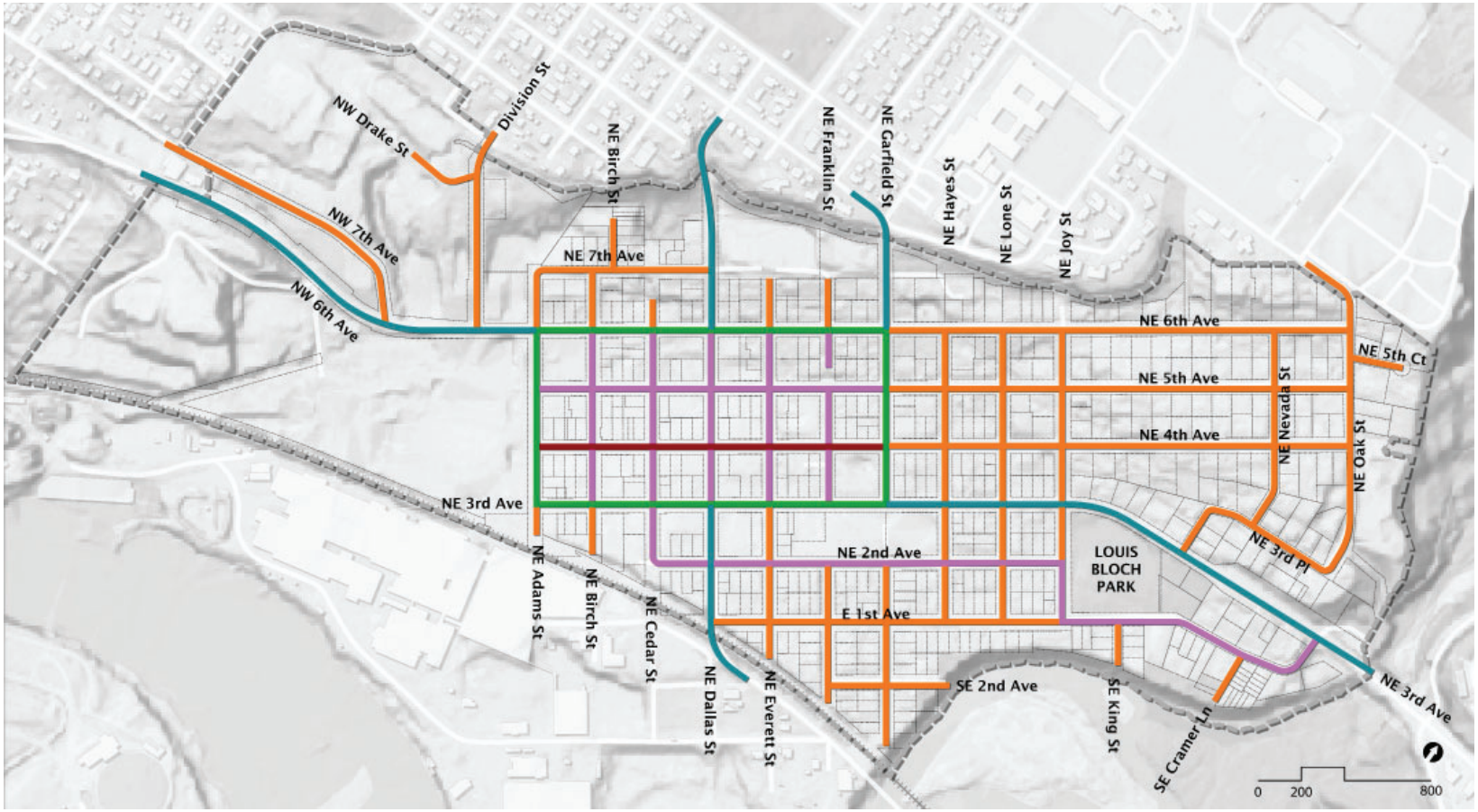


Figure 33. Map of the Street Network

STREET TYPES.

- 5.1 Main Streets (MNS)
- 5.2 Connector Streets (CNS)
- 5.3 Mobility Streets (MBS)
- 5.4 Gateway Streets (GWS)
- 5.5 Neighborhood Streets (NHS)


SNOW WHITE
NOVOCAINE
NTL IMPORTANCE EARNEST



DESIGN STANDARDS

SECTION 6.0 FRONTAGE STANDARDS
SECTION 7.0 PUBLIC REALM STANDARDS
SECTION 8.0 GENERAL STANDARDS



Figure 34. A Range of Frontage Types along Historic 4th Avenue

6.0 Frontage Standards.

Frontage is defined as the area between a building and its lot line (or setback area), including façades, porches, stoops, shopfronts, and yards. In some cases, frontage may extend into the public right-of-way through elements such as awnings, seating, or landscaping. Frontage defines how buildings engage the street, supports walkability, and enhances the public realm. Frontage standards are allowed based on the street type or types adjacent to a lot, and a single building may incorporate more than one applicable frontage type. When frontage standards conflict with other requirements of this manual, the planning official will determine which applies. See general standards **(Section 8.0)** for other improvements related to frontage.

✓ ALLOWED ON THE STREET TYPE.

✗ NOT ALLOWED ON THE STREET TYPE.

FRONTAGE TYPE	Main Street	Connector Street	Mobility Street	Gateway Street	Neighborhood Street
6.1 Alcove Frontage	✗	✓	✓	✓	✗
6.2 Café Frontage	✓	✓	✓	✓	✗
6.3 Civic Frontage	✓	✓	✓	✗	✗
6.4 Forecourt Frontage	✗	✗	✓	✓	✓
6.5 Porch Frontage	✗	✗	✗	✓	✓
6.6 Shop Frontage	✓	✓	✓	✓	✗
6.7 Stoop Frontage	✗	✓	✓	✓	✓
6.8 Walkup Frontage	✗	✓	✓	✓	✓
6.9 Yard Frontage	✗	✗	✗	✗	✓

Figure 35. Allowable Frontage Type by Street Type



Figure 36. Example of Alcove Frontage

6.1 Alcove Frontage.

Alcove frontage can be described as typical passive retail frontage with awnings or recessed spaces and doors with limited glass and less outdoor-focused spaces; often used for passive retail (such as personal services, medical offices, or other less-active uses). Must meet the following standards:

- Maximum coverage of fifty (50%) percent of primary building façade.
- Minimum width of eight (8') feet and maximum depth of six (6') feet.
- Entry point must be located within the covered alcove area.
- Columns supporting the alcove and other elements such as awnings must not be located within the public right-of-way.

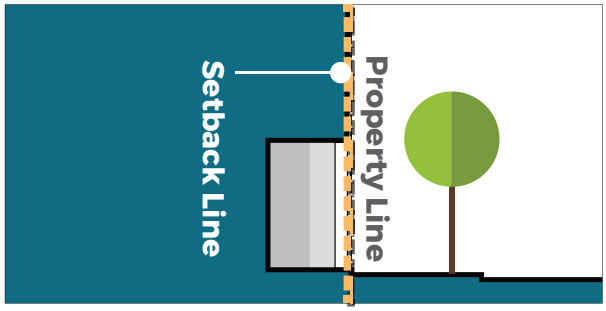


Figure 37. Typical Cross Section

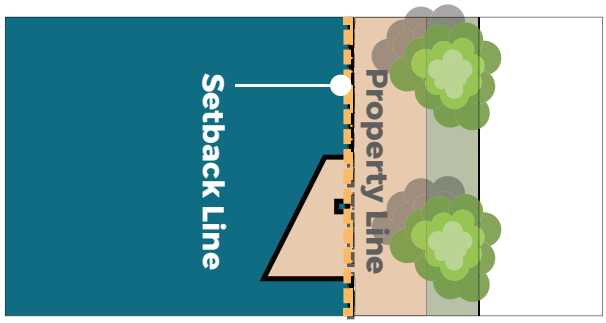


Figure 38. Typical Plan Diagram

STREET TYPE	ALLOWANCE
Main Street	✗
Connector Street	✓
Mobility Street	✓
Gateway Street	✓
Neighborhood Street	✗

Figure 39. Street Type Allowance



Figure 40. Example of Café Frontage

6.2 Café Frontage.

Café frontage can be described as typical active retail frontage with awnings, windows, entry points, and fixed walls or railings around exterior spaces for outdoor dining; often used for active retail uses (such as bars, dining, and other entertainment purposes). Must meet the following standards:

- Minimum of eighty (80%) percent facade transparency on all street types.
- Maximum depth of four (4') feet in the window zone and minimum depth of six (6') feet in the amenities zone.
- Must retain minimum of six (6') feet sidewalk zone through the café area; and limit any "pinch points" at four (4') feet in width for maximum of ten (10') feet distance.
- Medallions or markings on the ground may be used to delineate café area.
- Vertical barriers are allowed as required by the LCB for any business serving alcohol; and minimum café entry points in vertical barrier required every eight (8') feet.
- When included, a vertical barrier must be a maximum of forty-two (42") tall and minimum two (2") inch wide separating cafe from other spaces.

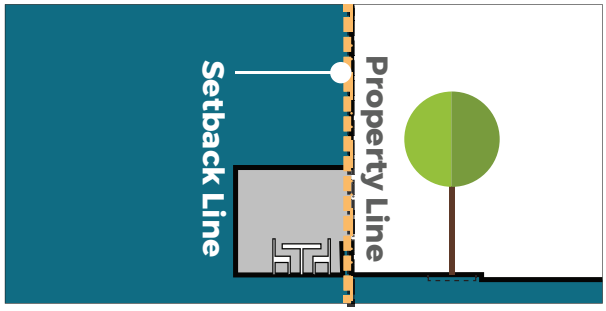


Figure 41. Typical Cross Section

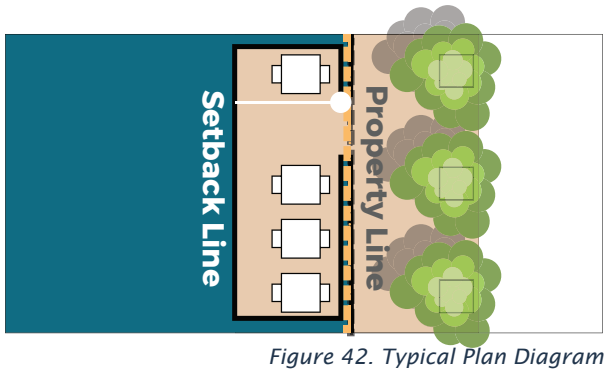


Figure 42. Typical Plan Diagram

STREET TYPE	ALLOWANCE
Main Street	✓
Connector Street	✓
Mobility Street	✓
Gateway Street	✓
Neighborhood Street	✗

Figure 43. Street Type Allowance



Figure 44. Example of Civic Frontage

6.3 Civic Frontage.

Civic frontage can be described as typical frontages for civic uses—such as libraries, city halls, schools, and places of worship—often include a single point of entry and adjacent exterior public spaces, but have limited requirements to let them reflect their civic importance, distinctive character, or public-serving functions. Must meet the following standards:

- Primary entry point must be clear, visible, and covered and accessed by accessible pedestrian walkways linking with the primary street.
- No surface parking is allowed in any of the frontage between the building facade and the primary street.
- Public spaces must be hardscaped, landscaped, and provide amenities (such as benches, trash cans, public art, etc.).

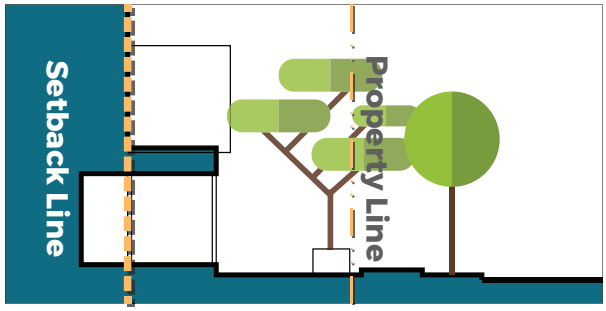


Figure 45. Typical Cross Section

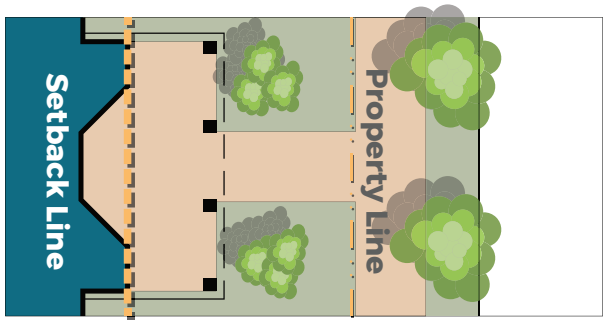


Figure 46. Typical Plan Diagram

STREET TYPE	ALLOWANCE
Main Street	✓
Connector Street	✓
Mobility Street	✗
Gateway Street	✗
Neighborhood Street	✗

Figure 47. Street Type Allowance



Figure 48. Example of Forecourt Frontage

6.4 Forecourt Frontage.

Forecourt frontage can be described as typical active retail frontage with awnings, windows, entry points, and fixed walls or railings around exterior spaces for outdoor dining; often used for active retail uses (such as bars, dining, and other entertainment purposes). Must meet the following standards:

- Maximum coverage of fifty (50%) and thirty (30') feet of primary building façade.
- Maximum depth of thirty (30') feet.
- Must be accessed by accessible pedestrian walkways.
- Walls or fences enclosing forecourts must be no less than forty-two (42") and no greater than seven (7') feet tall; and no less than two (2") inches thick.
- Gates must be at least thirty-six (36") inches wide.
- Must not be located within the public right-of-way.

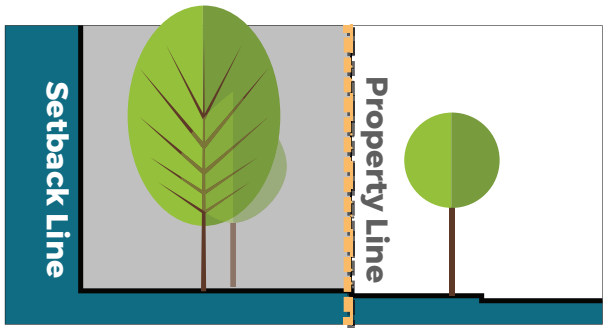


Figure 49. Typical Cross Section

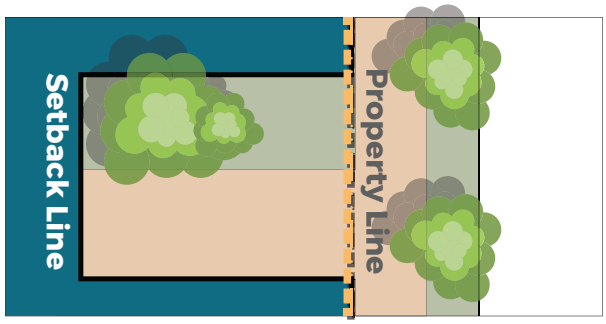


Figure 50. Typical Plan Diagram

STREET TYPE	ALLOWANCE
Main Street	✗
Connector Street	✗
Mobility Street	✓
Gateway Street	✓
Neighborhood Street	✓

Figure 51. Street Type Allowance



Figure 52. Example of Porch Frontage

6.5 Porch Frontage.

Porch frontage can be described as typical single family (1 unit) or small, multifamily (2-4 unit) frontage which consists of a wide, large space with seating area, covering, small run of stairs, landscaping, and fencing to blend with a variety of housing types. Must meet the following standards:

- Minimum coverage of seventy-five (75%) of primary building façade.
- Minimum clear depth of six (6') feet and maximum clear depth of ten (10') feet on primary building façade.
- Minimum height of eight (8') feet above the finished first floor grade.
- Landscaping such as trees, shrubs, and other ground cover must be provided in front yard setbacks.
- May not be located within the public right-of-way.

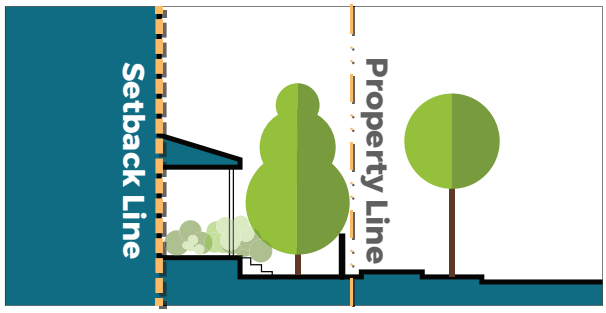


Figure 53. Typical Cross Section

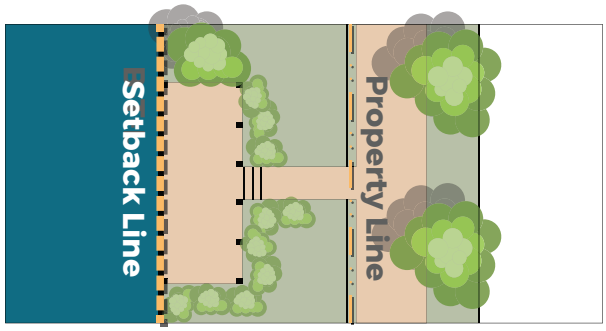


Figure 54. Typical Plan Diagram

STREET TYPE	ALLOWANCE
Main Street	✗
Connector Street	✗
Mobility Street	✗
Gateway Street	✓
Neighborhood Street	✓

Figure 55. Street Type Allowance



Figure 56. Example of Shop Frontage

6.6 Shop Frontage.

Shop frontage can be described as typical active retail frontage with awnings, windows, entry points, and storefront displays; often used for active retail uses (such as shopping or sales or dining with no fixed outdoor seating). Must meet the following standards:

- Minimum of eighty (80%) percent facade transparency on all street types.
- Minimum linear awning coverage of seventy-five (75%) percent of primary building façade, and must cover all windows and points of entry.
- Minimum four (4') foot awning covering depth and maximum six (6') foot awning covering depth (over the window zone).
- Minimum awning height of eight (8') feet above the adjacent sidewalk.
- Must include planters, public art, movable seating, or other amenities in the window zone where feasible.
- May be used to meet Weather Protection requirements for the street type.

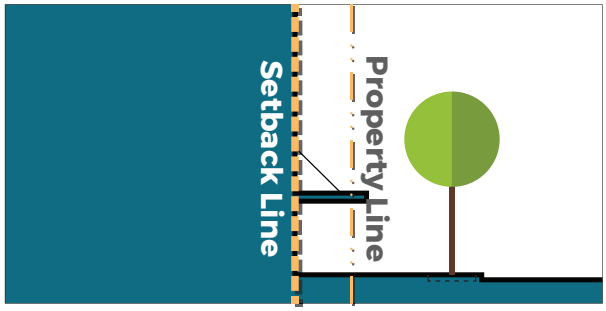


Figure 57. Typical Cross Section

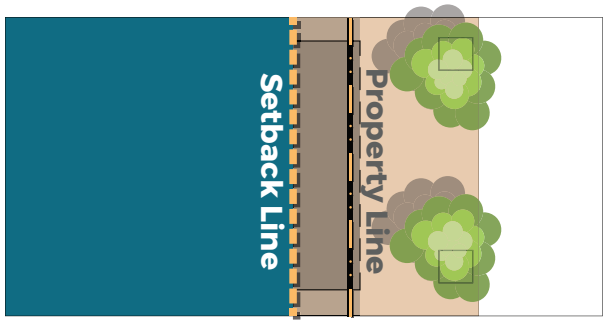


Figure 58. Typical Plan Diagram

STREET TYPE	ALLOWANCE
Main Street	✓
Connector Street	✓
Mobility Street	✓
Gateway Street	✓
Neighborhood Street	✗

Figure 59. Street Type Allowance



Figure 60. Example of Stoop Frontage

6.7 Stoop Frontage.

Stoop frontage can be described as typical single family (1 unit) or small, multifamily (2-4 unit) frontage which consists of a small porch area with covering, small run of stairs, landscaping, and fencing to blend with a variety of housing types. Must meet the following standards:

- Maximum coverage of twenty-five (25%) of primary building façade.
- Minimum clear depth of four (4') feet and maximum clear depth of six (6') feet on primary building façade.
- Must not be elevated greater than six (6') feet above the adjacent sidewalk.
- Landscaping such as trees, shrubs, and other ground cover must be provided in front yard setbacks.
- Steps or stairs associated with a stoop that extend into the public right-of-way must not impeded ADA accessibility.

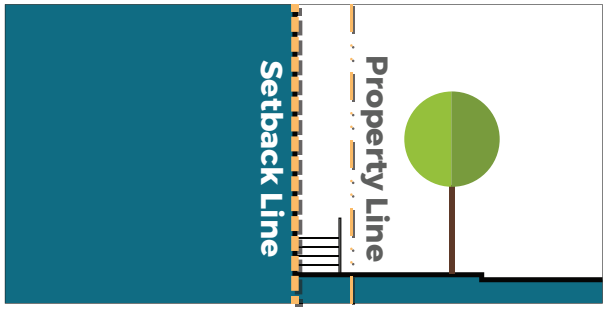


Figure 61. Typical Cross Section

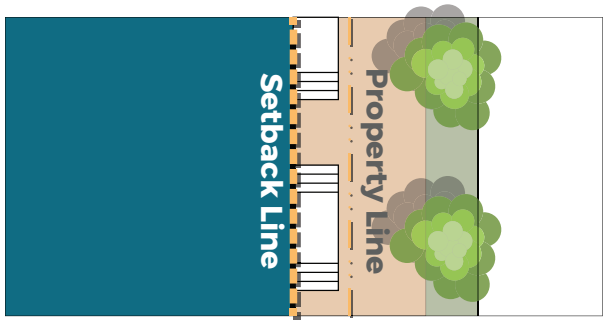


Figure 62. Typical Plan Diagram

STREET TYPE	ALLOWANCE
Main Street	✗
Connector Street	✓
Mobility Street	✓
Gateway Street	✓
Neighborhood Street	✓

Figure 63. Street Type Allowance



Figure 64. Example of Walkup Frontage

6.8 Walkup Frontage.

Walkup frontage can be described as typical urban residential frontage with covered entry point, glass, and some public realm improvements to reinforce the building wall, match more commercial context, and maintain an urban street context. Must meet the following standards:

- Minimum three (3') foot deep and five (5') foot wide covering (in the window zone) over all entry points.
- Finished ground floor must not be elevated greater than six (6") inches above the adjacent sidewalk.
- Must provide built-in planters and landscaping in setback area when not zero lot line to maintain the urban wall.
- Only rain coverings may extend over property line and into public right-of-way.

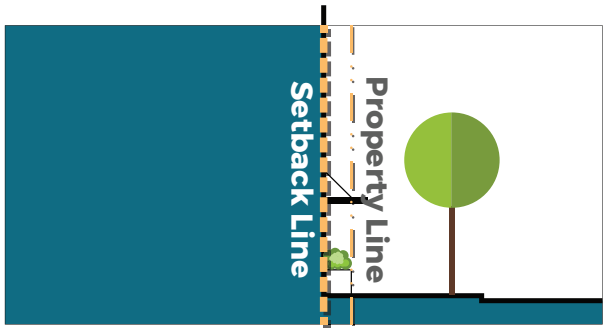


Figure 65. Typical Cross Section

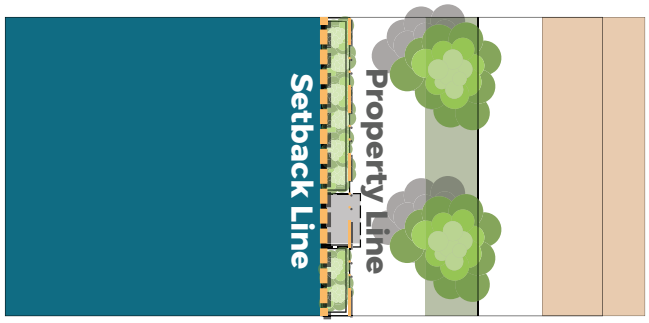


Figure 66. Typical Plan Diagram

STREET TYPE	ALLOWANCE
Main Street	✗
Connector Street	✓
Mobility Street	✓
Gateway Street	✓
Neighborhood Street	✓

Figure 67. Street Type Allowance



Figure 68. Example of Yard Frontage

6.9 Yard Frontage.

Yard frontage can be described as typical single family (1 unit) or small, multifamily (2-4 unit) frontage which is mostly limited to covered entryway with grassy area, landscaping, and fencing to blend with a variety of housing types. Must meet the following standards:

- Retaining walls or terracing required for yards elevated greater than three (3') feet above the grade of the adjacent sidewalk.
- Fencing required for adjacent side lots, minimum of four (4') feet tall.
- In lieu of fencing, a landscape buffer (that when full maturity) is no less than two (2') feet wide and no less than four (4') feet tall must be provided.
- Landscaping such as trees, shrubs, and other ground cover must be provided in front yard setbacks.
- May not be located within the public right-of-way.

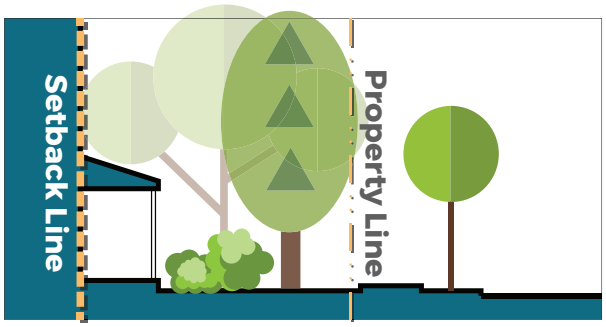


Figure 69. Typical Cross Section for a Yard

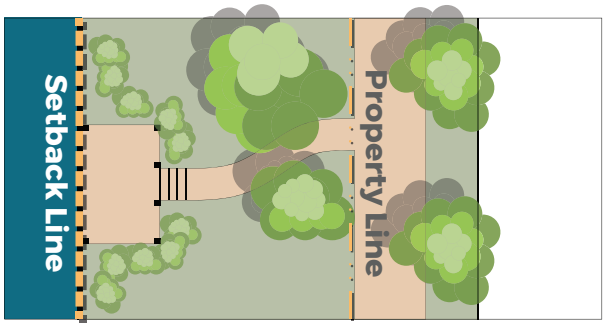


Figure 70. Yard Typical Plan Diagram for a Yard

STREET TYPE	ALLOWANCE
Main Street	✗
Connector Street	✗
Mobility Street	✗
Gateway Street	✗
Neighborhood Street	✓

Figure 71. Street Type Allowance



Figure 72. Example of a Blank Wall in Downtown Camas

7.0 Public Realm Standards.

To support implementation of the street network (**Section 5.0**) throughout Downtown Camas, each street type includes a set of standards for the zones of the public realm. These public realm standards establish expectations for the design, function, and character of spaces between the building façade and the curb lines, including sidewalks, planting areas, amenity zones, lighting, and furnishings. They provide the essential regulations for how these elements must enhance walkability, safety, comfort, and visual quality while supporting adjacent land uses.

PUBLIC REALM	SECTION
Main Street Public Realm Standards	7.1
Connector Street Public Realm Standards	7.2
Mobility Street Public Realm Standards	7.3
Gateway Street Public Realm Standards	7.4
Neighborhood Street Public Realm Standards	7.5

Figure 73. Chapter Index for Public Realm Standards

7.1 Main Streets (MNS) Public Realm

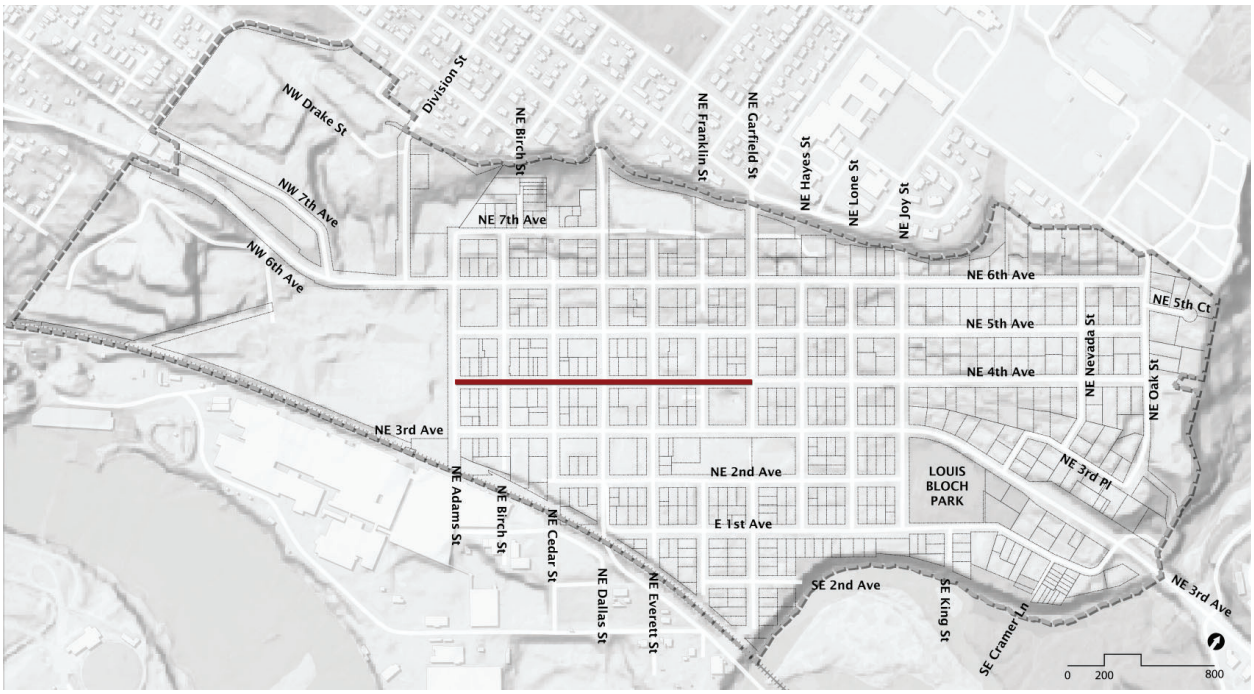


Figure 74. Map of Main Streets in Downtown Camas

The purpose of the public realm standards for the main street public realm is to reinforce 4th Avenue as the community's central activity area by establishing a cohesive, walkable streetscape. The standards regulate elements within the facade zone, encroachment zone, and amenities zone; while maintaining a clear sidewalk zone.

NAME	TYPICAL CHARACTERISTICS
Public Realm Space	*Ten (10') feet minimum (both sides), eighteen (18') feet maximum (one side) > Includes larger extended curb areas due to "chicane" street and parking configuration.*
Sidewalk Width	*Unobstructed clear width of six (6') feet is preferred; may be reduced to four (4') feet at "pinch points" for no more than ten (10') feet in distance.*

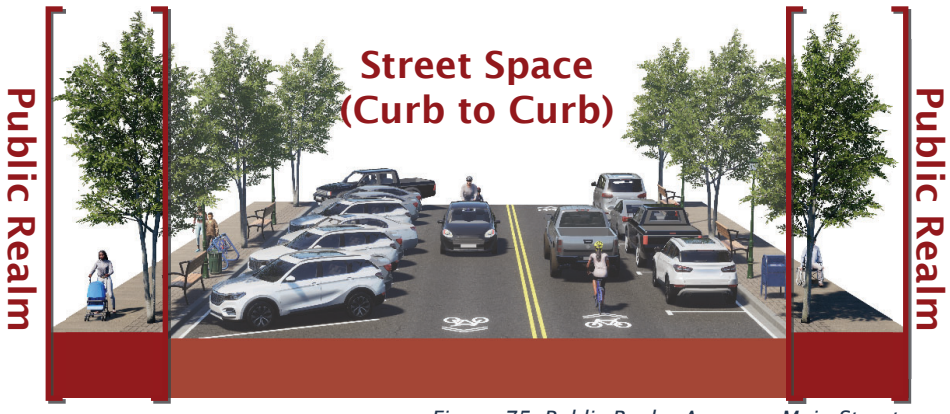


Figure 75. Public Realm Areas on Main Streets

7.1 Main Streets (MNS) Public Realm

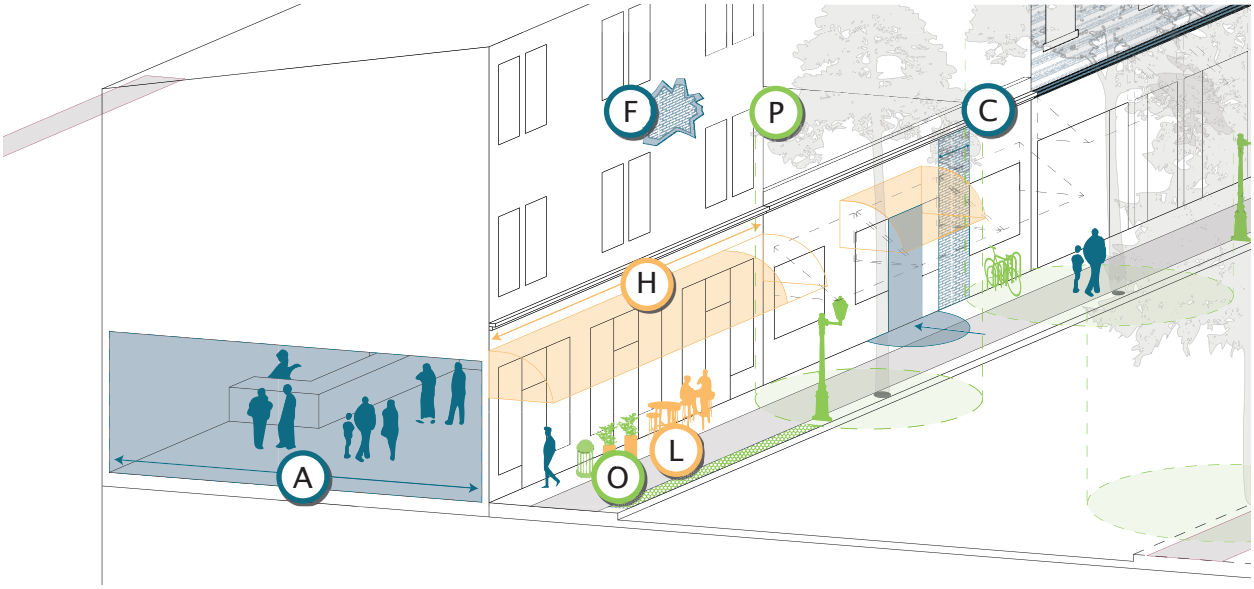


Figure 76. Typical Main Street Segment Diagram

7.1.1 Facade Zone.

[A] Retailing Depth
- Minimum thirty (30') feet depth for ground-floor retail to support viable commercial activity.

[B] Ground Floor Transparency
- Minimum sixty (60%) percent transparency between two (2') feet and ten (10)' feet above sidewalk grade using clear, non-reflective glass.
- Transparency must be maintained on existing buildings when renovated, restored, or modified.

[C] Blank Wall Limitations
- No length of wall greater than ten (10') feet without architectural articulation including transparency, plane breaks, or entrances.

[D] Horizontal Banding
- The ground floor shall be emphasized through banding with material or color differentiation or projection of two (2") inches to six (6") inches at a height between twelve (12') feet and fourteen (14') feet above the sidewalk.

[E] Pedestrian Entrances
- Entrances must be clearly visible from the street and directly accessible from the sidewalk.
- Minimum fifty (50%) transparent for visual connection.
- Multi-tenant buildings must have entrances for each tenant.

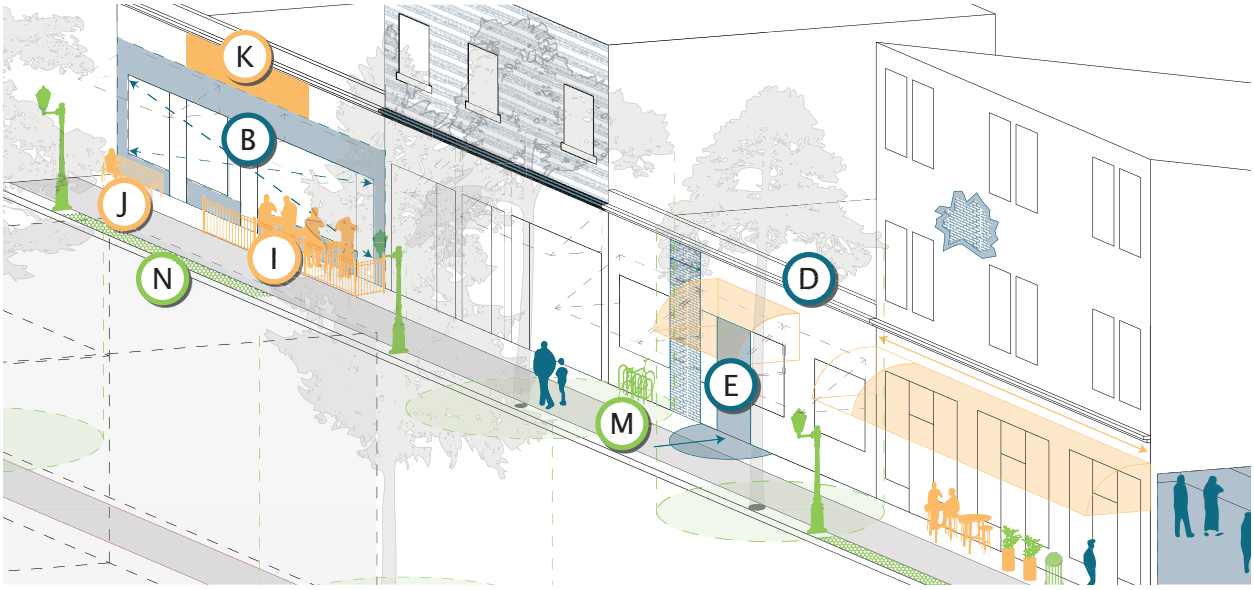
[F] Materiality and Colors
- Materials and finishes shall be durable, low-maintenance, weather-resistant, and drawn from a muted, coordinated palette consistent with the established downtown character; highly reflective, unfinished, or overly bright colors are prohibited.

[G] Setback Buffering
- Not applicable and not identified on diagram.

7.1.2 Encroachment Zone.

[H] Weather Protection
- Eighty (80%) percent of linear front facades must have rain protection or awnings with minimum four (4') feet covering depth and must include all entrances, exits, and windows.

[I] Vertical Barriers
- Use transparent or semi-transparent materials for outdoor dining enclosures.
- Ensure dining walls do not obstruct pedestrian flow.
- Dining enclosure must not exceed forty-two (42") inches in height.
- Barriers shall be constructed of durable, weather-resistant materials, securely anchored or weighted for stability, capable of withstanding wind and pedestrian contact, and shall not include temporary, flimsy, or unfinished materials.



[J] Outdoor Seating
- Provide modular, movable, and durable seating in public spaces. Ensure seating areas are shaded and accessible.

[K] Building Signage
- Signs shall be pedestrian-scaled, architecturally integrated, legible, durable, and not internally illuminated.
- See **Chapter 18.15 Signs** for standards.

[L] Movable Elements
- Provide movable seating, planters, and furnishings to support active use and seasonal programming.

7.1.3 Amenities Zone.

[M] Multimodal Features
- Provide bike racks, scooter parking, and information kiosks adjacent to the intersection or mid-block crossing.
- See **Chapter 8.3 Hardscaping** for standards.

[N] Pervious Surfaces
- Use permeable pavers where possible to contribute to a minimum twenty (20%) percent permeability within each block.

[O] Planters
- Planter are required.
- See **Chapter 8.2 Landscaping** for standards.

[P] Street Tree Canopy
- Maintain a continuous canopy achieving thirty (30%) percent to sixty (60%) percent street tree canopy over the total sidewalk area at maturity to reinforce pedestrian comfort and street character.
- Tree grates are required.
- See **Chapter 8.2 Landscaping** for standards.

[Q] Hardscaping
- See **Chapter 8.3 Hardscaping** for standards.

[R] Lighting
- Building, window, and decorative overhead lighting required.
- See **Chapter 8.4 Lighting** for standards.
- Must incorporate a minimum of three (3) of the lighting types identified in **8.4.1 Lighting Types**.

[S] Screening
- See **Chapter 8.5 Screening** for standards.

[T] Public Art
- See **Chapter 8.6 Public Art** for standards.

This Page Left Intentionally Blank

7.2 Connector Streets (CNS) Public Realm

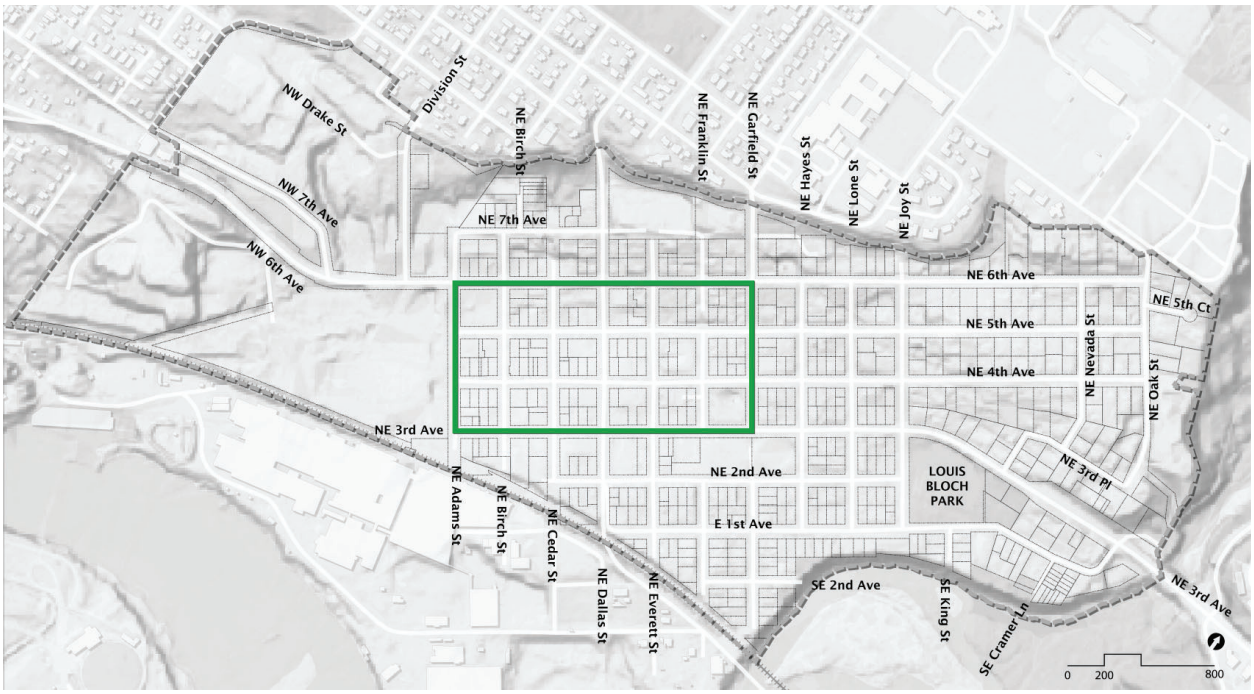


Figure 77. Map of Connector Streets in Downtown Camas

The purpose of the public realm standards for the connector street public realm is to reinforce the edges of the downtown core area and better link walkability to new downtown areas. The standards regulate elements within the facade zone, encroachment zone, and amenities zone; while maintaining a clear sidewalk zone.

NAME	TYPICAL CHARACTERISTICS
Public Realm Space	*Up to fourteen (14') feet maximum (both sides) > May include larger extended curb areas at intersections or mid-blocks.*
Sidewalk Width	*Unobstructed clear width of six (6') feet is preferred; may be reduced to four (4') at "pinch points" for no more than ten (10') feet in distance.*



Figure 78. Public Realm Areas on Connector Streets

7.2 Connector Streets (CNS) Public Realm

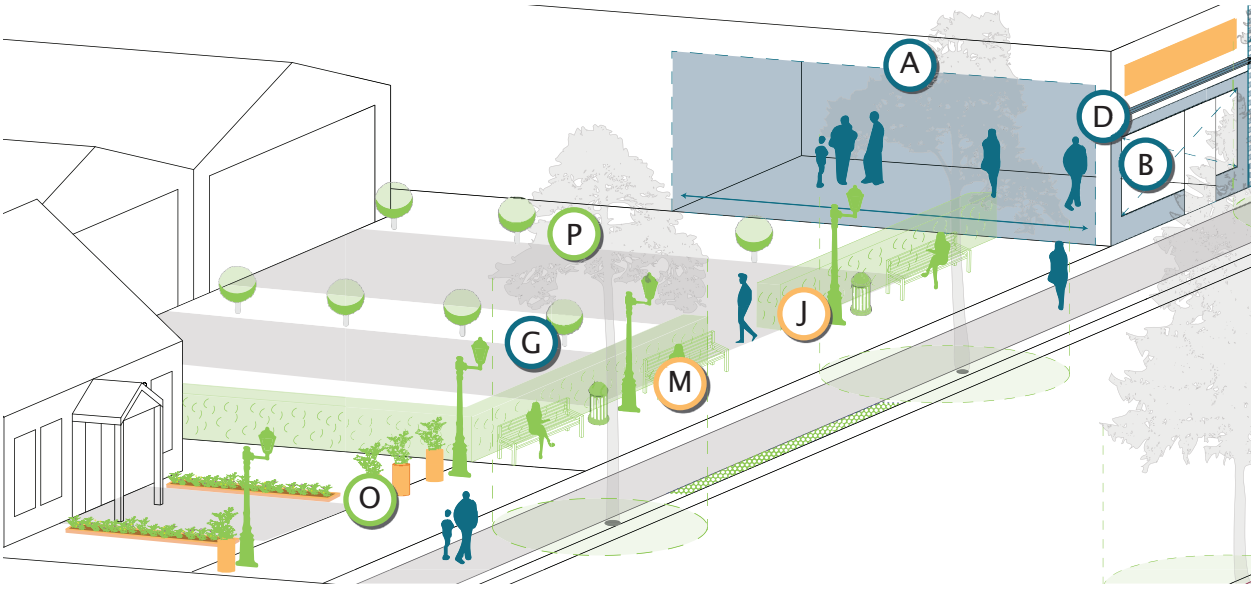


Figure 79. Typical Connector Street Segment Diagram

7.2.1 Facade Zone.

[A] Retailing Depth.

– Minimum twenty five (25') feet depth for ground-floor retail to support viable commercial activity, when applicable.

[B] Ground Floor Transparency.

– Minimum forty (40%) percent transparency between two (2') feet and ten (10') feet above sidewalk level using clear, non-reflective glass.

[C] Blank Wall Limitations.

– No length of wall greater than fifteen (15') feet without architectural articulation including transparency, plane breaks, or entrances.

[D] Horizontal Banding.

– The ground floor shall be emphasized through banding with material differentiation or projection of two (2") to six (6") inches at a height between twelve (12') feet and fourteen (14') feet above the sidewalk.

[E] Pedestrian Entrances.

– Entrances must be clearly visible from the street and directly accessible from the sidewalk.
– Minimum fifty (50%) transparent for visual connection.
– Multi-tenant buildings must have entrances for each tenant.

[F] Materiality and Colors.

– Materials and finishes shall be durable, low-maintenance, weather-resistant, and drawn from a muted, coordinated palette consistent with the established downtown character; highly reflective, unfinished, or overly bright colors are prohibited.

[G] Setback Buffering.

– Use landscaped buffers with seating, lighting, walls, screening, planters and public art to create a sense of enclosure. Ensure that at least forty (40%) percent of the setback frontage area includes seating, lighting, and hardscaping.

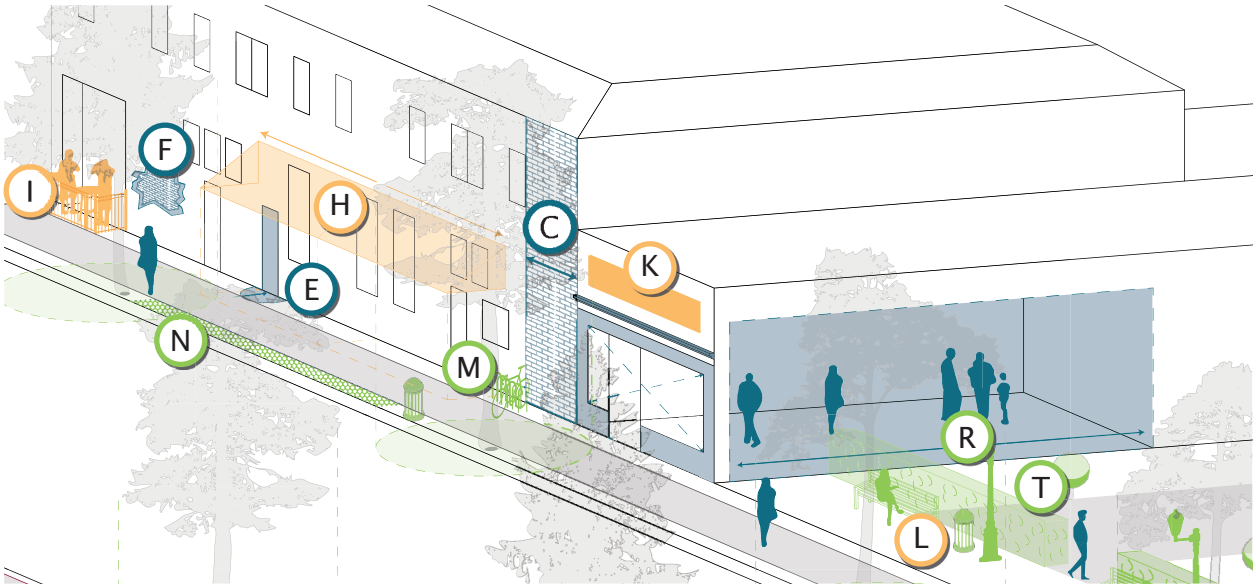
7.2.2 Encroachment Zone.

[H] Weather Protection.

– Sixty (60%) percent of linear front facades must have rain protection or awnings with minimum four (4') feet covering depth and must include all entrances, exits, and windows.

[I] Vertical Barriers.

– Use transparent or semi-transparent materials for outdoor dining enclosures. Ensure dining walls do not obstruct pedestrian flow.
– Dining enclosure must not exceed forty-two (42") inches in height.



– Barriers shall be constructed of durable, weather-resistant materials, securely anchored or weighted for stability, capable of withstanding wind and pedestrian contact, and shall not include temporary, flimsy, or unfinished materials.

[J] Outdoor Seating.

– Provide modular, movable, and durable seating in public spaces. Ensure seating areas are shaded and accessible.

[K] Building Signage.

– Signs shall be pedestrian-scaled, architecturally integrated, legible, durable, and not internally illuminated.
– See **Chapter 18.15 Signs** for standards.

[L] Movable Elements

– Provide movable seating, planters, and furnishings to support active use and seasonal programming.

7.2.3 Amenities Zone.

[M] Multimodal Features.

– Provide bike racks, scooter parking, and information kiosks at regular intervals.
– See **Chapter 8.3 Hardscaping** for standards.

[N] Pervious Surfaces.

– Use permeable pavers where possible to contribute to a minimum twenty-five (25%) percent permeability within each block.

[O] Planters.

– Planter are recommended.
– See **Chapter 8.2 Landscaping** for standards.

[P] Street Tree Canopy.

– Maintain a continuous canopy achieving thirty (30%) percent to sixty (60%) percent street tree canopy over the total sidewalk area at maturity to reinforce pedestrian comfort and street character.
– Tree grates are required.
– See **Chapter 8.2 Landscaping** for standards.

[Q] Hardscaping.

– See Chapter 8.3 Hardscaping for standards.

[R] Lighting.

– Building and window lighting required
– See **Chapter 8.4 Lighting** for standards.
– Must incorporate a minimum of three (3) of the lighting types identified in **8.4.1 Lighting Types**.

[S] Screening.

– See **Chapter 8.5 Screening** for standards.

[T] Public Art.

– See **Chapter 8.6 Public Art** for standards.

This Page Left Intentionally Blank

7.3 Mobility Streets (MBS) Public Realm

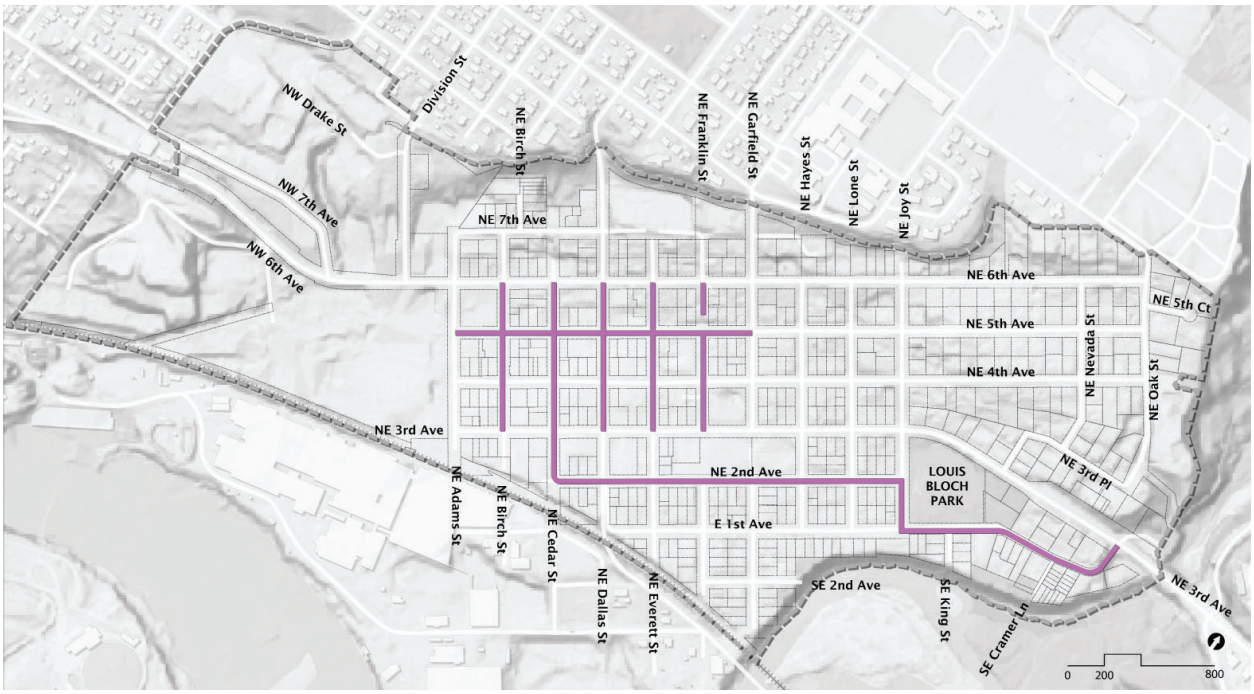


Figure 80. Map of Mobility Streets in Downtown Camas

The purpose of the public realm standards for the mobility street public realm is to balance efficient movement through downtown with a safe and comfortable multi-modal environment. The standards regulate elements within the facade zone, encroachment zone, and amenities zone; while maintaining a clear sidewalk zone.

NAME	TYPICAL CHARACTERISTICS
Public Realm Space	*Eleven (11') feet minimum to fourteen (14') feet maximum (both sides) > May include larger extended curb areas at intersections or mid-blocks.*
Sidewalk Width	*Unobstructed clear width of six (6') feet is preferred; may be reduced to four (4') at "pinch points" for no more than ten (10') feet in distance.*



Figure 81. Public Realm Areas on Mobility Streets

7.3 Mobility Streets (MBS) Public Realm

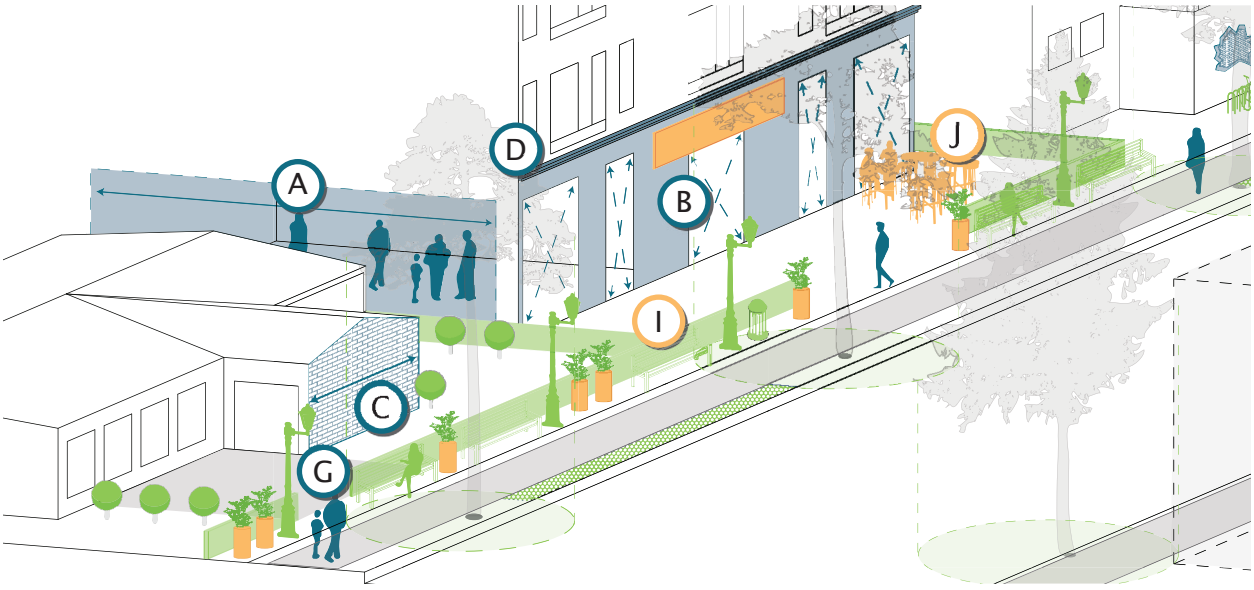


Figure 82. Typical Mobility Street Segment Diagram

7.3.1 Facade Zone.

[A] Retailing Depth.

– Minimum twenty (20') feet depth for ground-floor retail to support viable commercial activity, when applicable.

[B] Ground Floor Transparency.

– Minimum forty (40%) percent transparency between two (2') feet and ten (10') feet above sidewalk level using clear, non-reflective glass.

[C] Blank Wall Limitations.

– No length of wall greater than fifteen (15') feet without architectural articulation including transparency, plane breaks, or entrances.

[D] Horizontal Banding.

– The ground floor shall be emphasized through banding with material differentiation or projection of two (2") to six (6") inches at a height between twelve (12') feet and fourteen (14') feet above the sidewalk.

[E] Pedestrian Entrances.

– Entrances must be clearly visible from the street and directly accessible from the sidewalk.
– Minimum fifty (50%) transparent for visual connection.
– Multi-tenant buildings must have entrances for each tenant.

[F] Materiality and Colors.

– Materials and finishes shall be durable, low-maintenance, weather-resistant, and drawn from a muted, coordinated palette consistent with the established downtown character; highly reflective, unfinished, or overly bright colors are prohibited.

[G] Setback Buffering.

– Use landscaped buffers with seating, lighting, walls, screening, planters and public art to create a sense of enclosure. Ensure that at least sixty (60%) percent of the setback frontage area includes seating, lighting, and hardscaping.

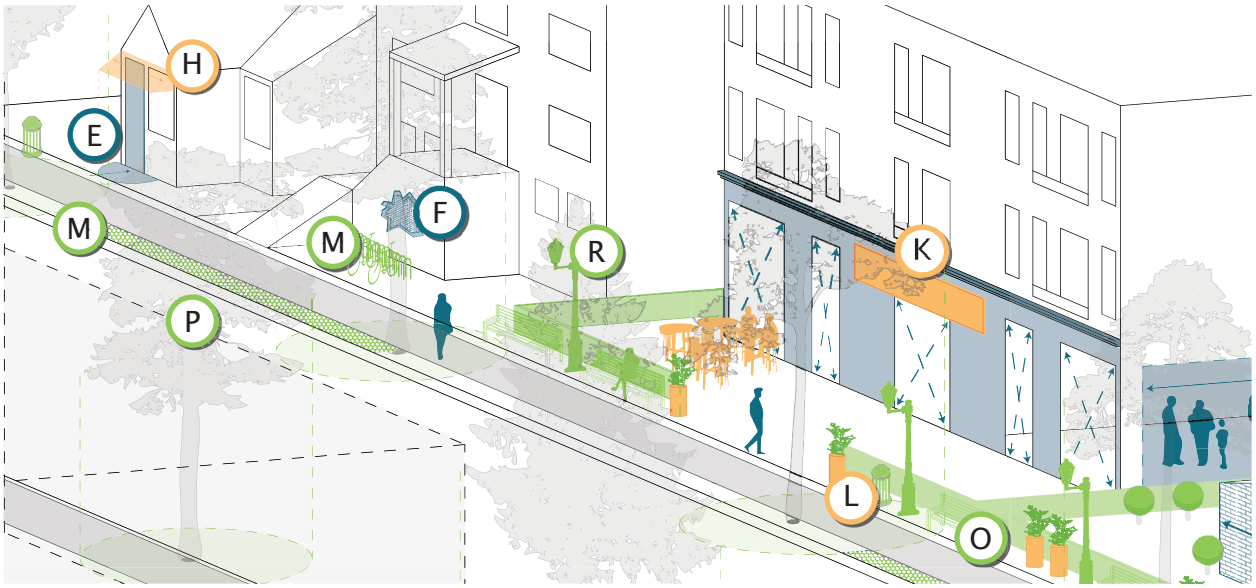
7.3.2 Encroachment Zone.

[H] Weather Protection.

– Sixty (60%) percent of linear front facades must have rain protection or awnings with minimum four (4') feet covering depth and must include all entrances, exits, and windows.

[I] Vertical Barriers.

– Use transparent or semi-transparent materials for outdoor dining enclosures. Ensure dining walls do not obstruct pedestrian flow.
– Dining enclosure must not exceed forty-two (42") inches in height.



– Barriers shall be constructed of durable, weather-resistant materials, securely anchored or weighted for stability, capable of withstanding wind and pedestrian contact, and shall not include temporary, flimsy, or unfinished materials.

[J] Outdoor Seating.
– Provide modular, movable, and durable seating in public spaces. Ensure seating areas are shaded and accessible.

[K] Building Signage.
– Signs shall be pedestrian-scaled, architecturally integrated, legible, durable, and not internally illuminated.
– See **Chapter 18.15 Signs** for standards.

[L] Movable Elements.
– Provide movable seating, planters, and furnishings to support active use and seasonal programming.

7.3.3 Amenities Zone.

[M] Multimodal Features.
– Provide bike racks, scooter parking, and information kiosks at regular intervals.
– See **Chapter 8.3 Hardscaping** for additional standards.

[N] Pervious Surfaces.
– Use permeable pavers where possible to contribute to a minimum twenty (20%) percent permeability within each block.

[O] Planters.
– Planter are recommended.
– See **Chapter 8.2 Landscaping** for standards.

[P] Street Tree Canopy.
– Maintain a continuous canopy achieving thirty (30%) percent to sixty (60%) percent street tree canopy over the total sidewalk area at maturity to reinforce pedestrian comfort and street character.
– Tree grates are required.
– See **Chapter 8.2 Landscaping** for standards.

[Q] Hardscaping.
– See **Chapter 8.3 Hardscaping** for standards.

[R] Lighting.
– Building and window lighting required
– See **Chapter 8.4 Lighting** for standards.
– Must incorporate a minimum of three (3) of the lighting types identified in **8.4.1 Lighting Types**. Not required on 1st Avenue and 2nd Avenue.

[S] Screening .
– See **Chapter 8.5 Screening** for standards.

[T] Public Art.
– See **Chapter 8.6 Public Art** for standards.

This Page Left Intentionally Blank

7.4 Gateway Streets (GWS) Public Realm

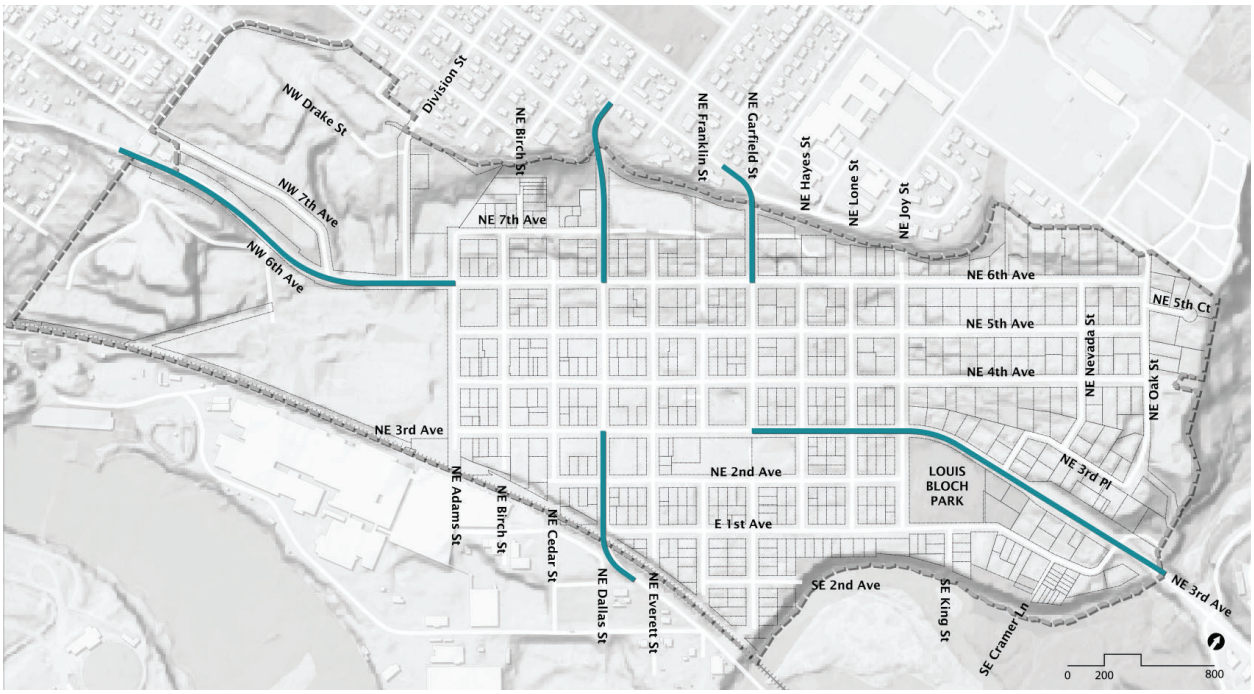


Figure 83. Map of Gateway Streets in Downtown Camas

The purpose of the public realm standards for the gateway street public realm is to establish a welcoming streetscape that signals entry into the downtown core while maintaining a safe, legible pedestrian environment. The standards regulate elements within the facade zone, encroachment zone, and amenities zone; while maintaining a clear sidewalk zone.

NAME	TYPICAL CHARACTERISTICS
Public Realm Space	*Up to eleven (11') feet maximum (both sides) > May include larger extended curb areas at intersections.*
Sidewalk Width	*Unobstructed clear width of six (6') feet is preferred; may be reduced to four (4') at "pinch points" for no more than ten (10') feet in distance.*

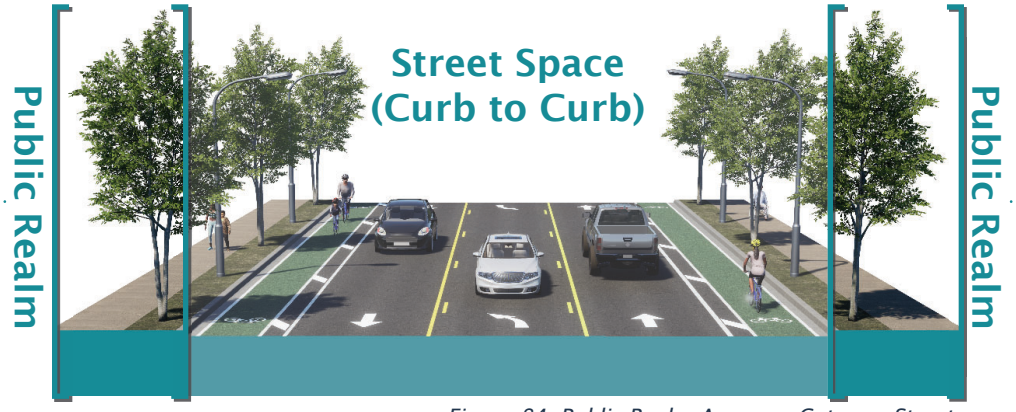


Figure 84. Public Realm Areas on Gateway Streets

7.4 Gateway Streets (GWS) Public Realm

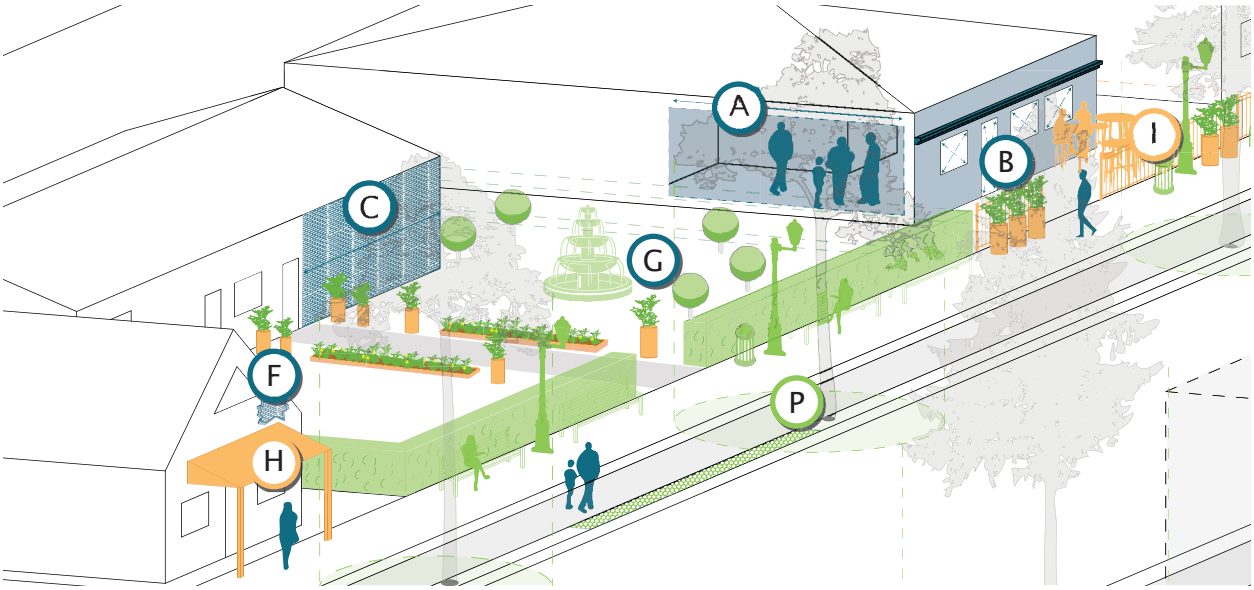


Figure 85. Typical Gateway Street Segment Diagram

7.4.1 Facade Zone.

[A] Retailing Depth.

– Minimum twenty (20') feet depth for ground-floor retail to support viable commercial activity, when applicable.

[B] Ground Floor Transparency.

– Minimum twenty (20%) percent transparency between two (2') feet and ten (10') feet above sidewalk level using clear, non-reflective glass.

[C] Blank Wall Limitations.

– No length of wall greater than twenty-five (25') feet without architectural articulation including transparency, plane breaks, or entrances.

[D] Horizontal Banding.

– Not applicable and not identified on diagram.

[E] Pedestrian Entrances.

– Not applicable and not identified on diagram.

[F] Materiality and Colors.

– Use materials and colors that are durable, low-maintenance, and environmentally friendly that complement the existing downtown character at present and over time as they age.
– Avoid reflective or unfinished materials and overly bright colors.

[G] Setback Buffering.

– Use landscaped buffers with seating, lighting, walls, screening, planters and public art to create a sense of enclosure. Ensure that at least thirty (30%) percent of the setback frontage area includes seating, lighting, and hardscaping.

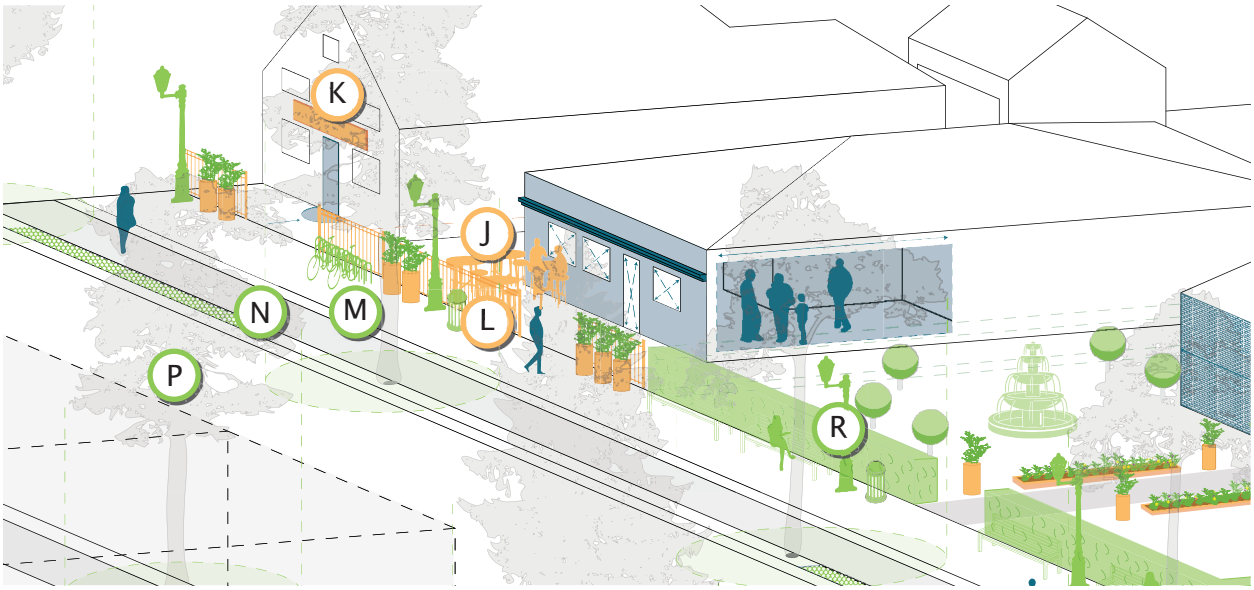
7.4.2 Encroachment Zone.

[H] Weather Protection.

– Provide continuous rain protection or awnings at all building entrances and exits, with covering depth extending no less than four (4') feet.

[I] Vertical Barriers.

– Use transparent or semi-transparent materials for outdoor dining enclosures. Ensure dining walls do not obstruct pedestrian flow.
– Dining enclosure must not exceed forty-two (42") inches in height.



– Barriers shall be constructed of durable, weather-resistant materials, securely anchored or weighted for stability, capable of withstanding wind and pedestrian contact, and shall not include temporary, flimsy, or unfinished materials.

[J] Outdoor Seating.
– Provide shaded seating at key locations.

[K] Building Signage.
– Signs shall be pedestrian-scaled, architecturally integrated, legible, and durable.
– See **Chapter 18.15 Signs** for standards.

[L] Movable Elements.
– Allow movable elements that enhance the entry experience and do not obstruct visibility.

7.4.3 Amenities Zone.

[M] Multimodal Features.
– Include bike parking and transit shelters near intersections.
– See **Chapter 8.3 Hardscaping** for standards.

[N] Pervious Surfaces.
– Use permeable pavers where possible to contribute to a minimum thirty five (35%) percent permeability within each block.

[O] Planters.
– Not applicable and not identified on diagram.

[P] Street Tree Canopy.
– Maintain a continuous canopy achieving thirty (30%) percent to fifty (50%) percent street tree canopy over the total sidewalk area at maturity to reinforce pedestrian comfort and street character.
– See **Chapter 8.2 Landscaping** for standards.

[Q] Hardscaping.
– See **Chapter 8.3 Hardscaping** for standards.

[R] Lighting.
– Building and window lighting is recommended.
– See **Chapter 8.4 Lighting** for standards.

[S] Screening .
– See **Chapter 8.5 Screening** for standards.

[T] Public Art.
– See **Chapter 8.6 Public Art** for standards.

This Page Left Intentionally Blank

7.5 Neighborhood Streets (NHS) Public Realm

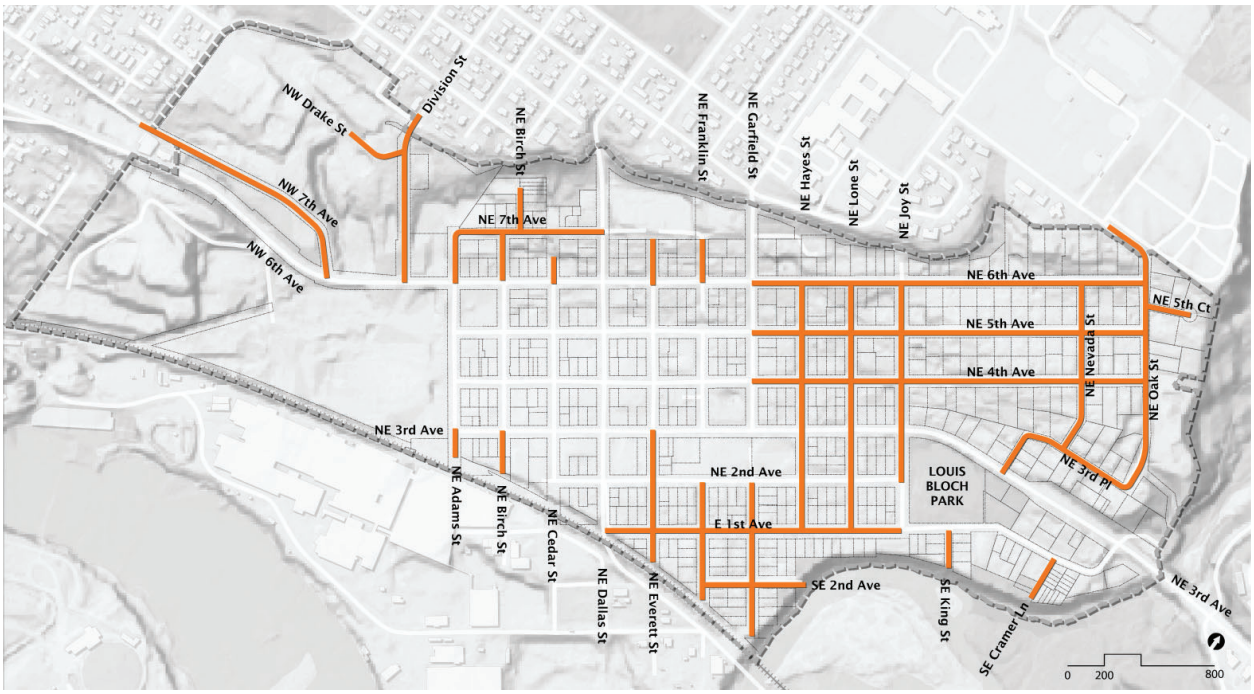


Figure 86. Map of Neighborhood Streets in Downtown Camas

The purpose of the public realm standards for the neighborhood street public realm is to support a calm, comfortable streetscape that prioritizes residential character and local activity. The standards regulate elements within the facade zone, encroachment zone, and amenities zone; while maintaining a clear sidewalk zone.

NAME	TYPICAL CHARACTERISTICS
Public Realm Space	*Eleven (11') feet minimum to fourteen (14') feet maximum (both sides) > May include larger extended curb areas at intersections or mid-blocks.*
Sidewalk Width	*Unobstructed clear width of six (6') feet is preferred; may be reduced to four (4') at "pinch points" for no more than ten (10') feet in distance.*



Figure 87. Public Realm Areas on Neighborhood Streets

7.5 Neighborhood Streets (NHS) Public Realm

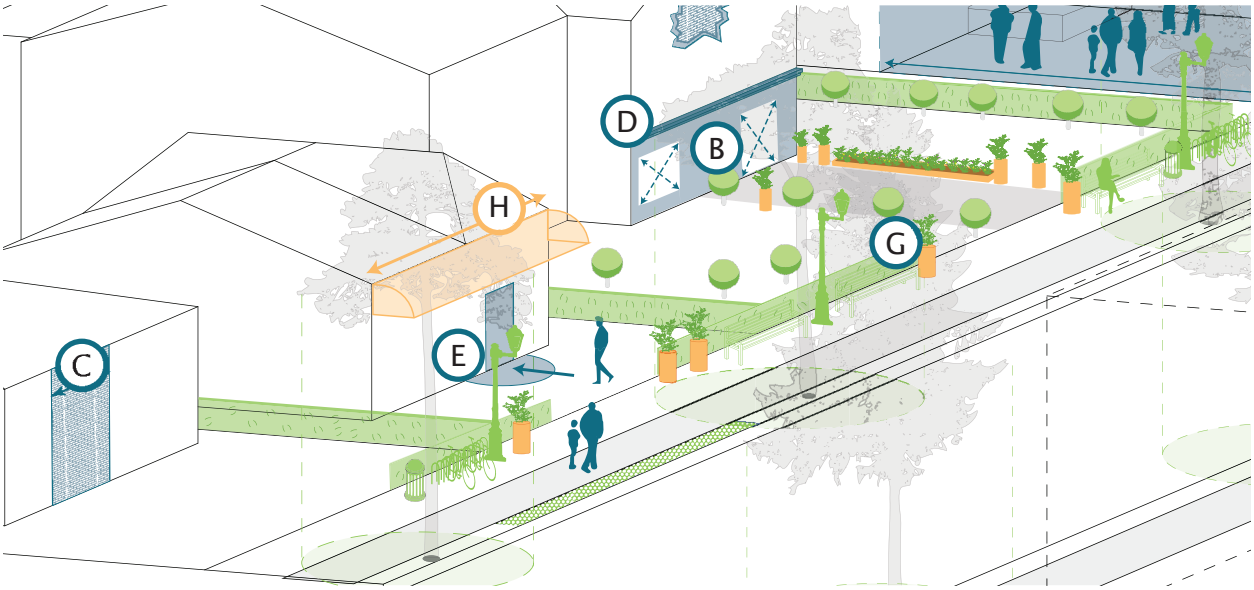


Figure 88. Typical Neighborhood Street Segment Diagram

7.5.1 Facade Zone.

[A] Retailing Depth.

– Retail depth not required unless part of mixed-use development. If part of a mixed use development, provide a minimum of twenty (20') feet.

[B] Ground Floor Transparency.

– Minimum ten (10%) percent transparency between two (2') feet and ten (10') feet above sidewalk level using clear, non-reflective glass.

[C] Blank Wall Limitations.

– No length of wall greater than thirty (30') feet without architectural articulation including transparency, plane breaks, or entrances.

[D] Horizontal Banding.

– Not applicable and not identified on diagram.

[E] Pedestrian Entrances.

– Not applicable and not identified on diagram.

[F] Materiality and Colors.

– Use materials and colors that are durable, low-maintenance, and environmentally friendly that complement the existing downtown character at present and over time as they age.
– Avoid reflective or unfinished materials and overly bright colors.

[G] Setback Buffering.

– Use landscaped buffers with seating, lighting, walls, screening, planters and public art to create a sense of enclosure. Ensure that at least forty (40%) percent of the setback frontage area includes seating, lighting, and hardscaping.

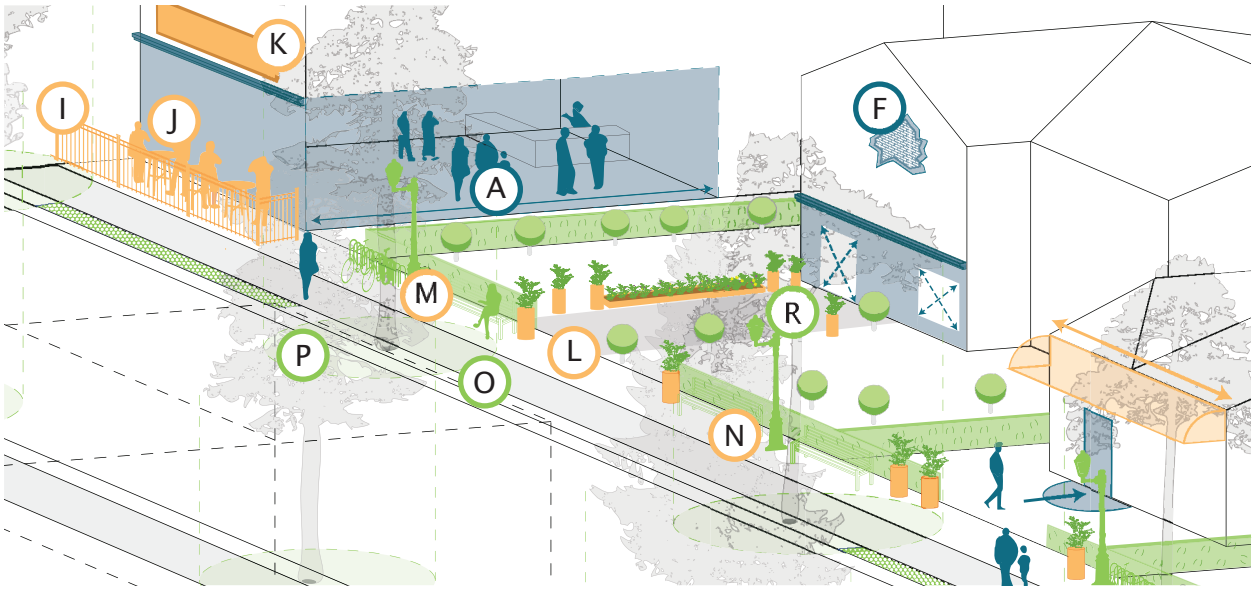
7.5.2 Encroachment Zone.

[H] Weather Protection.

– Provide continuous rain protection or awnings at all building entrances and exits, with covering depth extending no less than four (4') feet.

[I] Vertical Barriers.

– Not applicable and not identified on diagram.



[J] Outdoor Seating.
- Provide shaded seating at key locations.

[K] Building Signage.
- Signs shall be pedestrian-scaled, architecturally integrated, legible, and durable.
- See **Chapter 18.15 Signs** for standards.

[L] Movable Elements.
- Allow movable elements that enhance the entry experience and do not obstruct visibility.

7.5.3 Amenities Zone.

[M] Multimodal Features.
- Not applicable and not identified on diagram.

[N] Pervious Surfaces.
- Use permeable pavers where possible to contribute to a minimum thirty (30%) percent permeability within each block.

[O] Planters.
- Not applicable and not identified on diagram.

[P] Street Tree Canopy.
- Maintain a continuous canopy achieving thirty (30%) percent to fifty (50%) percent street tree canopy over the total sidewalk area at maturity to reinforce pedestrian comfort and street character.
- See **Chapter 8.2 Landscaping** for standards.

[Q] Hardscaping.
- See **Chapter 8.3 Hardscaping** for standards.

[R] Lighting.
- Building and window lighting is recommended.
- See **Chapter 8.4 Lighting** for standards.

[S] Screening.
- See **Chapter 8.5 Screening** for standards.

[T] Public Art.
- See **Chapter 8.6 Public Art** for standards.



Figure 89. Image of Downtown Camas Streetscape

8.0 General Standards.

Unless otherwise noted in this section, the general standards provide a range of standards for any street or frontage within the downtown area, including landscaping, hardscaping, lighting, screening, and public art. In the event of a conflict between the Public Realm Standards **(Section 7.0)** and these General Standards, the Public Realm Standards for the specified Street Type or Street Types shall supersede.

8.1 General Principles.

The general standards are intended to aspire to the following principles for elements within the public realm in Downtown Camas:

- **Implement Adopted Plans.** Advance the goals and policies of the City of Camas Comprehensive Plan and Capital Facilities Plan.
- **Strengthen Downtown Vitality.** Enhance livability, environmental quality, and economic vitality through a diverse and complementary mix of downtown uses.
- **Use Public Resources Efficiently.** Promote the efficient and coordinated use of public facilities, infrastructure, and services.
- **Create a Complete and Safe Downtown Environment.** Foster a safe, attractive, and convenient setting that supports living, working, shopping, and recreation, with active ground-floor uses and residential or office uses above.
- **Support Economic Development.** Encourage economic growth by creating an inviting downtown environment that attracts a broad and diverse consumer base.
- **Attract and Retain Businesses.** Establish a stable and economically viable downtown that supports existing businesses and attracts new investment.
- **Promote Sustainable Development.** Encourage development practices that support long-term environmental, social, and economic sustainability.



Figure 90. Character Image of Landscaping



Figure 91. Landscape Located within Curb Extension Area

8.2 Landscaping.

Vegetation and green infrastructure are essential components of a healthy, attractive urban environment. They manage stormwater, reduce urban heat island effect, and improve air quality while enhancing the pedestrian experience. Thoughtfully integrated, they soften the built form, support biodiversity, and create a more comfortable, visually engaging streetscape. The following applies to all street types:

8.2.1 LANDSCAPING STANDARDS

1. **Location:** Landscaping and trees shall be selected and located to dampen sound, filter air contaminants, curtail erosion, minimize stormwater run-off, contribute to living privacy, reduce the visual impacts of large buildings and paved areas, screen, and emphasize or separate outdoor spaces of different uses or character.
2. **Variety:** Must include a combination and multiple layers of canopy trees, under-story trees, shrubs, and ground cover to achieve the goal of this section.
3. **Parking Areas:** Must be landscaped in accordance with this section.



Figure 92. Typical Street Tree and Tree Well



Figure 93. Example of Landscape Planters

4. **Setback Buffering Area:** Landscape must be utilized in setback buffering areas per this section.
5. **Tree Density:** Minimum forty (40) tree units per acre of land.
6. **Tree Caliper:** Minimum of two (2") inch caliper, fully branched, and staked at the time of planting.
7. **Tree Undercanopy:** Must be maintained to a minimum of eight (8') feet clearance above any sidewalk and ten (10') feet above any street.
8. **Tree Spacing:** Install deciduous trees at intervals of thirty (30') feet along sidewalks.
9. **Tree Placement:** Minimum of thirty (30") inches from the center of the caliper to the back of any curb or not within twenty-five (25') feet of a light pole.
10. **Tree Wells and Grates:** Provide a minimum planting area of four (4') by four (4') feet for tree grates, or four (4') by six (6') feet for open planters. Tree grates must be ADA accessible and have removable expansion rings to accommodate tree growth.
11. **Soil Volume:** Ensure each tree has access to at least two (2 CF) cubic feet of soil for every one (1') foot of crown at maturity. Ideally loose soil which will allow for root penetration.
12. **Planter Dimensions:** Raised planters must be at least four (4') feet wide; at-grade planting strips must be no less than five (5') feet wide. Must include root barriers and cannot impede ADA accessibility.
13. **Stormwater Features:** Incorporate bioswales or rain gardens with a minimum width of four (4') feet and ponding depth of six (6") to twelve (12") inches where possible.
14. **Pervious Surface.** Must meet the pervious surface requirements for the associated street type.
15. **Plant Selection:** Use sixty (60%) percent native or northwest climate-adapted species such as ornamental grasses, flowering perennials, small shrubs, or drought-tolerant vegetation; and fifty (50%) percent evergreen species. All plant materials shall be suitable for the climatic conditions.



Figure 94. Example of Hanging Baskets



Figure 95. Example of Raingardens

16. **Height:** Landscape materials must not exceed thirty (30") inches in height on corners or impede sight lines for vehicles and cyclists.
17. **Hanging Baskets:** The bottom of any hanging basket must be at least eighty (80") inches above the grade of the sidewalk; except when an effective barrier - such as a planter box, potted plant, or other physical barrier is located in the ground in such a way to effectively mitigate any hazard created by the hanging item.
18. **Maintenance:** Require irrigation for the first three (3) years and establish a quarterly maintenance schedule for pruning and weeding.
19. **Damage:** The property owner shall be responsible for any future damage to a street, curb, or sidewalk caused by landscaping.
20. **Raingardens:** Raingardens are allowed as long as ADA accessibility is preserved.
21. **Irrigation:** All landscape planting shall be irrigated with an automatic, underground irrigation system design with water conservation in mind. Utilization of techniques such as separate water zones based on soil type, sun exposure, and plant water requirements are encouraged. Hanging baskets and individual planter pots may be hand watered. All irrigation materials located within the public right-of-way shall utilize the materials and construction techniques as required by the City.
22. **Existing Tree Retention:** Retain existing trees that are not already protected as "significant trees" under the Camas Municipal Code. In the event retention is not possible, require the project to provide two (2) new trees in replacement of one (1) existing tree.



Figure 96. Example of Specialty Brick Pavers at Mid-Block Crossing



Figure 97. Example of a Curb Extension with Paving, Landsdcaping, and other Amenities

8.3 Hardscaping.

Hardscape elements establish the physical framework of the public realm and must be designed for long-term durability, universal accessibility, and visual cohesion. Materials and site furnishings must support pedestrian comfort, encourage gathering, and reflect local character while accommodating a broad range of activities, from informal seating and daily use to larger, organized events. The following applies to all street types:

8.3.1 HARDSCAPING STANDARDS

1. **Elements:** Hardscape elements such as natural stone, water features, drinking fountains, decorative sidewalks, enhanced paving, and other site furnishings are strongly encouraged.
2. **Sidewalk Width:** Provide a minimum width of six (6') feet in commercial areas and ten (10') feet where possible in high-traffic zones and right-of-way is available.
3. **Paving Materials:** Use scored concrete or other materials with a compressive strength of at least four thousand (4,000 psi) pounds per square inch.
4. **Curb Extensions:** Design curb extensions to be at least six (6') feet deep and eighteen (18') feet wide, with ADA-compliant ramps. Typical curb extension must be eight (8') feet wide and coordinated with on-street, parallel parking.



Figure 98. Example of Existing Bench along 4th Avenue in Downtown Camas



Figure 99. Example of Existing Water Feature in Downtown Camas

5. **Furnishings:** Allocate a two (2') foot to four (4') foot wide zone between the curb and pedestrian path for benches, drinking fountains, trash receptacles, and bike racks. Placement of any furnishings must not impede or constrict pedestrian movement or ADA accessibility.
6. **Drinking Fountains:** All drinking fountains shall be ADA accessible.
7. **Benches:** Install one six (6') foot bench with armrests and backrests every two hundred and seventy (270') linear feet on average, unless already provided by others.
8. **Bike Racks:** Provide one (1) bike rack per ten (10) vehicle parking spaces associated with the primary use or every two hundred (200') linear feet of frontage, unless already provided by others. Shall be placed within the public sidewalk, pocket plazas, and parks to encourage multimodal access. Uses that generate a high potential for bike parking such as arcades or movie theaters are strongly encouraged to locate a bike rack within their frontage. Preferred near public entrances or shared entrances to buildings. Must also be accessible from the street to discourage biking on the sidewalk.
9. **Trash Receptacles:** Shall be placed with the public sidewalk, pocket plazas, and parks to encourage public sanitation and a litter free environment. Uses that generate a high potential for immediately disposable trash such as takeout restaurants are strongly encouraged to locate a receptacle within their frontage.
10. **Water Features:** May be provided in lieu of some of these requirements based on review by the planning official.
11. **Subsurface Access Points:** Any improved hardscapes must not interfere with existing subsurface access point for businesses.



Figure 100. Example of Downtown Ripon which incorporates numerous types of lighting to make visitors feel welcome. [Photo credit: Craig Tebon]



Figure 101. Example of wrapped trees that clearly define the edges of the Broadway district in Green Bay, WI.

8.4 Lighting.

Lighting is a critical element of the streetscape, enhancing safety, extending activity into evening hours, and reinforcing the area's character. It must provide clear, comfortable illumination for pedestrians, cyclists, and drivers, minimize glare and light pollution, and thoughtfully highlight architectural features and public spaces without dominating the environment.

Because a significant share of consumer activity occurs during evening hours, particularly in winter months with limited daylight, adequate downtown lighting is essential to economic vitality and public safety. Lighting shall support safe and comfortable pedestrian movement, encourage exploration throughout the district, and reinforce active ground-floor uses. Light emitted from storefronts and building frontages must contribute to a welcoming streetscape and signal downtown activity after dark.

Evaluation of existing nighttime conditions shall consider the coordinated use of multiple "layers of light" that support wayfinding, visibility, and a positive pedestrian experience, including the following:

- District Edge and Ridgeline Lighting,
- Facade and Architectural Feature Lighting,
- Signage and Business Lighting,
- Pathway and Pedestrian Lighting,
- Entryway and Building Entrance Lighting,and
- Window Display and Interior Visibility Lighting.

When coordinated, these lighting layers contribute to a safe, comfortable, and engaging nighttime environment. Improvements may be implemented incrementally and are not required to occur simultaneously. Priority must be given to lighting interventions that provide the greatest public benefit, including integration with planned capital projects or the use of incentive programs to encourage enhanced façade, window, and signage lighting by private property owners.



Figure 102. Example of ridgeline and building edge lighting from Country Club Plaza, Kansas City, MO



Figure 103. Example of architectural lighting that draws attention to unique architecture, in this case the simple columns of the building, making it stand out even at night. Apartment building, Duluth, MN. [Photo credit: Seanette Corkill]

8.4.1 LIGHTING TYPES

District Edge and Ridgeline Lighting

District edge and skyline lighting elements may be used to visually define the boundaries and perceived extent of the business district during evening hours. Similar to daytime gateway features, lighting that is introduced at district edges and continues within the district can signal arrival, reinforce identity, and communicate district scale when visibility is limited.

This lighting may include continuous or regularly spaced lighting along building rooflines where such features exist. In areas without consistent rooflines, or where gaps between buildings occur, comparable visual continuity may be achieved through illumination of tree trunks or canopies, or by integrating lighting on streetlights or other vertical streetscape elements, provided such lighting is coordinated and avoids glare or light spill onto adjacent properties.

Facade and Architectural Feature Lighting

Façade and architectural feature lighting may be used to highlight distinctive architectural elements, landmark buildings, or historically significant features in order to reinforce district identity and aid nighttime orientation. Emphasis must be placed on buildings with notable architectural character or cultural significance to create visual focal points and support interpretation of the district's architectural context.

This lighting may include ground-mounted floodlights, wall-mounted sconces, or focused spotlights directed at towers, cornices, entries, or other defining features. Lighting shall be designed to avoid glare, excessive brightness, and light spill onto adjacent properties or the public right-of-way.

Signage and Business Lighting

Signage and business lighting shall be illuminated to support nighttime visibility, orientation, and wayfinding within the district. Sign lighting must allow signs to remain legible after business hours in order to help visitors navigate the district and understand the range of available businesses, including those not open during evening hours. This lighting shall be directed toward the sign face and shielded to prevent glare or light spill onto adjacent buildings, sidewalks, or residential areas. Gooseneck fixtures, angled shades, or similar focused luminaires may be used. Fixtures must be spaced and aimed to provide uniform illumination across the entire sign face, with overlapping light coverage to minimize shadows and ensure legibility. See **Chapter 18.15 Signs** for standards.

Pathway and Pedestrian Lighting

Pathway and pedestrian lighting shall be provided to illuminate pedestrian routes and spaces, supporting safe, comfortable, and intuitive nighttime movement throughout the district. Pedestrian lighting must reinforce key connections between destinations such as parking areas, transit stops, hotels, residential neighborhoods, and primary downtown streets. This lighting shall provide a continuous and even wash of light focused on walking surfaces and pedestrian-scale spaces. Wall-pack fixtures, unshielded ceiling lights, or security-style luminaires are discouraged due to glare and negative impacts on pedestrian comfort. Acceptable lighting strategies may include wall-mounted sconces, gooseneck fixtures with shields, lighting integrated under awnings, or illuminated streetscape elements, provided lighting is directed toward pedestrian areas and avoids excessive brightness or spillover.



Figure 104. Example of facade fixture where a linear wash of light illuminates a sign in Walla Walla, WA [Photo credit: Seanette Corkill]



Figure 105. Example of facade fixture where a sign holder with lights on arms integrated into the bracket hold bulbs exactly the right distance from the sign face in Camas, WA [Photo credit: Seanette Corkill]



Figure 106. Example of shielded light located at a human scale height and that falls directly on the sidewalk supports comfortable navigation to and from destinations in Vancouver, WA [Photo credit: Seanette Corkill]

Entryway and Building Entrance Lighting

Entryway and building entrance lighting shall be provided at business and building entrances to clearly define entry locations, improve visibility, and support safe access during evening hours. Entryway lighting must illuminate doors, thresholds, and posted information such as business hours and contact details, and contribute to a secure environment for employees and patrons when entering or exiting a building. This lighting shall be designed for pedestrian-scale use and located to avoid direct glare due to close proximity to users. Light sources must be shielded within fixtures and not directly visible from the public right-of-way. Where bulbs are visible, low-output lamps or glare-reducing bulb types, such as chrome-dipped or similarly treated bulbs, may be used to limit direct light exposure.

Window Display and Interior Visibility Lighting

Window display and interior visibility lighting must activate storefronts and enhance nighttime visual interest along sidewalks. Illuminating interior spaces visible from the public right-of-way supports pedestrian wayfinding, reinforces district vitality after business hours, and allows visitors to understand available goods and services when businesses are closed. Fixtures must be located near glazing and spaced to provide even coverage. Lighting shall be directed inward toward displays and merchandise and shielded to minimize glare for pedestrians. For service-oriented uses, interior lighting may highlight reception areas, feature walls, or business identification elements visible from the sidewalk.

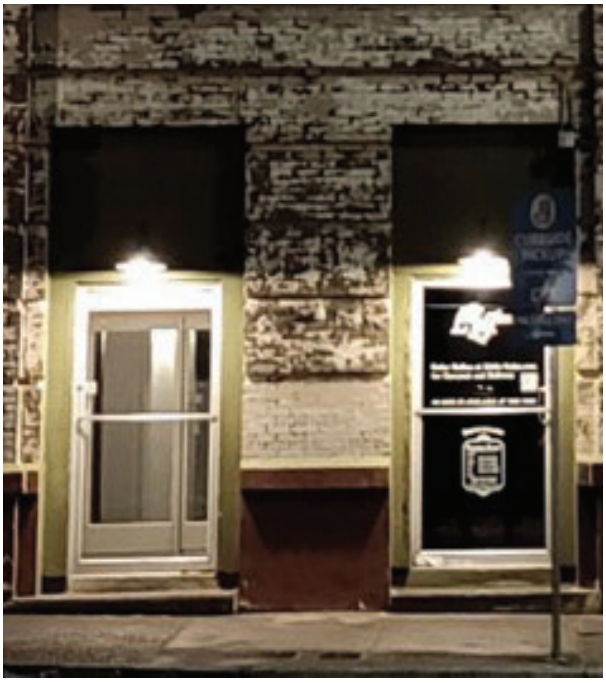


Figure 107. Example of entrance lights over doorways (front or back) that are pedestrian scale and shield the viewer from light bulb in Vancouver, WA [Photo credit: Seanette Corkill]



Figure 108. Example of entrance lights with some personality or unique flare that can delight visitors by communicating a business's vibe in Portland, OR [Photo credit: Seanette Corkill]



Figure 109. Example of wrapped light poles that clearly define the edges of Uptown's Main Street in Vancouver, WA. [Photo credit: Seanette Corkill]

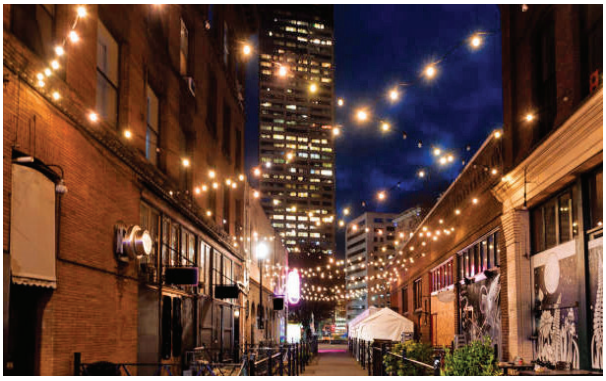


Figure 110. Example of decorative overhead lighting in an alley in Portland, OR.

8.4.2 LIGHTING STANDARDS

The following applies to all street types:

1. **Light Pole Height:** Use pedestrian-scale poles between twelve (12') and fourteen (14') feet tall; vehicular corridor poles may be up to twenty (20') feet tall.
2. **Light Fixture Type:** Install full cutoff LED fixtures with a color temperature between two thousand seven hundred (2,700 K) and three thousand (3,000 K) Kelvin. LED should utilize screw-base bulbs.
3. **Light Pole Spacing:** Space pedestrian lights sixty (60') feet to eighty (80') feet apart, adjusted for tree canopy and building height.
4. **Light Pole Location:** Shall not be placed within thirty (30") inches of the curb line or within twenty-five (25') feet of an existing tree.
5. **Illumination Levels:** Maintain one (1 FC) to two (2 FC) foot-candles on sidewalks at the back of curb and five (5 FC) foot-candles at crosswalks. See definitions for footcandle.
6. **Building Lighting (on buildings):** Allow architectural lighting up to a combined maximum of three (3 FC) foot-candles to highlight building features or public art.
7. **Decorative Overhead Lighting:** Permit string lights in plazas and alleys, mounted at heights between ten (10') and fourteen (14') feet.
8. **Window Lighting:** Must be located near glazing on primary facades to provide flexible and even coverage at intervals of eighteen (18") inches to twenty-four (24") inches; and must be directed inward toward displays and merchandise and shielded to prevent glare toward pedestrians and vehicles.



Figure 111. Example of Commercial or Residential Dumpster Screening

8.5 Screening.

Screening helps preserve the visual quality of the streetscape by concealing service areas, utilities, and parking from public view. It must be designed to complement surrounding architecture and landscape, using durable materials that maintain accessibility, ensure safety, and reinforce the overall character of the public realm. The following applies to all street types:

8.5.1 SCREENING STANDARDS

1. **General:** Screening must reduce visibility from public streets, sidewalks, alleys, and adjacent residential uses.
2. **Materials:** Materials must be durable, compatible with building architecture, and maintain a cohesive urban design character
3. **Accessibility:** Screening elements must not obstruct sight lines, pedestrian paths, or ADA access.
4. **Landscaping:** Landscaping used for screening must be maintained and replaced if dead or damaged.
5. **Trash Enclosures:** Construct six (6') foot high walls with opaque gates; set back at least five (5') feet from sidewalks.
6. **Utility Screening:** Use two (2') wide by three (3') foot tall shrubs at maturity, decorative fencing, or public art to screen all utility boxes.
7. **Mechanical Equipment (on rooftops):** Must be screened by parapets, penthouses, or integrated architectural forms. Screening must be equal to or greater than the height of the equipment. Equipment must be grouped and set back from roof edges to minimize views from the street.
8. **Mechanical Equipment (on the ground):** Must be fully screened by a combination of architectural enclosures, landscaping, or fencing at least three (3') feet to six (6') feet high. Preferred solutions include low walls that match building materials, dense evergreen shrubs, or integrated cabinets. Equipment must be oriented away from primary streets when possible.
9. **Service Areas:** Locate loading docks and dumpsters at the rear or side of buildings; screen with materials that match the primary building.
10. **Parking Lot Screening:** All parking lots shall provide a continuous perimeter treatment along any lot lines adjacent to a street. The treatment may consist of ornamental fencing, masonry walls, or dense hedges and shall be between three (3') feet and five (5') feet tall with at least fifty (50%) percent opacity. Pedestrian connections must remain open, visible, and safe.
11. **Structured Parking Buffers:** Ground floors facing streets must include windows, art, or architectural treatments to avoid blank walls. Openings must be screened with decorative grilles, louvers, or architectural panels.
12. **Blank Walls:** Blank walls longer than twenty (20') feet must be treated with murals or public art, vines or green screens, or landscaping beds to reduce scale and enhance the pedestrian experience.



Figure 112. Example of Existing Sculpture along 4th Avenue in Downtown Camas



Figure 113. Example of Existing Mural Art along 4th Avenue in Downtown Camas

8.6 Public Art.

Public art enriches the streetscape by adding cultural value, visual interest, and a distinct sense of identity. It can function as a landmark, convey local stories, or introduce playful, interactive elements. Art must be thoughtfully integrated into the built environment, ensuring accessibility, durability, and a meaningful reflection of the community's character and values. The following applies to all street types:

8.6.1 PUBLIC ART STANDARDS

1. **Funding:** All projects within a Downtown Zoning District must allocate at least one (1%) percent of construction cost to public art.
2. **Placement (in public spaces):** Must include art in an exterior, publicly visible area such as at major intersections, plazas, amenities zones (along a street), mid-block crossings, building entry points, park spaces, and gateways. Upon approval by the planning official, placement of a permanent public art display may be in lieu of some (or all) of the required elements for a particular project.
3. **Placement (in private spaces):** For sites with new public space, must be integrated into site or building design where possible and treated similarly to placement in public spaces.



Figure 114. Example of Mural



Figure 115. Example of Plaza Sculpture

4. **Access:** Public art must avoid any conflicts with pedestrian circulation, ADA access, sight-distance (for vehicles or cyclists), utilities, or emergency egress.
5. **Design:** Avoid materials that create hazards such as glare, sharp edges, or climbable surfaces near traffic.
6. **Materials:** Must use durable, weather-resistant materials suitable for the climate (e.g., treated metal, stone, laminated glass, ceramic, etc.)
7. **Maintenance:** Consider long-term maintenance and safety requirements.
8. **Lighting:** Must be integrated and fully shielded following state energy code and dark sky guidelines, nor can it create glare into sidewalks, streets, or adjacent properties.
9. **Murals:** Allow murals to cover up to seventy-five (75%) percent of a wall surface; apply anti-graffiti coatings.
10. **Sculpture Pads:** Must provide a minimum two (2') foot by two (2') foot concrete bases with optional electrical conduit for lighting.
11. **Community Engagement:** Encourage participation from local artists, schools, and community groups in creating public art.
12. **Themes:** Must avoid imagery or content that may be discriminatory, culturally inappropriate, or inconsistent with community values.





OTHER

SECTION 9.0 DEFINITIONS & MEASURES

9.0 Definitions & Measures.

The following section provides general definitions for all new terms and terminology included in this design manual, as well as guidance on measuring for specified terms.

Alcove Frontage: A frontage type characterized by recessed building entries or display areas partially sheltered by the building mass, intended to provide transition space between the public sidewalk and interior uses.

Alley Setback: Minimum distance in linear feet (LF) of any building facades from property lines onto an existing or proposed alley.

Amenity Zone: The portion of the public realm located between the sidewalk zone and curb, intended to accommodate trees, lighting, furnishings, transit amenities, and other streetscape elements.

Active Retail Use: Active retail refers to street-facing, ground-floor uses that encourage walkability and activate sidewalks, such as shops, cafés, restaurants, and other active, customer-oriented businesses. See **Section 4.0 Use and Parking** for further detail.

Base Zoning District: The mapped zoning classification that establishes permitted uses, building form, height, and development standards applicable to lots within Downtown Camas. See **Section 3.0 Base Zoning Districts** for further details.

Blank Wall: A building façade segment lacking transparency, articulation, or pedestrian-oriented features for a continuous length exceeding the maximum permitted by this manual.

Building Footprint: For the purposes of this manual, the building footprint is the total square footage (SF) of any habitable structures or accessory buildings on a lot or lots as determined by the perimeter of those buildings on a site plan.

Building Frontage: The portion of a building façade that directly abuts or faces a public right-of-way, setback area, or frontage zone and is subject to frontage standards.

Building Height: A general standard for each base zoning district, building height measures the vertical dimension of a building in feet and stories.

HOW TO MEASURE: Building height is measured in linear feet and stories (#) by measuring the distance from the adjacent grade of the sidewalk on the primary street to the bottom of the eaves or parapet. Building height does not include any levels below-grade.

Building Uses: A general standard for each base zoning district, building uses are the primary uses of the main building on a site, not including any accessory or temporary uses. See **Section 4.0 Use and Parking** for further details.

Encroachment Zone: The area between the building façade or setback line and the sidewalk zone where limited projections, seating, signage, or weather protection elements may be permitted.

Facade Zone: The vertical plane of the building face adjoining the public realm, regulated to ensure transparency, entrances, articulation, and compatibility with street character.

Footcandle: A unit of illuminance used to measure the intensity of light on a surface. One footcandle is equal to the amount of light produced by one lumen uniformly distributed over one square foot. Footcandles are measured using a light meter, which is placed at the location being evaluated, such as on the ground for a sidewalk or parking lot. The sensor is typically pointed upward to capture the amount of light falling on that surface, and the device displays the result in footcandles.

Frontage Type (or Standards): A classified method as part of this manual by which a building interfaces with the public realm, including but not limited to shop, café, porch, stoop, forecourt, civic, or yard frontage. See **Section 6.0 Frontage Standards** for further details.

General Standards (for Public Realm): A set of standards as part of this manual which regulates common elements of the public realm on all street types within the street network. See **Section 8.0 General** for further details.

Ground Floor (Uses): The lowest occupied story of a building above finished grade, intended to accommodate uses and design features that directly engage the public realm. See **Section 4.0 Use and Parking** for further details.

Lot Coverage: The percentage (%) of a lot area occupied by the building footprint, calculated in accordance with the measurement standards of this manual.

HOW TO MEASURE: Lot coverage is calculated by dividing the footprint (in square feet) of the building or buildings on the lot or lots by the total lot size (in square feet) to derive a percentage.

Lot Depth: Lot depth is the dimension in feet of a lot or lots perpendicular to the primary street frontage along the public right-of-way.

Lot Size: Lot depth is the dimension in feet of a lot is the area, typically a maximum area, in square feet (FT) and determined by its length and width.

HOW TO MEASURE: Lot size can be measured easily by multiplying the lots width (in feet) by depth (in feet) for standard lots, and calculating the area based on GIS or other public sources for irregular shaped lots such as flag lots or triangular lots.

Lot Width: Lot width is the dimension of a lot or lots along the primary street frontage parallel with the public right-of-way.

Mixed Use: A development pattern in which multiple primary uses, such as residential and commercial, are integrated within a single building or site, typically in a vertical configuration.

Open or Common Spaces: For the purposes of this manual, open or common spaces are considered usable outdoor spaces or exterior spaces in square feet (SF) on a building that are accessible by all inhabitants of a building or open to the public.

Parking Setback: Minimum distance in linear feet (LF) of the placement of any structured or surface parking facilities or storage of vehicles on the site from the primary street or side street.

Passive Retail: Passive retail refers to commercial activities that primarily serve building occupants or a smaller customer base—such as boutique offices, lobby kiosks, or specialty shops—which typically generate less foot traffic and require less window visibility. See **Section 4.0 Use and Parking** for further detail.

Primary Street: The primary street is the dominant street for a lot as determined by the address on the parcel of land.

Primary Street Setback: Maximum distance in linear feet (LF) of the placement of the building facade on the ground floor from the property line on the primary street.

Primary Street / Upper-Level Setback: Minimum distance in linear feet (LF) of the placement of building facades on a designated upper-level from the ground floor building facade on the primary street.

Primary Uses: The primary use on the lot in the main building as identified in this manual per **Section 4.0 Use and Parking** for further details.

Public Realm (Standards): All publicly accessible spaces between the building façade and curb line, including sidewalks, planting areas, amenity zones, and related streetscape elements, regulated as part of this manual. See **Section 7.0 Public Realm Standards** for further details.

Rear Yard Setback: Minimum distance in linear feet (LF) of any building facades from property lines at the rear of the yard.

Regulating Plan: The official map that assigns base zoning districts and street types to individual parcels, establishing the framework for applicable zoning and design standards. See **Section 2.0 Regulating Plan** for further details.

Setback: The required minimum or maximum distance between a building façade and a property line (or public right-of-way line), measured horizontally and regulated by base zoning district.

Street Network: The mapped network of streets based on intended character within Downtown Camas which assigns frontage standards, public realm standards for the purposes of this manual. See **Section 5.0 The Street Network** for further details.

Sidewalk Zone: The unobstructed portion of the public realm reserved primarily for pedestrian circulation, required to meet minimum width and accessibility standards.

Side Street: The side street is the less-dominant street for a lot which is often a street perpendicular and secondary to the primary street. If no primary street is present, the side street shall serve as the primary street for the purposes of this manual.

Side Street Setback: Maximum distance in linear feet (LF) of the placement of the building facade from the property line on the side street.

Side Yard Setback: Maximum distance in linear feet (LF) of any building facades from property lines on adjacent lots.

Street Type: A functional and design classification assigned to a public street that determines applicable frontage standards, public realm dimensions, and streetscape requirements.

Transparency: The percentage of a building façade composed of clear, non-reflective glazing that allows visual connection between interior spaces and the public realm.

Upper Floor (Uses): Any occupied building story located above the ground floor, subject to distinct use, setback, and design standards. See **Section 4.0 Use and Parking** for further details.

Zero Lot Line: The condition when the facade of a building on a primary street or side street is built on or very near the public right-of-way, resulting in a zero (0') foot or very near zero foot setback.

For all other definitions or measurements, see **Chapter 18.03 Definitions** of the Camas Municipal Code.



FOR MORE INFORMATION PLEASE CONTACT

Community Development Department
The City of Camas
616 NE 4th Avenue; Camas, WA 98607
communitydevelopment@cityofcamas.us
360-817-1568

Chapter_17.09___SHORT_SUBDIVISIONS_Lot Split_PC Draft

Chapter_18.03___DEFINITIONS_Post PC Edits

Chapter_18.05___ZONING_MAP_AND_DISTRICTS_PC Draft

Chapter_18.07___USE_AUTHORIZATION_Post PC Edits

Chapter_18.09___DENSITY_AND_DIMENSIONS_Post PC Edits

Chapter_18.11___PARKING_Post PC Edits

Chapter_18.13___LANDSCAPING_PC Draft

Chapter_18.15___SIGNS_Temporary and Awnings_PC Draft

Chapter_18.18___SITE_PLAN_REVIEW_PC Draft

Chapter_18.19___DESIGN_REVIEW_ PC Draft

Chapter_18.20_Design Overlays_Post PC Edits

Chapter_18.22_MIXED_EMPLOYMENT_Post PC Edits

Chapter_18.23___PLANNED_RESIDENTIAL_DEVELOPMENT__PRD_PC Draft

Chapter_18.24___MIXED_USE_PC Draft

Chapter_18.26___FLEXIBLE_DEVELOPMENT_PC Draft

Chapter_18.28___CO-LIVING_Post PC Edits

Chapter_18.32___PARK_AND_OPEN_SPACE_ZONING_PC Draft

Chapter_18.43___CONDITIONAL_USE_PERMITS_PC Draft

Chapter_18.45___VARIANCES_PC Draft

Chapter_18.51___COMPREHENSIVE_PLAN_AND_ZONING_AMENDMENTS_PC Draft

ourCamas 2045

Draft Code Amendments

Chapter 17.09 – Short Subdivisions

Chapter 18.03 – Definitions

Chapter 18.05 – Zoning Map and Districts

Chapter 18.07 – Use Authorization

Chapter 18.09 – Density and Dimensions

Chapter 18.11 – Parking

Chapter 18.13 – Landscaping

Chapter 18.15 – Signs

Chapter 18.18 – Site Plan Review

Chapter 18.19 – Design Review

Chapter 18.20 – Design Overlays

Chapter 18.22 – Mixed Employment

Chapter 18.23 – Planned Residential Development (PRD)

Chapter 18.24 – Mixed Use

Chapter 18.26 – Flexible Development

Chapter 18.28 – Co-living

Chapter 18.32 – Park and Open Space Zoning

Chapter 18.43 – Conditional Use Permits

Chapter 18.45 – Variances

Chapter 18.51 – Comprehensive Plan and Zoning Amendments

Chapter 17.09 SHORT SUBDIVISIONS[1]

17.09.010 Scope.

A. Except as provided in CMC Section 17.01.030B. or a binding site plan under Chapter 17.15 of this title, any land being divided into nine or fewer lots, unit lots, sites or parcels for the purpose of conveyance, shall meet the requirements of this chapter.

B. Tracts may be in addition to the lot count provided that the tract is reserved as forested lands, part of the open space network, serving as stormwater detention and treatment, or set aside as an unbuildable area due to critical lands.

(Ord. 2483 § 1 (Exh. A (part)), 2007)

(Ord. No. 25-025, § I (Exh. A), 12-15-2025)

17.09.020 Decision process.

Applications for short plat approval shall be processed as a Type II decision, subject to the provisions of CMC Chapter 18.55.

(Ord. 2483 § 1 (Exh. A (part)), 2007)

17.09.030 Preliminary short plat approval.

A. Preapplication.

1. In accordance with CMC Chapter 18.55, the applicant must proceed with the formal preapplication process prior to application submittal for review.

2. The applicant shall submit to the community development department the preapplication form and copies of their proposal drawn to an engineer scale on paper, showing lot sizes, topography and overall lot dimensions.

B. Application/Fees. In addition to those items listed in CMC 18.55.110, the following items are required, in quantities specified by the City of Camas, for a complete short plat application for preliminary approval. Items may be waived if, in the judgment of the community development director, they are not applicable to the proposal:

1. Completed general application form as prescribed by the community development director with the applicable application fee;

2. Complete and submit a transportation impact study to determine the adequacy of the transportation system to serve the proposed development, and to mitigate impacts of the proposal on the surrounding transportation system, if required;

3. Complete applications for other required land use approvals applicable to the proposal;

[1]Prior ordinance history: Ords. 2443 and 2455.

4. Vicinity map showing location of the site; and
5. Site and development plans which provide the following information:
    a. A preliminary plat map meeting the standards identified in CMC Section 17.01.050,
    b. The names of owners of adjacent land and the names of any adjacent subdivisions,
    c. Lines marking the boundaries of the existing lot(s) (any existing lot to be eliminated should be a dashed line and so noted),
    d. Names, locations, widths and dimensions of existing and proposed public street rights-of-way, public and private access easements, parks and other open spaces, reservations, and utilities,
    e. Location, footprint and setbacks of all existing structures on the site,
    f. Location of existing and proposed sidewalks, street lighting, and street trees,
    g. Lot area and dimensions for each lot,
    h. Location of proposed new property lines and numbering of each lot,
    i. Location of proposed building envelopes and sewer tanks,
    j. Location, dimensions and purpose of existing and proposed easements. Provide recorded documents that identify the nature and extent of existing easements,
    k. Location of any proposed dedications,
    l. Existing and proposed topography at two-foot contour intervals, extending to ten feet beyond the project boundaries,
    m. Location of any critical areas and critical area buffers, to indicate compliance with all applicable provisions of the critical areas legislation, as required under Title 16 and Title 18 of this code,
    n. Description, location and size of existing and proposed utilities, storm drainage facilities, and roads to service the lots,
    o. Locations of all fire hydrants within five hundred feet of the proposal,
    p. A survey of existing significant trees as required under CMC Section 18.13.045; and
    q. Show location and height of all proposed retaining walls, regardless of height. Provide cross sections for retaining walls over four feet in height.
6. For properties with slopes of ten percent or greater a preliminary grading plan will be required with the development application that shows:
    a. Two-foot contours,
    b. The proposed lots and existing topography,
    c. The proposed lots with proposed topography, and
    d. Total quantities of cut and fill;
7. Preliminary stormwater plan and preliminary stormwater technical information report (TIR). The preliminary stormwater TIR is to be prepared in accordance with Ecology's latest edition Stormwater Management Manual for Western Washington (SWMMWW);
8. For properties with development contemplated on slopes of ten percent or greater a preliminary geotechnical report will be consistent with CMC Chapter 16.59;

9. A narrative addressing ownership and maintenance of open spaces, stormwater facilities, public trails and critical areas, and the applicable approval criteria and standards of the Camas Municipal Code.

10. An engineering estimate of costs for site improvements, both public and private, shall be submitted at the time of application.

C. Review Procedures.

1. Referral to Other Departments. Upon receipt of a complete application for a short subdivision, the community development department shall transmit one copy of the application to any department or agency deemed necessary to review the proposal.

2. Additional Submittals. The review process will determine if additional studies or submittals are required with regard to SEPA, critical areas, archeological or historical significance. If further material is required, the review process will stop until the required information is submitted in accordance with CMC Chapter 18.55.

3. Proposed short subdivisions located adjacent to the right-of-way of state highways shall be submitted to the Washington Department of Transportation (WSDOT) for review, consideration and recommendation. This condition may be satisfied as part of the SEPA process. However, if a SEPA checklist is not required, it is the applicant's responsibility to notify WSDOT of the proposal. Recommendations from Washington Department of Transportation shall be considered by the City in the conditions of approval for the short subdivision.

4. Community Development Director. The community development director or designee may approve, approve with modifications, or deny the application for a preliminary short plat.

D. Criteria for Preliminary Short Plat Approval. The community development director or designee shall base their decision on an application for preliminary plat approval on the following criteria:

1. The proposed short plat is in conformance with the Camas comprehensive plan, neighborhood traffic management plan, Camas parks and open space comprehensive plan, and any other city adopted plans;

2. Provisions have been made for water, storm drainage, erosion control and sanitary sewage disposal for the short plat which are consistent with current standards and plans as adopted in the Camas Design Standard Manual;

3. Provisions have been made for roads, utilities, street lighting, street trees, and other improvements that are consistent with the six-year street plan, the Camas Design Standard Manual and other state adopted standards and plans;

4. Provisions have been made for dedications, easements and reservations;

5. Appropriate provisions are made to address all impacts identified by the transportation impact study;

6. The design, shape and orientation of the proposed lots are appropriate to the proposed use for which the lots are intended;

7. Provisions are made for the maintenance of commonly owned private facilities;

8. The short plat complies with the relevant requirements of the Camas land development and zoning codes, and all other relevant local regulations; and

9. That the plat meets the requirements of Chapter 58.17 RCW and other applicable state and local laws which were in effect at the time of preliminary plat approval.

(Ord. 2483 § 1 (Exh. A (part)), 2007)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 18-014, § IX, 9-4-2018; Ord. No. 19-001, § I(Att. A), 1-22-2019; Ord. No. 19-012, § II(Exh. A), 11-4-2019; Ord. No. 21-005, § I(Exh. A), 3-15-2021; Ord. No. 22-007, § I, 5-16-2022; Ord. No. 25-025, § I (Exh. A), 12-15-2025)

17.09.040 Expiration.

If the short plat is not recorded within five years of the date of preliminary short plat approval, the short plat shall become null and void. Upon written request by the developer prior to the expiration date, the community development director may grant an extension of not more than two years. The director shall consider economic conditions and such other circumstances as may warrant the extension. If the director denies a request for an extension, the developer may appeal that decision to the city council by filing a written notice of appeal with the director not later than thirty days after the date of the decision.

(Ord. 2483 § 1 (Exh. A (part)), 2007)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2645, § I, 3-19-2012; Ord. No. 17-005, § I(Exh. A), 5-15-2017; Ord. No. 19-012, § II(Exh. A), 11-4-2019)

17.09.050 Limitations on further subdivision.

Any land short platted shall not be further divided for a period of five years after the final short plat is recorded without following the provisions for subdivision. This provision applies to any lots, tracts or parcels recorded as part of the plat.

(Ord. 2483 § 1 (Exh. A (part)), 2007)

17.09.060 Contiguous short plats.

No application for a short plat shall be approved if the land being divided is held in common ownership with a contiguous parcel that has been divided in a short plat within the preceding five years.

(Ord. 2483 § 1 (Exh. A (part)), 2007)

17.09.070 Unit Lot Subdivisions.

A unit lot subdivision (ULS) creates new lots much like a typical subdivision, except a ULS allows flexible application of dimensional standards. In a ULS, the development as a whole is on the "parent lot" which conforms to the zoning dimensional standards while individual "unit lots" are not required to. Unit lots (also called child lots) are individual, sellable, legal lots of record with their own tax or parcel identification number.

A. Applicability. A lot to be developed with middle housing (including accessory dwelling units) or multiple detached single-family residences, in which no dwelling units are stacked on another dwelling unit or other use, may be subdivided into individual unit lots as provided herein.

B. Process. Unit lot subdivisions shall follow the application, review, and approval procedures for a short subdivision.

C. Development as a whole on the parent lot, rather than individual unit lots, shall comply with applicable design and development standards.

D. Subsequent platting actions and additions or modifications to structure(s) may not create or increase any nonconformity of the parent lot.

E. Access easements, joint use and maintenance agreements, and covenants, conditions and restrictions (CC&Rs) identifying the rights and responsibilities of property owners and/or the homeowners' association shall be executed for use and maintenance of common garage, parking, and vehicle access areas; bike parking; solid waste collection areas; underground utilities; common open space; shared interior walls; exterior building facades and roofs; and other similar features shall be recorded with the county auditor.

F. Portions of the parent lot not subdivided for individual unit lots shall be owned in common by the owners of the individual unit lots, or by a homeowners' association comprised of the owners of the individual unit lots.

G. Notes shall be placed on the face of the plat or short plat as recorded with the county auditor to state the following:

1. The title of the plat shall include the phrase "Unit Lot Subdivision."

2. Approval of the development (design and layout) on each unit lot was granted by the review of the development, as a whole, on the parent lot under file #.

3. Subsequent subdivision actions, additions, or modifications to the unit lot housing development, including all structures, may not create or increase any nonconformity of the parent lot as a whole, and shall conform to the approved unit lot housing development project or to the land use and development standards.

4. If a structure or portion of a structure within the unit lot housing development project has been damaged or destroyed, any repair, reconstruction, or replacement of any structure shall conform to the approved unit lot housing development project or to the land use and development standards in effect at the time the proposed repair, reconstruction, or replacement project's permit application becomes vested.

5. Additional development or redevelopment of the individual unit lots may be limited as a result of the application of development standards to the parent lot.

(Ord. No. 25-025, § I (Exh. A), 12-15-2025)

17.09.080 Administrative Lot Split.

Pursuant to RCW 58.17.145, an existing residential lot may be split into two lots for the purpose of sale, lease, or transfer of ownership pursuant to this section.

A. Applicability. Administrative lot splits are permitted only within residential zones. A lot is not eligible for an administrative lot split if the proposed lot split would result in a lot that is not buildable under applicable locally adopted development regulations, including, but not limited to, critical areas, shorelines, stormwater, setbacks, impervious surface area, and building coverage standards.

B. Process. Except as provided for in this section, administrative lot splits shall follow the application, review, and approval procedures for a short subdivision.

C. General Requirements.

1. An administrative lot split must only create one additional lot.

2. The parent lot must not have been created by an administrative lot split authorized by this section.

3. Both the parent lot and the proposed new lot must meet the minimum lot size of the zone in which the administrative lot split is located. The newly created lot is not subject to any maximum lot size requirement.

4. Access and utility rights must be granted or conveyed as necessary on or before recording of the lot split survey to provide access for the maximum number of dwelling units that could be developed on the newly created lot, provided such access rights may be reduced through review of a subsequent application for a building permit, short plat, unit lot subdivision, or subdivision if less than the maximum number of dwelling units are built on the newly created lot.
5. If a lot split results in a newly created lot of a size that would allow for further land division, subsequent lot splits are not allowed but the newly created lot may be divided under other applicable land subdivision processes.
6. If the lot split would require demolition or alteration of any existing housing that would displace a renter, the applicant must recommend a displacement mitigation strategy that may include, but is not limited to, relocation assistance.

D. Right-of-way dedication, frontage requirements, and improvements.

1. A proposed lot split may be conditioned upon dedication of right-of-way on the parent lot to the extent such dedication would otherwise be required for the development, short plat, or subdivision of the parent lot absent an administrative lot split.
2. Development of dwelling units on the newly created lot or further subdivision of the newly created lot may be conditioned upon construction of frontage improvements to a right-of-way adjacent to either the parent lot or the newly created lot.

E. Administrative lot split survey.

A lot split survey must be recorded with the Clark County Auditor's Office and shall include, as notes, and comply with the following requirements, as applicable:

1. Further administrative lot splits are not permitted on either the parent lot or newly created lot;
2. The city is immune from any liability, loss, or other damage suffered by another that is related to the city's approval of the lot split, including if the lot split creates a lot that is later determined unbuildable, RCW 58.17.145;
3. If applicable, indicate whether future development will require frontage improvements;
4. If applicable, indicate whether dedication of right-of-way is required and note the location of the right-of-way to be dedicated; and
5. If applicable, note the location of all required access and utility rights granted or conveyed.

Chapter 18.03 DEFINITIONS

18.03.010 Purpose.

The purpose of the definitions chapter is to carry out the intent of the city's development regulations. The terms defined in this chapter are the minimum necessary to resolve questions of interpretation. Terms not defined shall hold their common and generally accepted meaning, unless specifically defined otherwise in this code.

18.03.020 Interpretation of terms.

A. Terms in this title that are not defined in this chapter hold their common and accepted meaning.

B. The following terms shall be interpreted as follows:

1. Words used in the present tense include the future;
2. The plural includes the singular and vice-versa;
3. The words "will" and "shall" are mandatory;
4. The word "may" indicates that discretion is allowed;
5. The word "used" includes designed, intended, or arranged to be used;
6. The masculine gender includes the feminine and vice-versa;
7. The word "person" may be taken for persons;
8. The word "building" includes a portion of a building or a portion of the lot on which it stands;
9. Distances shall be measured horizontally unless otherwise specified;
10. The word "occupied" includes designed or intended to be used.

18.03.030 Definitions.

For the purposes of this title, the following definitions shall apply:

"Accessory residential storage lot" means a designated lot within a North Shore residential zone (LD-NS, HD-NS) for the use as a storage facility for recreational vehicles, boats, and/or other watercraft. A Homeowner's Association (HOA) shall operate and maintain the storage facility. Only residents within the established HOA may use the facility. The HOA will establish rules and regulations for the storage facility to be recorded within the Covenants, Conditions & Restrictions for the HOA during the subdivision application period. Lots created for use as accessory residential storage facilities shall meet the dimensional requirements of the designated North Shore land use designation they are in. The North Shore Design Manual defines additional development requirements for accessory residential storage lots.

"Abutting" means adjoining.

“Access easement.” See "Street."

“Access panhandle.” See "Flag lot."

"Accessory dwelling unit" means a dwelling unit located on the same lot as a single-family housing unit, duplex, triplex, townhome, or other housing unit. Refer to Chapter 18.27 Accessory Dwelling Units.

"Accessory structure or accessory use" means a structure or use incidental and subordinate to the principal use or structure and located on the same lot or tract.

"Adult entertainment facility." See CMC Chapter 5.36 Sexually Oriented Business.

"Adult family home" means a dwelling, licensed by the State of Washington Department of Social and Health Services, in which a person or persons provide personal care, special care, room and board to more than one but not more than six adults who are not related by blood or marriage to the person or persons providing the services. An existing adult family home may provide services to up to eight adults upon approval from the Department of Social and Health Services in accordance with RCW 70.128.066. Adult family homes are a permitted use in all areas zoned for residential use.

"Adverse environmental impact" means an impact caused by vegetation removal which creates a risk of landslide or erosion, or which alters or damages wetlands, wetland buffers, wildlife habitat, streams, or watercourses.

"Affordable housing" means residential housing whose monthly costs, including utilities other than telephone, do not exceed 30 percent of the monthly income of a household whose income is: (a) For rental housing, 60 percent of the median household income adjusted for household size, for Clark County, as reported by the United States Department of Housing and Urban Development; or (b) For owner-occupied housing, 80 percent of the median household income adjusted for household size, for Clark County, as reported by the United States Department of Housing and Urban Development.

"Alley" means a narrow street primarily for vehicular service access to the rear or side of properties otherwise abutting on another street.

"Alteration of watercourse" is any action that will change the location of the channel occupied by water within the banks of any portion of a riverine waterbody.

“Animal kennel.” See "Kennel."

"Annexation" means the legal process in which a parcel or contiguous group of parcels in an unincorporated area become part of the city taking the action of incorporation.

"Antique shop" means an establishment engaged in the sale of collectibles, relics or objects of an earlier period than the present.

"Appliance sales and incidental service" means an establishment engaged in the sale and repair of household or office tools or devices operated by gas or electric current. Such tools or devices may include stoves, fans, refrigerators, etc.

“Approval authority” means the person or decision-making body authorized by this title to approve, approve with conditions, or deny an application or other request. Depending on the applicable review procedure, the approval authority may include the community development director or designee, hearing examiner, city council, or other decision-making body designated by this title.

"Area of shallow flooding" means a designated zone AO, AH, AR/AO or AR/AH (or VO) on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow. Also referred to as the sheet flow area.

"Area of special flood hazard" means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. It is shown on the Flood Insurance Rate Map (FIRM) as zone A, AO, AH, A1-30, AE, A99, AR (V, VO, V1-30, VE). "Special flood hazard area" is synonymous in meaning with the phrase "area of special flood hazard".

“Arterial.” See "Street."

"Assessment project" means the assessment may be a local improvement district (LID) or equitable reimbursement method.

"Assisted living" means any group residential program that provides personal care and support services to people who need help with daily living activities as a result of physical or cognitive disability. Assisted living communities usually offer help with bathing, dressing, meals and housekeeping. The amount of help provided depends on individual needs, however, full-time (twenty-four hours a day) care is not needed. Assisted living communities go by a variety of names: adult homes, personal care homes, retirement residences, etc.

"Automobile repair garage" means a building designed and used for the storage, care repair, or refinishing of motor vehicles including both minor and major mechanical overhauling, paint and body work.

"Automobile sales, new or used" means an establishment that provides for the sale of motorized vehicles as its primary use.

"Automobile service station" means any premises used primarily for supplying motor fuel, oil, minor servicing, excluding body and fender repair, and for sale of accessories as a secondary service for automobiles at retail direct to the customer.

"Automobile wrecking" means the dismantling or wrecking of used motor vehicles or trailers, or the storage, sale or dumping of dismantled, partially dismantled, obsolete or wrecked vehicles or their parts when screened from view from a public roadway and adjoining properties.

“Bakery (retail),” or "retail bakery," means an establishment where the majority of retail sale is of products such as breads, cakes, pies, pastries, etc., which are baked or produced and for sale to the general public.

“Bakery (wholesale),” or "wholesale bakery," means an establishment where breads, cakes, pies, pastries, etc. are baked or produced primarily for wholesale rather than retail sale.

“Bar.” See "Tavern."

"Base flood elevation (BFE)" means the elevation to which floodwater is anticipated to rise during the base flood.

"Base flood" means the flood having a one percent chance of being equaled or exceeded in any given year (also referred to as the "one hundred-year flood").

"Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

"Bed and breakfast inn" means a dwelling or portion thereof, where short-term lodging rooms and meals are provided. The operator of the inn shall live on the premises or in adjacent premises. A bed and breakfast which includes six or more guest rooms shall be classified and defined as a hotel.

"Best available information" means, in the absence of official flood insurance rate map data, communities can use data from other federal, state, or other sources; provided this data has either been generated using technically defensible methods or is based on reasonable historical analysis and experience. Flood data from existing flood events may be used where flood events are considered more accurate indicators of past base flood conditions. Any variance from adopted flood insurance rate maps must be of a more restrictive nature.

"Binding site plan" means a drawing to scale which: (1) identifies and shows the areas and locations of all streets, roads, improvements, utilities, open spaces, and any other matters specified by local regulations; (2) contains inscriptions or attachments setting forth limitations and conditions for the use of the land; and (3) contains provisions making any development be in conformity with the site plan.

"Boat sales, and repair" means a business primarily engaged in sales and repair of new and used motorboats, sailboats, and other watercraft. Also includes businesses primarily engaged in the sale of supplies for boating.

"Book, stationery and art supply store" means an establishment engaged in the retail sale of books and magazines, stationery, record and tapes, video and art supplies, including uses.

"Boundary line adjustment" means an adjustment of boundary lines between platted or unplatted lots or both, which does not create any additional lot, tract, parcel, site or division.

"Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

"Breezeway" means a structure for the principal purpose of connecting the main building or buildings on a property with other main buildings or accessory buildings.

“Brew pub.” See "specialty goods production."

"Buffer" means either: (i) an area adjacent to hillsides which provides the margin of safety through protection of slope stability, attenuation of surface water flows, and landslide, seismic, and erosion hazards reasonably, necessary to minimize risk to the public from loss of life, well-being, or property damage resulting from natural disasters; or (ii) an area adjacent to a stream or wetland which is an integral part of the stream or wetland ecosystem, providing shade; input of organic debris and coarse sediments; room for variation in stream or wetland boundaries; habitat for wildlife; impeding the volume and rate of runoff; reducing the amount of sediment, nutrients, and toxic materials entering the stream or wetland; and protection from harmful intrusion to protect the public from losses suffered when the functions and values of stream and wetland resources are degraded.

"Building and hardware and garden supply store" means an establishment engaged in selling lumber and other building materials such as paint, glass, wallpaper, tools, seeds and fertilizer.

"Building envelope" means a delineated area identifying where a primary building may be established. See Figure 18.03-3.

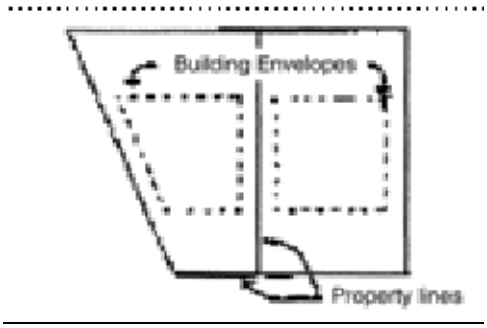


Figure 18.03-3
Building Envelopes

"Building height" means the vertical distance above a reference datum measured to the highest point of the coping of a flat roof or to the deck line of a mansard roof or to the average height of the highest gable of a pitched or hipped roof. The reference datum shall be selected by either of the following, whichever yields a greater building height: (a) the elevation of the highest adjoining sidewalk or ground surface within a five-foot horizontal distance or the exterior wall of the building when such sidewalk or ground surface is not more than ten feet above the lowest grade; (b) an elevation ten feet higher than the lowest grade when the sidewalk or ground surface described in subsection (a) of this definition is more than ten feet above the lowest grade. The height of a stepped or terraced building is the maximum height of segment of the building. See Figure 18.03-4.

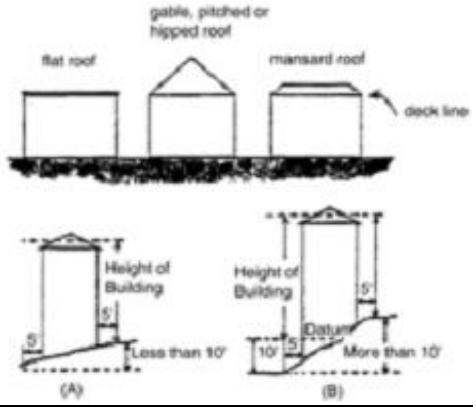


Figure 18.03-4 Building Height

"Building line" means a line on a plat indicating the limit beyond which primary buildings or structures may not be erected.

"Building" means any structure used or intended for supporting or sheltering any use or occupancy.

"Bus station" means an establishment for the storage, dispatching, repair and maintenance of coaches and vehicles of a transit system.

“Child care.” See "Day care."

"Church" means a permanently located building commonly used for religious worship, fully enclosed with walls and roof. A memorial chapel is similar to a church, with the exception that no funeral home activities, such as embalming or casket display are permitted.

"City" means the City of Camas.

"Clinic" means a building or portion of a building containing offices and facilities for providing medical, dental and psychiatric services for outpatients only.

"Co-living housing" means a residential development with sleeping units that are independently rented and lockable and provide living and sleeping space, and residents share kitchen facilities with other sleeping units in the building.

“Collector.” See "Street."

"Commission" means the Planning Commission of the City of Camas.

"Community center" means a facility owned and operated by a public agency or nonprofit corporation; provided, that the principal use of the facility is for public assistance, recreation, community improvement, or public assembly.

"Comprehensive plan" means the comprehensive plan for the City of Camas, comprising plans, maps or reports, or any combination thereof relating to the future economic and physical growth and development of the city.

"Contractor" means the person/firm hired by the applicant to perform work.

“Convenience store.” See "Grocery, neighborhood."

"Convention center" means an establishment developed primarily as a meeting facility; including facilities for recreation and related activities provided for convention participants, excluding overnight lodging.

"Cottage housing" means residential units on a lot with a common open space that either: (a) is owned in common; or (b) has units owned as condominium units with property owned in common and a minimum of 20 percent of the lot size as open space.

"Council" means the Council of the City of Camas.

"Court" means a space open and unobstructed to the sky, located at or above grade level on a lot and bounded on three or more sides by walls of a building.

"Courtyard apartments" means up to four attached dwelling units arranged on two or three sides of a yard or court.

"Critical facility" means a facility for which even a slight chance of flooding might be too great. Critical facilities include (but are not limited to) schools, nursing homes, hospitals, police, fire and emergency response installations, and installations which produce, use, or store hazardous materials or hazardous waste.

"Critical root zone" is the area of soil around a tree trunk where roots are located that provide stability and uptake of water and minerals required for tree survival.

“Cul-de-sac.” See "Street."

“Data Center” means a facility or portion of a facility housing networked computer systems and telecommunications equipment used for remote storage, processing, and distribution of data. This definition does not include server rooms or information technology infrastructure that is accessory to the principal use of the site.

"Day care center" means a state-licensed entity regularly providing care for thirteen or more children for periods of less than twenty-four hours. A day care center is not located in a private family residence unless the portion of the residence to which the children have access is used exclusively for the children during the hours the center is open or is separate from the usual quarters of the family.

“Day care, family home<” or "family home day care," means an entity regularly providing care during part of the twenty-four hour day to six or fewer children in the family abode of the person(s) under whose direction the children are placed; or, a state licensed entity regularly providing care during part of the twenty-four hour day to between six and twelve children in the family abode of the person(s) under whose direction the children are placed.

“Day care, mini-center,” or "mini-center day care," means a state licensed entity providing care during part of the twenty-four hour day period for twelve or fewer children in a facility other than the family abode of the person or persons under whose direct care the children are placed, or for the care of seven through twelve children in the family abode of such person or persons.

"Dedication" means the deliberate appropriation of land by an owner for any general and public uses, reserving to the owner no other rights than such as are compatible with the full exercise and enjoyment of the public uses to which the property has been devoted.

"Delicatessen (deli)" means retail food stores selling ready-to-eat food products such as cooked meats, prepared salads or other specialty food items. This definition includes seafood, health food and other specialty foods.

"Density transfer" means a transfer of dwelling units located on a site identified as sensitive lands or open space to the developable portion of land on the site. (Refer to Section 18.09.060 Density Transfers)

"Developed/net acreage" means the total acreage of a land use development exclusive of open space and critical areas.

"Development" within the area of special flood hazard means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading,

paving, excavation, or drilling operations, or storage of equipment or materials located within the area of special flood hazard.

"Diameter at breast height (DBH)" means the diameter of the tree measured at four feet six inches above soil grade.

"Director" means community development director or designee.

"Drainage facility" means the system of collecting and storing surface and stormwater runoff. Drainage facilities shall include but not be limited to all surface and stormwater runoff conveyance and containment facilities including streams, pipelines, channels, ditches, wetlands, closed depressions, infiltration facilities, retention/detention facilities, and other drainage structures and appurtenances, both natural and man-made.

"Driveway" means the required traveled path to or through a parking lot for three or more vehicles. A "driveway" also refers to the vehicular access for single-family dwelling.

"Drug store" means an establishment engaged in the retail sale of prescription drugs, nonprescription medicines, cosmetics and related supplies.

"Duplex or two-family dwelling" means a residential building with two attached dwelling units.

"Dwelling unit" means an independent living unit within a dwelling structure designed and intended for occupancy by not more than one family and having its own housekeeping and kitchen facilities. Hotel, motel, and bed and breakfast that are primarily for transient tenancy are not considered dwelling units.

“Dwelling unit, Accessory,” or "accessory dwelling unit," means an additional, smaller, subordinate dwelling unit on a lot or attached to an existing or new house. Refer to Chapter 18.27 Accessory Dwelling Units.

“Dwelling, condominium,” or "condominium dwelling," means two or more units where the interior space of which are individually owned; but the balance of the property (both land and/or building) is owned in common by the collective owners of the building.

“Dwelling, cottage cluster,” or "cottage-style home," or "cottage cluster" means a grouping of no fewer than four detached dwelling units with a maximum footprint of one thousand square feet each and that includes a common courtyard. Cottage clusters may be located on a single lot or parcel or on individual lots or parcels. Cottage clusters are allowed on up to twenty-five percent of the developable acreage of a project site. Cottage cluster development standards are detailed in the North Shore Design Manual.

“Dwelling, duplex or two-family,” or "duplex or two-family dwelling," means a structure containing two dwelling units on one lot.

“Dwelling, multifamily<’ or "multifamily dwelling" or "apartment," means a building containing three or more dwelling units on a lot or parcel.

“Dwelling, single-family attached (row house),” or "single-family attached dwelling," means a single household dwelling attached to another single household dwelling by a common vertical wall, and each dwelling is owned individually and located on a separate lot. These are more commonly referred to as townhouses or rowhouses.

“Dwelling, single-family,” or "single-family dwelling," means a detached building containing one dwelling unit.

"Easement" means a grant of the right to use land for specific purposes.

"E-cigarette" means any electronically actuated device or inhaler meant to simulate cigarette smoking that uses a heating element to vaporize a liquid solution, popularly referred to as "juice," and that causes the user to exhale any smoke, vapor, or substance other than that produced by unenhanced human exhalation. The juice used in e-cigarettes typically contains nicotine, and for this reason e-cigarettes and their juice fall under the classification of tobacco products and tobacco paraphernalia.

"Electric vehicle battery charging station" and "rapid charging station" mean an electric component assembly, or cluster of component assemblies designed specifically to charge batteries within electric vehicles, which meet or exceed any standards, codes, and regulations set forth by RCW Chapter 19.28.

"Electric vehicle infrastructure" means structures, machinery, and equipment to support electric vehicles such as a battery exchange station or facility, and which may be subject to site plan permits.

"Elevated building" means for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

"Emergency housing" means temporary indoor accommodations for individuals or families who are homeless or at imminent risk of becoming homeless that is intended to address the basic health, food, clothing, and personal hygiene needs of individuals or families. Emergency housing may or may not require occupants to enter into a lease or an occupancy agreement.

"Emergency shelter" means a facility that provides a temporary shelter for individuals or families who are currently homeless. Emergency shelter may not require occupants to enter into a lease or an occupancy agreement. Emergency shelter facilities may include day and warming centers that do not provide overnight accommodations.

"Environmentally sensitive area(s)" or "sensitive lands" means areas within the city that are characterized by, or support unique, fragile or valuable natural resources, or that are subject to natural hazards. Sensitive areas include wetlands and wetland buffers, streams and watercourses, steep slopes, and areas with potentially unstable soils, as those areas are defined and identified pursuant to this title and Title 16.

"Erosion control bond" insures the satisfactory installation, maintenance, and operation of erosion control measures within an approved development. The developer/owner is the principle and the city is the obligee. The bond shall remain in full force and effect until released by the city.

"Established grade" means the curb line grade established by the city.

"Event center" means a building or property used by groups for celebratory events (e.g. weddings, parties, reunions, etc.), meetings and other events. Occupancy must be less than two hundred persons otherwise it shall be regulated as a convention center. Events may occur outdoors. Typically food service and alcohol are associated with this use.

“Facility, essential public,” or "essential public facility," means and includes those facilities that are typically difficult to site, such as airports, state education facilities and state or regional transportation facilities, state and local correctional facilities including substance abuse facilities, mental health facilities, and group homes.

"Facility, public," "public facility," means streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, water towers, storm and sanitary sewer systems, parks and recreation facilities, and schools that are open to the general public and owned by or in trust for a government entity.

"Family" means an individual, or two or more persons related by blood or marriage, or two persons with functional disabilities as defined in this chapter, or a group of not more than five unrelated persons (excluding servants), living together in the same dwelling unit.

"Fence" means a structure, other than a building, designed, constructed and intended to serve as a barrier or as a means of enclosing a yard or other structure; or to serve as a boundary feature separating two or more properties. Landscaping plantings do not fall within this definition.

“Fence, sight-obstructing,” or "sight-obstructing fence," means a fence so arranged as to obstruct vision.

"Final acceptance" means city council approval of the complete public improvements and acceptance of the warranty for the public improvements. The end of the warranty period signifies the city responsibility for maintenance and repair of any public improvements.

"Final plat" means the final drawing of the subdivision or short subdivision and dedication, prepared for filing for record with the county auditor and containing all elements and requirements set forth in this chapter and in state law.

"Fitness center/sports club" means an establishment engaged in operating physical fitness facilities, sports and recreation clubs.

"Flag lot" means a lot that does not have full frontage on a public street and the "pole" of the flag lot is less than half the width of the average lot width. Flag poles shall be a minimum of twenty feet wide, provide a minimum of twelve feet wide pavement and extend no longer than three hundred feet.

"Flood elevation study" means an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation, and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards. Also known as a flood insurance study (FIS).

"Flood insurance rate map (FIRM)" means the official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a digital flood insurance rate map (DFIRM).

"Flood insurance study (FIS)" means the official report provided by the Federal Insurance Administration that includes flood profiles, the flood insurance rate maps, and the water surface elevation of the base flood.

"Flood," or "Flooding" means:

A. A general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters.

2. The unusual and rapid accumulation or runoff of surface waters from any source.

3. Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph [B.] of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.

B. The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph [A.] of this definition.

"Flood proofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents. Flood proofed structures are those that have the structural integrity and design to be impervious to floodwater below the base flood elevation.

"Floodplain administrator" means the community official designated by title to administer and enforce the floodplain management regulations.

"Floodplain or flood prone area" means any land area susceptible to being inundated by water from any source. See "flood or flooding."

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Also referred to as "regulatory floodway."

"Floor area" means the area included within the surrounding exterior walls of a building or portion thereof, exclusive of vent shafts and courts. The floor area of a building, or portion thereof, not provided with surrounding

exterior walls shall be the usable area under the horizontal projection of the roof or floor above. For retrofits of existing buildings to be used for residential housing, dross floor area must be measured from the interior face of the exterior walls, which includes drywall, as typically depicted on the architectural floor plans.

"Florist shop" means establishments engaged in the retail sale of flowers and plants.

"Food carts/food trucks/food delivery business" means a business in which food is primarily prepared and sold from a vehicle or trailer. Restaurants or fast food restaurants in a permanent building are not included in this definition. Food carts are generally not allowed to conduct business within the public right-of-way and must be located on leased or owned property. For more information refer to zoning structure setbacks, uses allowed in the zone, and siting requirements at CMC Chapter 18.18 Site Plan Review.

"Fourplex" means a residential building with four attached dwelling units.

“Fulfillment centers" means a building or facility that is principally used for receiving, picking, packing, and shipping goods and orders directly to customers, and relies on optimizing speed and efficiency over longer-term inventory storage.

"Functionally dependent use" means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long term storage or related manufacturing facilities.

"Funeral home" means a building where services and/or ceremonies are held in conjunction with human burial or cremation. Crematories may be an accessory use to a funeral home.

"Furniture store" means establishments engaged in the retail sale of household furniture and furnishings for the home.

"Gas/fuel station with mini market" means establishments engaged in the sale of gasoline or other auto fuel together with a minor incidental building in which incidental items including snack foods and beverages are sold.

"Gas/fuel station" means establishments engaged primarily in the sale of automobile gasoline or other auto fuel to the general public.

"Golf course" means a recreational facility, under public or private ownership, designed and developed for uses including, but not limited to a golf course, driving range, putt-putt golf, and other auxiliary facilities such as a pro shop, caddy shack building, restaurant, meeting rooms, and storage facilities.

"Grade (adjacent ground elevation)" means the lowest point of elevation of the finished surface of the ground paving or sidewalk within the area between the building and the property line or, when the property line is more than five feet from the building, between the building and a line five feet from the building.

“Grocery, large scale,” or "large scale grocery," means a retail business enclosed within a structure greater than thirty thousand square feet with the majority of sales relating to food for the consumption off-premises.

“Grocery, neighborhood,” or "neighborhood grocery," means a retail business enclosed within a structure less than six thousand square feet with the majority of sales relating to food and associated items. Limited outdoor storage may be permitted; provided it complies with screening requirements. Where outdoor storage occurs, the use shall be defined as a small scale grocery.

“Grocery, small scale,” or "small scale grocery," means a retail business enclosed within a structure between six thousand square feet and thirty thousand square feet with the majority of sales relating to food for the consumption off-premises.

"Gross area" means the total usable area including accessory and common space dedication to such things as streets, easements and uses out of character with the principal use but within a unit of area being measured.

"Guest house" means an accessory, detached dwelling without kitchen facilities, designed for and used to house transient visitors or guests of the occupants of the main building without compensation.

"Half street." See "Street."

"Hammerhead" means a term used to describe a particular style of turnaround for emergency vehicles designed in accordance with guidelines in the Camas Design Standard Manual.

"Hardware store." See "Building, hardware and garden supply store."

"Hazard tree," means any tree with a combination of structural defect and/or disease, which makes it subject to a high probability of failure and a proximity to persons or property which makes it an imminent threat.

"Hazardous waste storage" means the holding of dangerous waste for a temporary period, as regulated by state dangerous waste regulations, Chapter 173-303, Washington Administrative Code.

"Hazardous waste treatment and storage facility, off-site," or "off-site hazardous waste treatment and storage facility," means treatment and storage facilities of hazardous wastes generated on properties other than those on which the off-site facility is located.

"Hazardous waste treatment and storage facility, on-site," or "on-site hazardous waste treatment and storage facility," means treatment and storage of hazardous wastes generated on-site.

"Hazardous waste treatment" means the physical, chemical or biological processing of dangerous waste to make waste nondangerous or less dangerous, safer for transport, amenable for energy or material resource recovery, amenable for storage, or reduced in volume.

"Hazardous waste" means all dangerous and extremely hazardous, as defined in RCW 70.105.010, except for moderate-risk waste.

"Hearings examiner" conducts quasi-judicial public hearings for land development applications and renders decisions based on regulations and policies as provided in Camas Municipal Code and other ordinances. See CMC Chapter 2.15 Hearing Examiner System.

"Height of building." See "Building height."

"Highest adjacent grade" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

"Hillsides" means geological features of the landscape having slopes of fifteen percent or greater. To differentiate between levels of hillside protection and the application of development standards, the city categorizes hillsides into four groups: hillsides of at least fifteen percent but less than forty percent; hillsides with unstable slopes; hillsides of forty percent slope and greater; hillsides which are ravine sidewalls or bluffs.

"Historic structure" means any structure that is:

A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the secretary to qualify as a registered historic district;

C. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or

D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

1. By an approved state program as determined by the Secretary of the Interior, or

2. Directly by the Secretary of the Interior in states without approved programs.

"Home occupation." See CMC Chapter 18.39 Home Occupations.

"Home, designated manufactured" means a manufactured home which:

(a) is comprised of at least two fully enclosed parallel sections each not less than twelve (12) feet wide by thirty-six feet long;

(b) was originally constructed with and now has composition or wood shake or shingle, coated metal, or similar roof, or not less than 3:12 pitch;

(c) has exterior siding similar in appearance to siding materials commonly used on conventional site-built IBC single-family residences; and

(d) is placed upon a permanent foundation.

"Home, manufactured" means a single-family residence constructed after June 15, 1976, in accordance with the U.S. Department of Housing and Urban Development (HUD) requirements for manufactured housing, and bearing the appropriate insignia indicating such compliance.

"Home, mobile" means a single-family residence transportable in one or more sections that are eight feet or more in width and thirty-two feet or more in length, built on a permanent chassis, designed to be used as a permanent dwelling and constructed before June 15, 1976. Such home shall be installed in accordance with applicable WAC rules and regulations.

"Home, modular" means a structure constructed in a factory in accordance with the International Building Code and bearing the appropriate insignia indicating such compliance. This definition includes "prefabricated," "panelized," and "factory built" units. Such home shall be installed in accordance with applicable WAC rules and regulations.

"Homeowner's association" means an incorporated, nonprofit organization operating under recorded land agreements through which: (a) each lot owner is automatically a member; and (b) each lot is automatically subject to a charge for a proportionate share of the expenses for the organization's activities, such as maintaining a common property.

"Hospital" means an establishment that provides sleeping and eating facilities to persons receiving medical, obstetrical or surgical care and nursing service on a continuous basis.

"Hotel" means a building or buildings in which short-term lodging is provided for a fee for up to thirty consecutive nights. The facility may provide such things as restaurants, meeting rooms, self-service kitchens, and/or other auxiliary facilities and services. This definition is interchangeable with "motel," "hostel," and "inn."

"IBC" means the International Building Code as adopted by city council.

"IFC" means the International Fire Code as adopted by the city council.

"Infrastructure acreage" means the total area of public improvements including any utility or private road outside of the lot area, street right-of-way, and storm drainage facilities.

"IRC" means the International Residential Code as adopted by the city council.

“Junkyard.” See "Wrecking yard."

"Kennel/boarding (incidental use)" means any premises or building in which four or more dogs or cats at least four months of age are kept commercially for training or board. Propagation and sale of pets may not occur as an incidental use. Facilities for the boarding of animals may occupy no more than 30 percent of the gross floor

area of the primary building and must be indoors. Excessive barking may be considered cause for revocation of permit in accordance with CMC Section 9.32.050 Public disturbance noises.

"Kennel/commercial boarding (primary use)" means any premises or building in which four or more dogs or cats at least four months of age kept commercially for board, propagation or sale. Facilities for kennels/boarding must be entirely indoors, unless otherwise approved with a Type III permit.

"Land development" means any project subject to review under Title 16, 17 or 18.

“Laundry, self-service,” or "self-service laundry," means a business providing coin-operated machines for home type washing, drying, and/or ironing to be performed primarily by customers.

“Laundry/dry cleaning (industrial),” or "industrial laundry/dry cleaning," means a business supplying bulk laundry services, such as linen and uniform services on a rental or contract basis. May also include cleaning used carpets and upholstery.

“Laundry/dry cleaning (retail),” or "retail laundry/dry cleaning," means a business providing drop-off and pick-up services of laundry and dry cleaning (except coin- operated); and providing specialty cleaning services for specific types of garments and other textile items (except carpets and upholstery), such as fur, leather, or suede garments; wedding gowns; hats; draperies; and pillows.

“Live work unit,” or "live-work," means a type of residential mixed-use development that combines a nonresidential use with a residential use in the same unit, and where a resident uses the workspace. The living space may be located in front or behind the workspace on the same floor or on a separate floor.

"Lot area" means the total square footage of a lot.

"Lot coverage" means the portion of a lot that is occupied by the principal and accessory buildings, including all projections except eaves, expressed as a percentage of the total lot area.

"Lot depth" means the horizontal distance from the midpoint of the front lot line to the midpoint of the rear lot line.

"Lot line" means the property line bounding a lot.

“Lot line, front,” or "front lot line," means, in the case of an interior lot, the lot line separating the lot from a street other than an alley, and in the case of a corner lot, the shortest lot line separating the lot from a street other than an alley.

“Lot line, rear,” or "rear lot line," means a lot line which is opposite and most distant from the front lot line. In the case of an irregular shaped lot, a line ten feet in length within the lot parallel to and most distant from the front lot line shall be considered the rear lot line for purposes of determining required setbacks. See Figure 18.03-6.

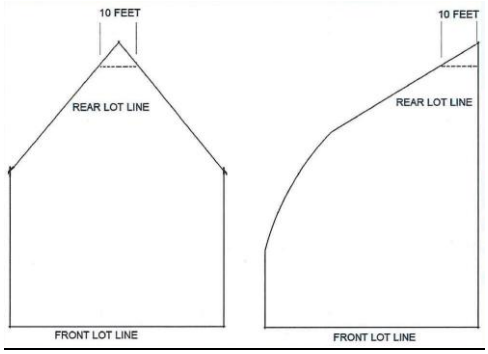


Figure 18.03-6 Rear Lot Line in the Case of an Irregular Lot

"Lot line, side," or "side lot line," means any lot line not a front or rear lot line. See Figure 18.03-8.

"Lot width" means the horizontal distance between the side lot lines at a point midway between the front and rear property lines.

"Lot width" means the horizontal distance between the side lot lines at a point midway between the front and rear property lines.

"Lot" means a fractional part of divided lands having fixed boundaries, being of sufficient area and dimension to meet minimum zoning requirements for width and area. The term shall include parcels.

"Lot, corner," or "corner lot," means a lot abutting on two intersecting streets other than an alley provided that the streets do not intersect at an angle greater than one hundred thirty-five degrees. See Figure 18.03-7.

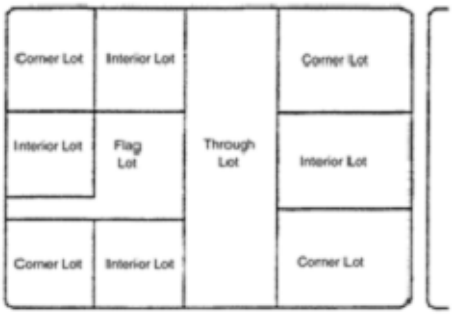


Figure 18.03-7
Lot Configuration

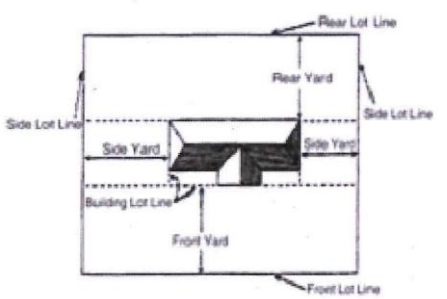


Figure 18.03-8
Yard and Lot Lines

"Lot, interior," or "interior lot," means a lot other than a corner lot. See Figure 18.03-7.

"Lot, parent" means a lot which is subdivided into unit lots through the unit lot subdivision process; or a lot that is subjected to the administrative lot split process

"Lot, through," or "through lot," means a lot having frontage on two parallel or approximately parallel streets. See Figure 18.03-7.

"Lot, unit" means a lot created from a parent lot and approved through the unit lot subdivision process.

"Lowest floor" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements found in CMC Chapter 16.57.

"Major transit stop" means a stop on a high capacity transportation system funded or expanded under the provisions of chapter 81.104 RCW, commuter rail stops, stops on rail or fixed guideway systems, and stops on bus rapid transit routes.

"Manufactured home park" means any property meeting the minimum standards established in CMC Chapter 18.29 "Manufactured home parks," which would be divided into individual spaces for sale, lease or rent for the accommodation of occupied manufactured/mobile homes.

“Marginal access street.” See "Street."

"Marijuana processor" means a facility licensed by the Washington Liquor Control Board to transform marijuana into usable marijuana and marijuana-infused products into useable marijuana and marijuana-infused products, package and label useable marijuana and marijuana-infused products for sale in retail outlets, and sell usable marijuana and marijuana-infused products at wholesale to marijuana retailers. Processors are classified as follows:

Processor I, a facility limited to drying, curing, trimming, and packaging; and

Processor II, a facility that extracts concentrates, infuses products, or involves mechanical and/or chemical processing in addition to drying, curing, trimming, and packaging.

"Marijuana producer" means a facility licensed by the Washington State Liquor Control Board for the growing and sale at wholesale of marijuana to marijuana processors and other marijuana producers.

"Marijuana retailer" means a facility licensed by the Washington State Liquor Control Board for the sale to consumers of usable marijuana and marijuana-infused products.

“Mass timber construction” means a building with structural components primarily made of mass timber products as defined in RCW 19.27.570.

"Mean sea level" for purposes of the National Flood Insurance Program, the vertical datum to which base flood elevations shown on a community's flood insurance rate map are referenced.

"Meeting facility" means a primary or secondary use in which a room or series of rooms are available for businesses purposes on an hourly or daily rate.

"Middle housing" means buildings that are compatible in scale, form, and character with single-family houses and contain two or more attached, stacked, or clustered homes including duplexes, triplexes, fourplexes, townhouses, stacked flats, courtyard apartments, and cottage housing.

"Mini-storage facility" means a building consisting of individual, small, self-contained units that are leased or owned for the storage of business and household goods or contractor's supplies. May also include an accessory residential use, which will not exceed nine hundred square feet of floor area or forty percent of the primary building size, whichever is lesser. This singular, accessory dwelling is intended solely as living quarters for security staff or for the manager, and shall not be leased to non-employees of the facility.

“Minor street.” See "Street."

"Mitigation" means the use of any combination of, or all of the following actions:

A. Avoid impacts to environmentally sensitive areas by not taking a certain action, or parts of an action;

B. Minimize impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environmentally sensitive area;

D. Reducing or eliminating the impact over time by reservation and maintenance operations during the life of the development proposal;

E. Compensating for the impact by replacing or enhancing environmentally sensitive areas, or providing substitute resources.

"Modular construction" means a multistory residential or commercial building constructed of standardized components produced off-site, which are transported and assembled at a final location.

"New construction" for the purposes of determining insurance rates, means structures for which the "start of construction" commenced on or after the effective date of an initial flood insurance rate map or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

"Newspaper printing plant" means a building housing a business to include the writing, layout, editing, and publishing of a newspaper.

"Nonconforming building or use." See CMC Chapter 18.41 Nonconforming Uses.

“Non-residential use” means a use, building, or structure that is intended for something other than residential living, including commercial, retail, office, and personal services use, but excluding storage or warehousing of any kind.

“Nursery, plant,” or "plant nursery," means an enterprise, establishment, or portion thereof that conducts the retailing or wholesaling of plants grown on the site, as well as accessory items (but not farm implements). The accessory items normally sold include items such as clay pots, potting soil, fertilizers, insecticides, hanging baskets, rakes and shovels.

"Nursing, rest or convalescent home" means an establishment which provides full-time care for three or more chronically ill or infirm persons. Such care shall not include surgical, drug or alcohol treatment services, or obstetrical or acute illness services. See residential treatment facility (RTF) definition for drug and alcohol treatment services.

"Office supply store" means stores selling office products such as stationery, legal forms, writing implements, typewriters, computers, copiers, office furniture, and the like.

"Open space connectors" means tracts of land with typically no sensitive lands that connect parcels of land to form the open space network.

"Open space network" means a network of open space composed of mostly wooded areas, steep slopes, ravines, streams and waterways, as areas identified in the comprehensive parks, recreation, and open space plan.

"Open space" means land set aside and maintained in a natural state, providing air, light, and habitat for wildlife, and/or containing significant trees and vegetation. Open space may contain environmentally sensitive lands, which include but are not limited to steep slopes and areas with unstable soils, wetlands, and streams and watercourses. Open space may also provide for active and passive recreation use. There are two general categories of open space, which are as follows:

A. "Natural open space" means land devoted to protecting environmentally sensitive lands as defined in this title and CMC Title 16. Natural open space generally has no developed areas, with the exception of trails as identified in the comprehensive parks, recreation, open space plan, or by a condition of development approval.

B. "Recreational open space" means land set aside for recreational opportunities, which may contain trails, sports fields, playgrounds, swimming pools, tennis courts, and picnic areas. Recreational open space is generally limited in size and intensity, proportionate to the development, and is intended for the enjoyment of the residents of the development.

"Owner" means the persons/organization who hold legal right to the property. The owner may also serve as applicant, developer and contractor.

"Passive house requirements" means the criteria for certification as a passive house by Phius or the international passive house institute.

"Pawnshop" means establishments who lend money on goods deposited until redeemed.

"Pawnshop" means establishments who lend money on goods deposited until redeemed.

"Pedestrian way" means a right-of-way for pedestrian traffic connecting two streets other than at an intersection.

"People with functional disabilities" means a person who, because of a recognized chronic physical or mental condition or disease, is functionally disabled to the extent of:

1. Needing care, supervision or monitoring to perform activities of daily or instrumental activities of daily living;
2. Needing supports to ameliorate or compensate for the effects of the functional disability so as to lead as independent a life as possible;
3. Having a physical or mental impairment which substantially limits one or more of such person's major life activities; or
4. Having a record of having such an impairment, but such term does not include current, illegal use of or active addiction to a controlled substance.

"Performance bond" means a pledge, guarantee or bond, usually to back the performance of an individual or company. The bond guarantees the contractor's performance. A performance bond is generally used to ensure that a particular obligation will be completed at a certain date or that a contract will be performed as stated. It has no end date, but terminates upon successful completion of obligation.

"Permanent supportive housing" means subsidized, leased housing with no limit on of stay, that prioritizes people who need comprehensive support services to retain tenancy and utilizes admissions practices designed to use lower barriers to entry than would be typical for other subsidized or unsubsidized rental housing, especially related to rental history, criminal history, and personal behaviors. Permanent supportive housing is paired with on-site or off-site voluntary services designed to support a person living with a complex and disabling behavioral health or physical health condition who was experiencing homelessness or was at imminent risk of homelessness prior to moving into housing to retain their housing and be a successful tenant in a housing arrangement, improve the residents' health status, and connect the resident of the housing with community-based health care, treatment, or employment services. Permanent supportive housing is subject to all of the rights and responsibilities defined in chapter 59.18 RCW.

"Person" means an individual, firm, partnership, corporation, company, association, syndicate or any legal entity, including any trustee, receiver, assignee or other similar representative thereof.

"Pet shop" means establishments engaged in the retail sale of pets, pet food, supplies and the grooming of pets and other small animals.

“Pharmacy.” See "Drug store."

"Phase" means a group of lots, tracts or parcels within well identified and fixed boundaries. The term shall include blocks. Phases shall be consecutively numbered.

"Photographic store" and "electronic store" mean establishments engaged in the retail sale of camera and photographic supplies and a variety of household electronic equipment.

"Planned residential development (PRD)." See CMC Chapter 18.23 Planned Residential Development.

"Planning commission" means the planning commission of the City of Camas.

"Planning control area" means an area in a state of incomplete development within which special control is to be exercised over land partitioning.

"Plat" means a map or representation of a subdivision, showing thereon the division for a tract or parcel of land into lots, blocks, streets and alleys, or other divisions and dedications.

"Preliminary plat" means a neat and approximate drawing of a proposed subdivision showing the general layout of streets and alleys, lots, blocks, tracts and other elements of a land division consistent with the requirements of this chapter. The preliminary plat shall be the basis of the approval or disapproval of the general layout of the land division.

“Principal use” means the primary or predominant use of a lot, building, structure, or tenant space, as distinguished from an accessory use.

"Print shop" means a retail establishment that provides duplicating services using photocopy, blueprint, and offset printing equipment, including collating of booklets and reports.

"Professional offices" means an office containing activities such as those offered by a physician, surgeon, dentist, lawyer, architect, engineer, accountant, artist or teacher, real estate or insurance sales.

"Protective mechanism" means a method of providing permanent protection to open space, and shall include conservation easements, dedication to the city, conveyance to a public or private land trust, conveyance to a homeowner's association, restrictive covenants, or any combination of such mechanisms.

"Public agency" means any agency office for the administration of any governmental activity or program.

"Punch list" means a term used by the engineering department to designate items still to be completed per conditions of approval and city standards for the land use to reach final acceptance phase of the approval process.

"Ravine sidewall" means a steep slope which abuts and rises from the valley floor of a stream, and which was created by the wearing action of the stream. Ravine sidewalls contain slopes predominantly in excess of forty percent, although portions may be less than forty percent. The toe of a ravine sidewall is the stream valley floor. The top of a ravine sidewall is typically a distinct line where the slope abruptly levels out. Where there is no distinct break in slope, the top is where the slope diminishes to less than fifteen percent. Minor natural or man-made breaks in the slope of ravine sidewalls shall not be considered as the top. Benches with slopes less than fifteen percent, and containing developable areas, shall be considered as the top.

"Recreational vehicle (RV) park" means any lot of land upon which two or more recreational vehicle sites are located, established, or maintained for occupancy by recreational vehicles of the general public as temporary living quarters for recreation or vacation purposes.

"Recreational vehicle" means a vehicle which is: a) built on a single chassis; b) four hundred square feet or less when measured at the largest horizontal projection; c) designed to be self-propelled or permanently towable by a light duty truck; and d) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Recycling center" means a building in which used material is separated and processed prior to shipment to others who will use those materials to manufacture new products.

"Recycling collection point" means a collection point for recoverable resources, such as newspapers, glassware, and metal cans, with processing of items occurring off-site. See Figure 18.03-1.

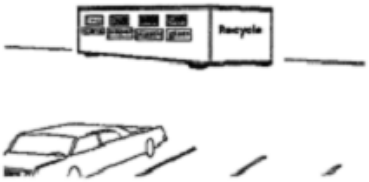


Figure 18.03-1 Recycling Collection Point

"Recycling plant" means a facility that is not a junkyard and in which recoverable resources, such as newspapers, glass, metal cans and other products are reprocessed and treated to return such products to a condition in which they may again be used for production.

"Religious organization" means the federally protected practice of a recognized religious assembly, school, or institution that owns or controls real property.

"Residential care facility" means a facility, licensed by the state of Washington, that cares for at least five but not more than fifteen people with functional disabilities, and that has not been licensed as an adult family home pursuant to RCW 70.128.175.

"Residential treatment facility (RTF)" means a facility meeting applicable state and federal standards that provides support services including, but not limited to, counseling, rehabilitation and medical supervision for the need of drug or alcohol treatment. An RTF may function as a residence, day-treatment facility, or a combination thereof. An RTF may be staffed by resident or nonresident staff and may include more than eight unrelated individuals. An RTF shall not be located within one thousand feet of public and private schools, public parks, public libraries, other RTFs, or similar uses.

"Restaurant" means an establishment that serves food and beverages primarily to persons seated within the building. This includes cafes, coffee shops, tearooms, and outdoor cafes.

“Restaurant, fast food,” or a "fast food restaurant," means an establishment that offers quick food service, which is accomplished through a limited menu of items already prepared and held for service, or prepared, fried, or grilled quickly, or heated in a device such as a microwave oven. Orders are not generally taken at the customer's table, and food is generally served in disposable wrapping of containers. The establishment may also offer drive-up or drive-through service.

“Retail, active” means street-facing, ground-floor uses that encourage walkability and activate sidewalks, such as shops, cafés, restaurants, and other active, customer-oriented

“Retail, passive” refers to commercial activities that primarily serve building occupants or a smaller customer base – such as boutique offices, lobby kiosks, or specialty shops – which typically generate less foot traffic and require less window visibility.

"Right-of-way" (commonly referred to as ROW) means the area between boundary lines of a street or other easement.

"Roadside produce stand" means an establishment engaged in the retail sale of local fresh fruits and vegetables and having permanent or semi-permanent structures associated with such use.

"Roadway" means the portion of a street right-of-way developed for vehicular traffic.

"Rowhouse." See "Dwelling, single-family attached."

"Second-hand/consignment store" means an establishment engaged in the retail sale of used clothing, sports equipment, appliances and other merchandise.

"Sensitive area(s) map(s)" means those maps adopted, and/or incorporated by reference, by the city to identify the general location of environmentally sensitive or valuable areas. In case of questions as to map boundaries or mapping errors, the presence or absence of a sensitive area shall be determined in the field by a qualified professional, experienced in a discipline appropriate to evaluation of the appropriate feature, and shall determine the applicability of this chapter.

"Sensitive areas and open space." For related definitions see CMC Section 18.03.050 Environmental definitions.

"Setback." See "Yard."

"Shorelines." For related definitions see CMC Section 18.88.030 Definitions in Chapter 18.88 Shoreline Management.

"Short plat" means a map or representation of a short subdivision.

"Short subdivision" means the division of land into nine or fewer lots, sites or divisions for the purpose of sale or lease.

"Sidewalk area" means the portion of a street right-of-way between proposed curb line and adjacent lot line.

"Sidewalk" means a pedestrian walkway with permanent surfacing to city standards.

"Significant trees" means evergreen trees eight inches DBH, and deciduous trees twelve inches DBH. Does not include hazard trees or invasive species.

"Signs." For related definitions see Chapter 18.15 Signs.

"Single-family attached dwelling" means a single household dwelling attached to another single household dwelling by a common vertical wall, and each dwelling is owned individually and located on a separate lot. See also "townhouses".

"Smoke shop/head shop" means any premises where the primary use (fifty percent or more of the net floor area of a business) is dedicated to the display, sale, distributions, delivery, offerings, furnishing, or marketing of tobacco, tobacco products or tobacco paraphernalia.

"Sober living homes" means a home-like environment that promotes healthy recovery from a substance use disorder and supports persons recovering from a substance use disorder through the use of peer recovery support. Sober living homes are limited to no more than eight unrelated individuals.

"Social gathering hall" means a building used primarily by community groups and organizations for meetings, celebrations, bingo and other events.

"Specialty goods production" means small-scale businesses that manufacture artisan goods or specialty foods. Small manufacturing production aims at direct sales rather than the wholesale market. This use may include public viewing, tasting area for consumption on site, restaurant or café, and other customer service space. This use category includes the following: Microbreweries (a.k.a. Brew pub), microdistilleries, and wineries; fruit and vegetable preserving and specialty foods; and artisan leather, glass, cutlery, hand tools, wood, paper, ceramic, textile and yarn products.

"Stacked flat" means dwelling units in a residential building of no more than three stories on a residential zoned lot in which each floor may be separately rented or owned.

"Start of construction" means and includes substantial improvement, and means the date the building permit was issued, provided that the actual start of construction, repair, reconstruction, placement, or other improvement was within one hundred eighty days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the state of excavation; of the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as

clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundation, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

"Steep slopes" or "area with potential unstable soils" means any land potentially subject to landslides, severe erosion, or seismic activity (earthquake faults). Steep slopes are generally characterized by slopes of fifteen percent or greater, impermeable subsurface material (sometimes interbedded with permeable subsurface material), and/or springs or seeping groundwater during the wet season. Seismic areas are those lying along or adjacent to identified earthquakes faults.

"Stock broker, brokerage firm" means a qualified and regulated professional or company that oversees financial assets, buys and sells (trades) shares or stocks, and other securities through market makers on behalf of investors.

"Story" means the space between two successive floors in a building. The top floor shall be the space between the floor surface and the underside of the roof framing. A basement shall be counted as a story if over fifty percent of its ceiling is over six feet above the average finished grade of the adjoining ground surface.

"Story, first," or "first story," means the lowest story in a building which qualifies as a story, as defined in this chapter, except that a floor level in a building having only one floor level shall be classified as a first story, provided such floor level is not more than eight feet below grade, as defined in this chapter, at any point.

"Story, half," or "half-story," means a space under a roof which has the line of intersection of roof decking and exterior wall face not more than four feet above the top floor level. A half-story containing one or more dwellings shall be counted as a full story.

"Stream" or "watercourse" means those areas where surface waters produce a defined channel or bed. The channel or bed need not contain water year-round. This definition does not include irrigation ditches, canals, storm or surface water conveyance devices, or other entirely artificial watercourses. Streams are further categorized as Class 1 through 5 in accordance with the classifications used by WAC 222-16-030.

"Street" means the entire width between the boundary of property or lot lines, for the purpose of vehicular and pedestrian traffic. See Table 17.19-1.

1. "Access easement" refers to "private road."
2. "Alley" means a narrow street primarily for vehicular service access to the back or side of properties otherwise abutting on another street.
3. "Arterial" means a street of considerable continuity that is primarily a traffic artery for intercommunication among large areas. There are usually three to five lanes of traffic.
4. "Collector" means a street supplementary to the arterial street system and a means of intercommunication between this system and smaller areas; used to some extent for through traffic and to some extent for access to abutting properties. There are usually two to three lanes of traffic.
5. "Cul-de-sac (dead-end street)" means a short street having one end open to traffic and being terminated by a vehicle turnaround. See Design Standards Manual for required right-of-way, pavement, curb and gutters.
6. "Driveway" see "Private road."
7. "Half street" means a portion of the width of a street usually along the edge of a subdivision where the remaining portion of the street could be provided in another subdivision.

8. "Marginal access street" means those streets whose primary function is the circulation of through traffic and shall include all major and secondary arterials and all collector streets identified in the city comprehensive plan.

9. "Minor street" means a street intended exclusively for access to abutting properties. Also referred to as a neighborhood street. This type of street has only two lanes of traffic.

10. "Private road" means a strip of land that provides access to a lot, tract or parcel. This road is privately maintained but is designed and installed per Table 17.19-1 and with approval of the engineering manager.

"Structural alteration" means any change to the supporting members of a building including foundations, bearing walls or partitions, columns, beams or gliders, or any structural change in the roof.

"Structure" for floodplain management purposes, means a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

"Structure" means that which is built or constructed. An edifice or building of any kind or any piece of work artificially built up or composed of parts joined together in some definite manner.

"Subdivision improvement bond" means a guarantee that improvements to an approved residential development will be completed in accordance with city standards, and code as stated in conditions of approval. The owner is the principle and the city is the obligee. There is no expiration date on this type of bond but it terminates upon acceptance of improvements by the city. The bond is issued in the amount equal to one hundred five percent of the cost of all public improvements and any improvements required as part of the conditions of approval per CMC Section 17.21.050 Bonds and other financial agreements.

"Subdivision" means a division or redivision of land into ten or more lots, tracts, sites or divisions for the purpose of sales, lease or transfer of ownership.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty percent of the market value of the structure before the damage occurred.

"Substantial improvement" for the purposes of CMC 16.57 Frequently Flooded Areas, means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent of the market value of the structure either:

1) Before the improvement or repair is started; or

2) If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term can exclude:

1) Any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or

2) Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

"Supported living arrangement" means a living unit owned or rented by one or more persons with functional disabilities who receive assistance with activities of daily living, instrumental activities of daily living, and/or medical care from an individual or agency licensed and/or reimbursed by a public agency to provide such assistance.

"Tavern" means an establishment primarily serving alcoholic beverages for consumption on-site. Secondary activities may include dining, music, bottling, and sale of bottled beverages prepared on-site.

"Telecommunications." See Section 18.35.030 Definitions in Chapter 18.35 Telecommunications Ordinance.

"Tiny house communities" means real property rented or held out for rent to others for the placement of tiny houses with wheels or tiny houses as approved through site plan review (Chapter 18.18).

"Tiny house" and "Tiny house with wheels" mean a dwelling to be used as permanent housing with permanent provisions for living, sleeping, eating, cooking, and sanitation built in accordance with state building code.

"Tobacco paraphernalia" means any paraphernalia, equipment, device, or instrument that is primarily designed or manufactured for the smoking, chewing, absorbing, dissolving, inhaling, snorting, sniffing, or ingesting by any other means into the body of tobacco, tobacco, tobacco products, marijuana, marijuana products, or other controlled substances as defined by the state of Washington. Items or devices classified as tobacco paraphernalia include but are not limited to the following: pipes, punctured metal bowls, bongs, water bongs, electric pipes, e-cigarettes, e-cigarette juice, buzz bombs, vaporizers, hookahs, and devices for holding burning material. Lighters and matches shall be excluded from the definition of tobacco paraphernalia.

"Tobacco product" means any product in leaf, flake, plug, liquid, or any other form, containing nicotine derived from the tobacco plant, or otherwise derived, which is intended to enable human consumption of the tobacco or nicotine in the produce, whether smoked, chewed, absorbed, dissolved, inhaled, snorted, sniffed, or ingested by any other means. For the purposes of this chapter, the term "tobacco product" excludes any product that has been specifically approved by the United States Food and Drug Administration (FDA) for sale as tobacco/smoking cessation product or for other medical purposes, where such product is marketed and sold solely for such an approved purpose.

"Townhouses" means buildings that contain three or more attached single-family dwelling units that extend from foundation to roof and that have a yard or public way on not less than two sides.

"Tract" means an area dedicated to such things as streets, easements and uses out of character with the principal use, but within a unit of area being measured. Tracts may include critical areas, storm ponds, and forestlands, parkland and other open space. Tracts shall not be considered lots for the purpose of determining short plat or subdivision status. Tracts shall not be considered buildable lots of record.

"Transitional housing" means a project that provides housing and supportive services to homeless persons or families for up to two years and that has as its purpose facilitating the movement of homeless persons and families into independent living.

"Tree protection zone" is an arborist-defined area surrounding the trunk intended to protect roots and soil within the critical root zone and beyond, to ensure future tree health and stability. Tree protection zones may be calculated based on multiplying the tree's DBH by a factor of twelve depending on the tree's species and tolerance of root disturbance.

"Triplex" means a residential building with three attached dwelling units.

"Turn-arounds" are any location identified by the city engineering manager as necessary to be improved for emergency and other vehicles to turn around.

"UBC." See "IBC" or "IRC."

"Unit density" means the number of dwelling units (including accessory dwelling units) allowed on a lot, regardless of lot size.

"Unit lot subdivision" means the division of a parent lot into two or more unit lots within a development and approved through the unit lot subdivision process.

"Usable Open Space" means areas planned and improved to provide opportunities for active recreation, passive relaxation, or community interaction, and that are accessible to the public or to residents, employees, or customers in common. Examples include plazas, courtyards, private parks, sport fields and courts, and viewpoints overlooking natural resource areas. Usable Open Space does not include public parks unless the parks were approved as Usable Open Space and conveyed to the City.

"Use" means an activity or a purpose for which land or a structure is designed, arranged or intended, or for which it is occupied or maintained.

“Utility facilities, minor,” or "minor utility facilities," means those facilities which have a local impact on surrounding properties and are necessary to provide essential services such as:

1. Substations (transmission and distribution);
2. Pump stations;
3. Outfalls;
4. Water towers and reservoirs;
5. Public wells;
6. Cable television receiver and transmission facilities, excluding wireless communications facilities as defined in CMC Section 18.35.030 Definitions;
7. Catch basins, retention ponds, etc.;
8. Water treatment facilities.

"Variance" means a grant of relief by a community from the terms of a floodplain management regulation.

"Veterinarian clinic" means a facility established to provide examination, diagnostic, and health maintenance services for medical and services for medical and surgical treatment of companion animals on an outpatient basis. A veterinarian clinic operates during regular business hours and discharges all patients prior to closing time.

"Veterinarian hospital" means a facility established to provide examination, diagnostic and health maintenance services for medical and surgical treatment of companion animals and equipped to provide housing and nursing care for them during illness or convalescence.

"Vision clearance area" means a triangular area on a lot at the intersection of two streets, or a street and an alley, or a street and a railroad, two sides of which are lot lines measured from their corner intersection for a distance specified in the code. The third side of the triangle is a line across the corner of the lot adjoining the ends of the other two sides. Where the lot lines at intersections have rounded corners, the lot lines will be extended in a straight line to a point of intersection. See Section 18.17.030 [Corner lot vision clearance area,] along with Figures 18.17-030-1 and 18.17-030-2.

"Vision clearance hazard," means an object that interferes with vision near intersections of roadways and motor vehicle access points where a clear field of vision is required for traffic safety and to maintain adequate sight distance. See also ["Corner lot vision clearance area"] design provisions at Section 18.17.030.

“Warehouse, bulk retail,” or "bulk retail warehouse," means a building primarily used for the storage and retail sale of large quantities of goods and materials.

“Warehouse, wholesale and distribution,” or "wholesale and distribution warehouse," means a use engaged in storage, wholesale, and distribution of manufactured products, supplies, and equipment, but excluding bulk storage of materials that are inflammable or explosive or that create hazardous or commonly recognized offensive conditions.

"Warranty bond" means and is referred to as a function and maintenance bond, it is generally used to insure the satisfactory operation to public improvements within an approved development. The developer is the principal

and the city is the obligee. The warranty bond has a beginning and ending date in amount specified per CMC Section 17.21.040(B)(1). At the end of the warranty period, the city will assume responsibility for the maintenance and repair of the public improvement.

"Water dependent" means a use or portion of a use that cannot exist in a location which is not adjacent to the water, and which is dependent on the water by reason of the intrinsic nature of it operations. Examples include, but are not limited to: aquaculture, marinas, or float plane facilities.

"Wetland bond" insures the satisfactory installation, maintenance, and monitoring of wetland creation or enhancement as may be required as part of the SEPA or wetland mitigation plans. The bond has a beginning and ending date, and shall be in the amount as specified in CMC Section 17.21.050(B)(3).

"Wetland buffer" means a naturally vegetated and undisturbed, enhanced or revegetated area surrounding wetland that is part of a wetland ecosystem and protect a wetland from adverse impacts to its function, integrity, and value. Wetland buffers serve to moderate runoff volume and flow rates; reduce sediment, chemical nutrient and toxic pollutants; provide shading to maintain desirable water temperatures; provide habitat for wildlife; and protect wetland resources from human activities.

"Wetlands" means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities. However, wetlands include those artificial wetlands intentionally created to mitigate conversions of wetlands.

"Wildlife habitat" means areas that provide food, protective cover, nesting, breeding, or movement for threatened, endangered, sensitive, monitor, or priority species of wildlife, or other wildlife species of special concern. "Wildlife habitat" shall also mean areas that are the location of threatened, endangered, sensitive, monitor, or priority species of plants, or other plant species of special concern.

"Wireless." See Chapter 18.35 Telecommunication Ordinance.

"Yard" means an open space, other than a court or accessory structure, unobstructed from the ground to the sky, except where specifically provided by this code, on the lot on which a building is situated. See Figure 18.03-8.

"Yard, front," or "front yard," means an open space between the side lot lines and measured horizontally, from the front lot line at right angles to the front lot line, to the nearest point of the building. See Figures 18.03-8 and 18.03-6.

"Yard, rear," or "rear yard," means an open space between side lot lines and measured horizontally, at right angles from the rear lot line, to the nearest point of the main building. See Figures 18.03-8 and 18.03-6.

"Yard, sde," or "side yard," means an open space between a building and the side lot line measured horizontally, at right angles from the side lot line, to the nearest point of the main building. See Figure 18.03-8.

Chapter 18.05 ZONING MAP AND DISTRICTS

18.05.010 Zoning maps administration.

A. This title shall consist of the text titled the "City of Camas Zoning Code," and that certain map or books of maps identified by the approving signatures of the mayor and the city clerk, and marked and designated as "The Zoning Map of the City of Camas," which map or book of maps shall be placed on file in the offices of the city clerk, county auditor, and other city departments. This title, and each and all of its terms and map details, is to be interpreted in light of the context of the book of maps in relationship to the comprehensive plan. In any conflict between the maps and the text of this code the text shall prevail.

B. Zoning Text and Map Amendments. Amendments may be proposed by city council or by the planning commission on its own motion, or such an amendment may be proposed by an applicant or city staff pursuant to CMC Chapter 18.51 Comprehensive Plan and Zoning Amendments.

C. Administration and Procedures. A correct copy of each amendment to the text or to the map established by this title shall be maintained on file in the offices of the city clerk and the planning official.

D. Site Specific Rezones. A site specific rezone involves an application of an owner of a specific parcel or set of contiguous parcels that does not require modification of the comprehensive plan. Site specific rezones are decided by the hearing officer after a public hearing. The criteria for reviewing and approving a site specific rezone are as follows:

   1. The use or change in zoning requested shall be in conformity with the adopted comprehensive plan, the provisions of this title, and the public interest.

   2. The proposed zone change shall be compatible with the existing established development pattern of the surrounding area in terms of lot sizes, densities and uses.

E. Timing and Responsibility for Updating Official Zoning Map. All amendments hereafter made to the zoning map by ordinance shall be shown on such map(s), and it shall be the responsibility of the planning official to keep the maps up to date at all times. Any amendments to the zoning map shall be made in accordance with the comprehensive plan map, as amended.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 17-013, § I(Exh. A), 10-2-2017)

18.05.020 Districts designated.

For the purposes of the Code, the city is divided into zoning districts designated as follows:

District	Symbol	Comprehensive Plan Designation
Residential-6	R-6	Residential - Low
Residential-7.5	R-7.5	Residential - Low
Residential-10	R-10	Residential - Low
Residential-12	R-12	Residential - Low

Residential-15	R-15	Residential - Low
Multifamily 10	MF-10	Residential - Medium
Multifamily 18	MF-18	Residential - High
Multifamily 24	MF-24	Residential - High
Mixed Use	MX	Mixed Use
Neighborhood Commercial	NC	Commercial
Community Commercial	CC	Commercial
Regional Commercial	RC	Commercial
Mixed Employment	ME	Mixed Employment
Heavy Industrial	HI	Industrial
Parks and Open Space	POS	Parks and Open Space
Cottage Overlay	COT	Residential - High
North Shore Lower Density Residential	LD-NS	Residential - Low
North Shore Higher Density Residential	HD-NS	Residential - High
North Shore Mixed Use	MX-NS	Mixed Use
North Shore Commercial	C-NS	Commercial
North Shore Mixed Employment	ME-NS	Mixed Employment
Downtown Residential	DT-R	Residential - Low
Downtown Mixed Use - Low Rise	DT-MXL	Mixed Use
Downtown Mixed Use - Mid Rise	DT-MXM	Mixed Use
Downtown Historic Main Street Core	DT-HMSC	Mixed Use

~~District~~	~~Symbol~~	~~Comprehensive Plan Designation~~
~~Residential 15,000~~	~~R-15~~	~~Single-family Low~~
~~North Shore Lower Density Residential~~	~~LD-NS~~	~~NS Single-Family Low~~
~~Residential 12,000~~	~~R-12~~	~~Single-family Medium~~
~~Residential 10,000~~	~~R-10~~	~~Single-family Medium~~
~~Residential 7,500~~	~~R-7.5~~	~~Single-family Medium~~
~~Residential 6,000~~	~~R-6~~	~~Single-family High~~
~~Multifamily-10~~	~~MF-10~~	~~Multifamily Low~~
~~Multifamily-18~~	~~MF-18~~	~~Multifamily High~~
~~North Shore Higher Density Residential~~	~~HD-NS~~	~~NS-Multifamily High~~
~~Multifamily Cottage~~	~~MF-C~~	~~Overlay~~
~~Neighborhood Commercial~~	~~NC~~	~~Commercial~~
~~Community Commercial~~	~~CC~~	~~Commercial~~
~~Regional Commercial~~	~~RC~~	~~Commercial~~
~~North Shore Commercial~~	~~C-NS~~	~~NS-Commercial~~
~~Mixed Use~~	~~MX~~	~~Commercial~~
~~North Shore Mixed Use~~	~~MX-NS~~	~~NS-Commercial~~
~~Downtown Commercial~~	~~DC~~	~~Commercial~~

~~North Shore Mixed Employment~~	~~ME-NS~~	~~NS-Industrial~~
~~Light Industrial~~	~~LI~~	~~Industrial~~
~~Heavy Industrial~~	~~HI~~	~~Industrial~~
~~Business Park~~	~~BP~~	~~Industrial~~
~~Light Industrial/Business Park~~	~~LI/BP~~	~~Industrial~~
~~Neighborhood Park~~	~~NP~~	~~Park~~
~~Special Use Park~~	~~SU~~	~~Park~~
~~Open space/Green space~~	~~OS~~	~~Open space I Green space~~
~~North Shore Parks/Open Space~~	~~P/O-NS~~	~~NS-Parks/Open Space~~

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2547, § II(Exh. B), 5-18-2009; Ord. No. 2667, § I, 12-17-2012; Ord. No. 2672, § I(Exh. A), 1-22-2013; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 2694, § I, 2-3-2014; Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 23-010, Exh. A, 8-7-2023)

18.05.030 Boundary determination.

Unless otherwise specified or shown on the zoning map, district boundaries are lot lines or the centerlines of streets, alleys, railroad, and other rights-of-way:

A. Where boundaries are other than lot lines or centerlines of streets, alleys, railroad, and other rights-of-way, they shall be determined by dimensions shown on the zoning map;

B. Where actual streets or other features on the ground vary from those shown on the zoning map, interpretations or adjustments shall be made by the planning commission;

C. Where a district boundary line, as shown on the zoning map, divides a lot in single ownership at the time of passage of the code, the property owner may elect to apply the zoning district classification that has been applied to greater than fifty percent of such lot to the entire lot or to utilize the zoning district classifications as they apply to each portion of the lot, consistent with the zoning map.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 25-025, § I (Exh. A), 12-15-2025)

18.05.040 Residential ~~and multifamily~~ zones.

A. R-15 Residential-15~~,000~~. This zone is intended for single-family and middle housing dwellings with a minimum density of two to three ~~dwellings~~lots per acre. This zone will permit the rural character of a number of existing neighborhoods to be maintained. The average lot size is fifteen thousand square feet.

B. R-12 Residential-12~~,000~~. This zone is intended for single-family and middle housing dwellings with densities of three to four dwelling ~~units~~lots per acre. This zone is designated for areas with steep topography for greater flexibility in site layout, and where potential hazards do not exist. The average lot size is twelve thousand square feet.

C. R-10 Residential-10~~,000~~. This zone is intended for single-family and middle housing dwellings with densities of four to five ~~dwellings~~lots per acre. This zone is intended to be zoned near low density residential districts, and where potential natural hazards do not exist. The average lot size is ten thousand square feet.

D. R-7.5 Residential-75~~7,500~~. This zone is intended for single-family and middle housing dwellings with densities of five to six ~~dwellings~~lots per acre. This zone should have less slope than lower density zones, and be adjacent to existing high density residential districts. The average lot size is seven thousand five hundred square feet.

E. R-6 Residential-6~~,000~~. This zone is intended for for single-family and middle housing dwellings with densities of six to seven ~~dwellings~~lots per acre. The slope of property is less than other lower density residential zones. This zone serves a transition to multifamily or commercial zones. The average lot size is six thousand square feet.

F. LD-NS North Shore Lower Density Residential. This zone is intended for residential dwellings in the North Shore subarea with a minimum density of four dwellings per acre and a maximum density of five and eight tenths dwellings per acre. This zone will reflect the rural character of a number of existing residences and can support transitions from existing uses to more dense zones.

G. MF-10 Multifamily Residential. This zone provides for a diversity of dwellings such as duplexes, triplexes, fourplexes, rowhouses, and apartment complexes, with a density of up to ten units per acre. It is desirable for this zone to be adjacent to parks and multi-modal transportation systems. This zone can also serve as a transition between commercial and residential zones.

H. MF-18 Multifamily Residential. These zones are intended to provide for dwellings such as rowhouses and apartment complexes. It is desirable for these zones to be adjacent to parks and multi-modal transportation systems. These zones also serve as a transition between commercial and residential zones.

I. MF-24 Multifamily Residential. These zones are intended to provide for dwellings such as rowhouses and apartment complexes. It is desirable for these zones to be adjacent to parks and multi-modal transportation systems. These zones also serve as a transition between commercial and residential zones.

~~I~~J. HD-NS North Shore Higher Density Residential. This zone is intended for residential dwellings in the North Shore subarea with a minimum density of ten dwellings per acre and a maximum density of eighteen dwelling units per acre. This zone provides for a diversity of dwellings and serves as a transition between commercial areas and residential uses.

~~J. MF-C Cottage. This is an overlay zone, which is intended to increase the housing supply and style choices for smaller, single-level dwellings. It is desirable that cottages are designed to include unique architectural elements such as a front porch, steep-pitch gable roof, and a recessed garage; and to accommodate those with mobility impairments. This overlay zone may be utilized within multi-family zones only, and upon approval of a zoning district change. This overlay zone is not required for cottage dwellings in the North Shore District. See 18.07.030 and 18.07.040 for allowed uses in the North Shore.~~

K. DT-R Downtown Residential. A primarily residential area defined by smaller-scale housing types—such as cottages, duplexes, triplexes, fourplexes, and accessory dwelling units—often on existing single-family lots. The district maintains a lower-density character while allowing incremental infill that respects existing neighborhood patterns and historic scale.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2691, § I(Exh. A), 1-21-2014;Ord. No. 2694, § II, 2-3-2014; Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 23-010, Exh. A, 8-7-2023)

18.05.050 Commercial, mixed use, and industrial zones.

The purpose of the commercial, mixed use and industrial, ~~and high technology~~ zones are to provide services and employment primarily to residents. These areas are zoned according to the services they provide. As a result, each zone has different characteristics as summarized below:

A. NC Neighborhood Commercial. This zone provides for the day-to-day needs of the immediate neighborhood. This zone is intended to be small, but fairly numerous throughout the city. Typical uses include, but are not limited to ~~C~~convenience goods (e.g., food, drugs and sundries), along with personal services (e.g., dry cleaning, barbershop or beauty shop), are common goods and services offered.

B. CC Community Commercial. This zone provides for the goods and services of longer-term consumption, and tend to be higher-priced items than the neighborhood commercial zone district. Typical goods include clothing, hardware and appliance sales. Some professional services are offered, e.g., real estate office or bank. Eating and drinking establishments may also be provided. This zone tends to vary in size, but is larger than the neighborhood commercial zone.

C. RC Regional Commercial. This zone provides apparel, home furnishings, and general merchandise in depth and variety, as well as providing services for food clusters and some recreational activities. Regional commercial is the largest of the commercial zones and is designed to serve the region or a significant portion of the region's population.

~~D. DC Downtown Commercial. This zone is designated as a large community commercial area, providing a large range of goods and services. This area is designed to promote commercial diversification to serve the immediate residential and office uses in the surrounding areas. Compact development is encouraged that is supportive of transit and pedestrian travel, through higher building heights and floor area ratios than those found in other commercial districts.~~

D. DT-HMSC Historic Main Street Core. The most compact and walkable district, featuring continuous street facing buildings with minimal setbacks and active ground floors. Uses include retail, dining, civic, and upper-story office or residential. Architecture emphasizes preservation, human scale, and a fine-grain frontage pattern typically up to four (4) stories tall.

E. DT-MXM Downtown Mixed-Use: Mid Rise. A vibrant, higher-density urban zone with buildings ranging up to six (6) stories. Supports a mix of residential, commercial, and civic uses with structured parking and active ground-floor frontages. Streets are multimodal, with wide sidewalks, trees, and transit access.

F. DT-MXL Downtown Mixed-Use: Low Rise. A transitional zone with up to four (4) story buildings and a mix of neighborhood-serving retail, offices, and housing, including a range of missing middle housing. Slightly deeper setbacks and increased landscaping support a softer urban edge while maintaining pedestrian orientation and urban form.

G. ME Mixed Employment. This zone is designated to recognize and accommodate certain areas that may have typically developed with light industrial or business park uses but are transitioning from an exclusively industrial orientation to a broad mix of light industrial, artisan/craft industrial, commercial, office, and personal service uses, within a more amenity rich environment. Retail uses are generally seen as secondary uses. The ME districts encourage innovation and a business environment that flourishes through adaptation and resiliency.

~~E~~H. C-NS North Shore Commercial. This zone is designated as a commercial area in the North Shore subarea, meaning a range of goods and services are available.

~~F~~I. ME-NS North Shore Mixed Employment. This zone allows a wide variety of employment uses in the North Shore subarea, including retail, office space, warehouse, manufacturing, and other employment uses.

~~G. LI Light Industrial. This zone provides for uses that are more compatible with commercial, residential, or multifamily uses. Typical uses in this zone include assembly and manufacturing of electronic and precision instruments. More intensive industry, e.g., metal fabrication, is excluded.~~

~~H. BP Business Park. This zone provides for employment growth in the city by protecting industrial areas for future employment. Design of business park facilities in this district will be campus-style, with landscaped buffers, and architectural features compatible with surrounding areas.~~

~~I. LI/BP Light Industrial/Business Park. This zone provides for uses such as, offices related to industrial usage, research and development, limited commercial, and associated warehousing uses, including the provision of employee recreation opportunities. Development in campus-like setting with generous landscaping, well-designed buildings and near major traffic corridors is anticipated.~~

J. HI Heavy Industrial. This zone provides for a wide range of industrial and manufacturing uses. Types of activities in this zone include assembly, manufacturing, fabrication, processing, bulk handling and storage, research facilities, associated warehousing, and heavy trucking. West of Lacamas Creek/Washougal River, residential uses may be allowed as a conditional use as part of a mixed-use development.

K. MX Mixed Use. This zone provides for a wide range of commercial and residential uses. Compact development is encouraged that is supportive of transit and pedestrian travel.

L. MX-NS North Shore Mixed Use. This zone provides for a wide range of commercial and residential uses in the North Shore subarea. Compact development that supports transit and pedestrian travel is encouraged. Mixed-use areas should create spaces for community gathering, waiting, discussion, and outdoor commercial activities. Horizontal and vertical mixed-use developments are allowed. Mixed-use development should include multiple entries and windows on the ground floor to facilitate business access, create visual interest, and promote safety. For the residential uses, this zone allows a maximum density of twenty-four dwellings per acre and minimum density of ten dwelling units per acre. Each horizontal mixed-use development should have no more than seventy percent of the total acreage of the development dedicated to residential uses. Each vertical mixed-use development shall, at a minimum, dedicate the ground floor to commercial uses (up to fifty percent of the ground floor may be used for indoor parking). Residential multifamily is allowed only on the second floor or above or in the back of commercial buildings as a live-work unit (only twenty-five percent of the required thirty percent can be live-work units).

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006; Ord. No. 23-010, Exh. A, 8-7-2023)

(Ord. No. 2547, § III(Exh. C), 5-18-2009; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 19-001, § I(Att. A), 1-22-2019; Ord. No. 23-010, Exh. A, 8-7-2023)

18.05.060 Overlay zones/special planning areas.

Overlay zones implement the goals and values expressed in the comprehensive plan. Uses within this area may be subject to standards which deviate from those in the primary zone.

A. COT Cottage Overlay. This is an overlay zone, which is intended to increase the housing supply and style choices for smaller, single-level dwellings. It is desirable that cottages are designed to include unique architectural elements such as a front porch, steep-pitch gable roof, and a recessed garage; and to accommodate those with mobility impairments. This overlay zone may be utilized within multi-family zones only, and upon approval of a zoning district change. This overlay zone is not required for cottage dwellings in the North Shore District. See 18.07.030 and 18.07.040 for allowed uses in the North Shore.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 17-013, § I(Exh. A), 10-2-2017)

18.05.070 Park and open space zoning.

~~The park zoning districts provide recreation and open space functions for the long-term benefit and enjoyment of city residents, adjacent neighborhoods and visitors. These districts apply only to land held in public trust.~~ The park and open spaces zone supports the preservation, development, and use of public and private parks, open spaces, and natural areas that contribute to community health, environmental protection, recreation, and quality of life.

(Ord. No. 2667, § II, 12-17-2012; Ord. No. 2691, § I(Exh. A), 1-21-2014)

Chapter 18.07 USE AUTHORIZATION

18.07.010 Establishment of uses.

The use of a property is defined by the activity for which the building or lot is intended, designed, arranged, occupied or maintained. The use is considered permanently established when that use will, or has been, in continuous operation for a period exceeding sixty days. A use which will operate for less than one hundred eighty days is considered a temporary use, and shall be governed by Chapter 18.47 "Temporary Use Permits." All applicable requirements of this code, or other applicable state or federal requirements, shall govern a use located in the city.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.07.020 Interpretation of land use tables.

The land use tables in this chapter determine whether a specific use is allowed in a zone district. The zone district is located on the vertical column and the specific use is located on the horizontal rows of these tables.

A. If the letter "X" appears in the box at the intersection of the column and the row, the use is not allowed in that district, except for certain temporary uses.

B. If the letter "P" appears in the box at the intersection of the column and the row, the use is allowed in that district subject to review procedures in accordance with CMC Chapter 18.55 "Administration and Procedures."

C. If the letter "C" appears in the box at the intersection of the column and the row, the use is allowed subject to the conditional use review procedures specified in Chapter 18.43 "Conditional Use Permits," and the general requirements of the Camas Municipal Code.

D. If the letter "T" appears in the box at the intersection of the row, the use is temporarily permitted under the procedures of Chapter 18.47 "Temporary Use Permits." Other temporary uses not listed may be authorized as provided in Chapter 18.47.

E. If a number appears in a box at the intersection of the column and the row, the use is subject to the requirements specified in the note corresponding with the number immediately following the table.

F. Uses accessory to a use permitted or conditionally permitted in any zone may be authorized subject only to those criteria and/or processes deemed applicable by the head of the planning department.

G. If a use is not listed under either Section 18.07.030 Table 1 or 18.07.040 Table 2, and is not an accessory or temporary use, then the use shall be subject to a zoning code text amendment. Notwithstanding a zoning code text amendment, the community development director may determine whether a proposed land use not specifically listed in a land use table is allowed in a zone. The director shall take into consideration the following when making a determination:

   1. Whether or not the proposed use in a particular zone is similar impact to other permitted or conditional uses or is compatible with other uses; and

   2. Whether or not the proposed use is consistent with the zone's purpose.

   A use listed in one table but not the other shall be considered a prohibited use in the latter.

H. For the Downtown Zoning Districts in CMC Chapter 18.07.060, use authorization appearing as "G / U" refers to "G = ground floor / U = upper floor" uses specifically.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 17-013, § I(Exh. A), 10-2-2017)

18.07.030 Table 1—Commercial and industrial land uses.

KEY: P = Permitted Use
C = Conditional Use
X = Prohibited Use
T = Temporary Use

Zoning Districts	NC	~~DC~~	CC	RC	MX	ME	~~BP~~	~~LI/ BP~~	~~LI~~	HI	C-NS	MX-NS	ME-NS
Commercial Uses													
Animal kennel, commercial boarding[6]	X	~~X~~	X	P~~11~~ 5	X	P~~11~~ 5	~~P~~11	~~X~~	~~P~~11	P~~11~~ 5	X	X	P~~11~~ 5
Animal shelter[6]	X	~~X~~	X	C	X	C	~~C~~	~~X~~	~~C~~	P	X	X	C
Antique shop[6]	P	~~P~~	P	P	P	P	~~C~~	~~X~~	~~X~~	P	P	P	P
Appliance sales and service[6]	X	~~P~~	P	P	P	P	~~P~~	~~X~~	~~C~~	P	P	P	P
Automobile repair (garage)[6]	X	~~P~~	C	P	X	P	~~P~~	~~X~~	~~P~~	P	C	X/P[7]	P
Automobile sales, new or used[6]	X	~~P~~	X	P	X	P	~~P~~	~~X~~	~~P~~	P	X	X	P
Automobile service station[6]	X	~~P~~	C	P	X	P	~~P~~	~~X~~	~~P~~	P	C	X	P
Automobile wrecking[6]	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	C	X	X	X
Bakery (wholesale)[6]	X	~~X~~	X	P	X	P	~~P~~	~~P~~[5]	~~P~~	P	C	C	P
Bakery (retail)[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Banks, savings and loan	X	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Barber and beauty shops[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Boat building[6]	X	~~X~~	X	C	X	C	~~C~~	~~X~~	~~C~~	P	X	X	C
Boat repair and sales[6]	X	~~P~~	X	P	X	P	~~P~~	~~X~~	~~P~~	P	X	X	P
Book store[6]	C	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Bowling alley/billiards[6]	X	~~P~~	X	P	P	P	~~P~~	~~X~~	~~P~~	P	X	P	P
Building, hardware and garden supply store[6]	X	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	P	C	P	P
Bus station[6]	X	~~C~~	C	P	C	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Cabinet and carpentry shop[6]	X	~~P~~	C	P	C	P	~~P~~	~~P~~[5]	~~P~~	P	C	C	P
Candy; confectionery store[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Cemetery[6]	X	~~X~~	X	C	X	C	~~X~~	~~X~~	~~C~~	P	X	X	C
Clothing store[6]	C	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P

Coffee shop, cafe[6] or kiosk	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Convention center[6]	X	~~P~~	X	C	C	C	~~P~~	~~P~~	~~C~~	X	X	C	C
Data center	X	X	X	X	X	X	X	X	X	X	X	X	X
Day care center[6]	~~C~~P	~~P~~	P	~~C~~P	P	~~C~~P	~~C~~	~~P~~[5]	~~C~~	C	P	P	~~C~~P
Day care, adult	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Day care, family home[6]	P	~~P~~	P	P	P	P	~~X~~	~~P~~[5]	~~P~~	~~X~~C	P	P	P
Day care, mini-center[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	~~X~~C	P	P	P
Delicatessen (deli)[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Department store[6]	X	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	X	C	C	P
Electric vehicle battery charging station and rapid charging stations	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Equipment rental[6]	C	~~P~~	C	C	C	C	~~P~~	~~P~~[5]	~~P~~	P	C	P	C
Event center	X	~~P~~	C	P	C	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Feed store[6]	X	~~X~~	X	P	X	P	~~C~~	~~X~~	~~P~~	P	X	X	P
Fitness center/sports club[6]	X	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Florist shop[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	X	P	P	P
Food cart/food truck/food delivery business[6]	C	~~P~~	C	P	C	P	~~P~~	~~C~~	~~P~~	X	C	C	P
Furniture repair; upholstery[6]	X	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	P	C	P	P
Furniture store[6]	X	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	X	C	P	P
Funeral home[6]	X	~~P~~	C	P	P	P	~~X~~	~~X~~	~~X~~	X	C	C	P
Gas/fuel station[6]	X	~~P~~	C	P	X	P	~~P~~	~~X~~	~~P~~	P	C	X	P
Gas/fuel station with mini market[6]	X	~~P~~	C	P	X	P	~~P~~	~~X~~	~~P~~	P	C	X	P
Gas/fuel station with large scale grocery	X		C	P	P	P				P	C	C	P
Grocery, large scale[6]	X	~~P~~	C	P	P	P	~~C~~[8]	~~X~~	~~P~~	P	C	C	P
Grocery, small scale[6]	P	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Grocery, neighborhood scale[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	X	P	P	P
Hospital, emergency care[6]	X	~~C~~	P	P	P	P	~~P~~	~~X~~	~~P~~	X	C	C	P
Hotel, motel[6]	X	~~C~~	C	P	P	C	~~P~~	~~X~~	~~P~~	X	C	C	C
Household appliance repair[6]	X	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	P	C	P	P
Industrial supplies store[6]	X	~~P~~	X	C	C	C	~~C~~	~~X~~	~~C~~	P	X	C	C
Laundry/dry cleaning (industrial)	X	~~X~~	X	P	X	P	~~X~~	~~X~~	~~P~~	P	X	X	P
Laundry/dry cleaning (retail)[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Laundry (self-serve)	P	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P

Liquor store[6]	X	~~P~~	C	P	C	P	~~C~~	~~X~~	~~C~~	C	P	P	P
Machine shop[6]	X	~~X~~	C	C	C	P	~~C~~	~~P~~[5]	~~C~~	P	C	C	C
Marijuana processor	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	X	X	X	X
Marijuana producer	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	X	X	X	X
Marijuana retailer	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	X	X	X	X
Medical or dental clinics (outpatient)[6]	C	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Mini-storage/vehicular storage[6]	X	~~X~~	X	X	X	C	~~X~~	~~X~~	~~P~~	P	X	X	X
Manufactured home sales lot[6]	X	~~X~~	X	P	X	P	~~X~~	~~X~~	~~P~~	P	X	X	P
Newspaper printing plant[6]	X	~~P~~	C	C	X	C	~~X~~	~~X~~	~~P~~	P	C	X	C
Nursery, plant[6]	X	~~P~~	C	C	C	P	~~C~~	~~X~~	~~C~~	P	C	C	P
Nursing, rest, convalescent, retirement home[6]	C	~~P~~	P	P	P	P	~~X~~	~~X~~	~~X~~	X	P	P	P
Office supply store[6]	X	~~P~~	P	P	P	P	~~X~~	~~P~~[5]	~~P~~	P	P	P	P
Pawnshop[6]	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~C~~	C	X	X	X
Parcel freight depots[6]	X	~~P~~	X	P	X	P	~~P~~	~~P~~[5]	~~P~~	P	X	X	P
Permanent supportive housing	C	~~P~~	X /~~P~~[10] [4]	X /~~P~~[10] [4]	P	X /~~P~~[10] [4]	~~X~~	~~X~~	~~X~~	X	X /~~P~~[10] [4]	P	X /~~P~~[10] [4]
Pet shops[6]	X	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	C	P	P	P
Pharmacy[6]	X	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Photographic/electronics store[6]	X	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Plumbing, or mechanical service[6]	X	~~X~~	X	P	C	P	~~P~~	~~X~~	~~P~~	P	X	C	P
Printing, binding, blue printing[6]	C	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Professional office(s)[6]	C	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Public agency[6]	C	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Real estate office[6]	C	~~P~~	P	P	P	P	~~P~~	~~T~~	~~P~~	P	P	P	P
Recycling center[6]	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~P~~	P	X	X	X
Recycling collection point[6]	T or C	~~P~~	T or C	T or C	C	X	~~C~~	~~P~~[5]	~~P~~	P	T or C	C	X
Recycling plant[6]	X	~~X~~	X	X	X	C	~~X~~	~~X~~	~~C~~	P	X	X	C
Research facility[6]	X	~~P~~	C	C	X	P	~~P~~	~~P~~	~~P~~	P	C	C	C
Restaurant[6]	C	~~P~~	P	P	C	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Restaurant, fast food[6]	X	~~P~~	C	P	C	P	~~P~~	~~P~~[5]	~~P~~	P	C	C	P
Roadside produce stand[6]	T	~~T~~	T	T	C	T	~~X~~	~~T~~	~~T~~	T	T	C	T
Sand, soil, gravel sales and storage[6]	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~C~~	P	X	X	X
Second-hand/consignment store[6]	C	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P

Sexually oriented business[1,5]	X	~~X~~	X	X	X	X	~~X~~	~~P~~	~~X~~	X	X	X	X
Shoe repair and sales[6]	P	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Smoke shop/head shop[9] [3]	X	~~X~~	P	P	X	C	~~X~~	~~X~~	~~X~~	X	P	X	P
Stock broker, brokerage firm	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Specialty goods production (e.g. brew pub)	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Taverns[6]	X	~~P~~	C	P	C	P	~~P~~	~~X~~	~~P~~	P	C	C	P
Theater, except drive-in[6]	X	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Truck terminals[6]	X	~~C~~	X	C	X	C	~~X~~	~~X~~	~~C~~	P	X	X	C
Veterinary clinic[6]	X	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Warehousing, wholesale and trade[6]	X	~~X~~	X	C	C	P	~~P~~	~~P~~[5]	~~P~~	P	X	X	P
Warehousing, bulk retail[6]	X	~~X~~	X	C	C	P	~~X~~	~~X~~	~~P~~	P	X	X	P
Manufacturing and/or processing of the following:													
Cotton, wool, other fibrous material	X	~~X~~	X	X	X	X	~~P~~	~~X~~	~~P~~	P	X	X	X
Food production or treatment	X	~~X~~	X	C	C	C	~~P~~	~~X~~	~~P~~	C	X	C	C
Foundry	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~C~~	C	X	X	X
Furniture manufacturing	X	~~P~~	X	X	C	P	~~C~~	~~X~~	~~P~~	P	X	C	X
Gas, all kinds (natural, liquefied)	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	C	X	X	X
Gravel pits/rock quarries	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~C~~	P	X	X	X
Hazardous waste treatment—Off-site	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	P	X	X	X
Hazardous waste treatment—On-site	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	P	X	X	X
Junkyard/wrecking yard	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	C	X	X	X
Metal fabrication and assembly	X	~~X~~	X	X	X	C	~~C~~	~~X~~	~~X~~	P	X	X	C
Hazardous waste treatment—On-site	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	P	X	X	X
Paper, pulp or related products	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	P	X	X	X
Signs or other advertising structures	X	~~X~~	X	C	C	P	~~C~~	~~P~~	~~C~~	P	X	C	C
Electronic equipment	X	~~P~~	X	X	X	X	~~X~~	~~P~~	~~P~~	P	X	X	X
Industrial Uses													
High-tech industry	X	~~P~~	X	X	P	P	~~P~~	~~P~~[2]	~~X~~	X	X	P	P
Manufacturing of miscellaneous goods (e.g. musical	X	~~X~~	X	X	C	P	~~X~~	~~X~~	~~P~~	P	X	C	P

instruments, toys, vehicle parts)													
Optical goods	X	~~C~~	C	C	C	P	~~P~~	~~P~~[5]	~~P~~	P	C	C	C
Packaging of prepared materials	X	~~X~~	C	P	C	P	~~C~~	~~P~~[5]	~~C~~	P	C	C	P
Scientific and precision instruments	X	~~P~~	X	X	X	P	~~P~~	~~P~~	~~P~~	P	X	X	P
Recreational, Religious, Cultural Uses													
Auditorium[6]	C	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Community club[6]	C	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Church[6]	P	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Golf course/driving range[6]	P	~~X~~	P	P	X	P	~~P~~	~~P~~[5]	~~P~~	P	X	X	P
Library[6]	C	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Museum[6]	C	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Recreational vehicle park[6]	X	~~X~~	X	C	X	C	~~X~~	~~X~~	~~P~~	P	X	X	C
Open space[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Park or playground	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Sports fields[6]	C	~~X~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Trails	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Educational Uses													
College/university[6]	P	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Elementary school[6]	P	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Junior or senior high school[6]	P	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Private, public or parochial school[6]	P	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Trade, technical or business college[6]	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Residential Uses													
Adult family home	C	~~P~~	P	X	P	X	~~X~~	~~X~~	~~X~~	X/C[8]	P	P	X
Assisted living	C	~~P~~	P	X /P[10] [4]	P	X /P[10] [4]	~~X~~	~~X~~	~~X~~	X/C[8]	P	P	X /P[10] [4]
Bed and breakfast	P	~~P~~	P	X	P	X	~~X~~	~~X~~	~~X~~	X	P	P	X
Designated manufactured home	X	~~X~~	X	X	P	X	~~X~~	~~X~~	~~X~~	X	X	X	X
Duplex or two-family dwelling	X	~~C/P~~[7]	X	X	P	X	~~X~~	~~X~~	~~X~~	X/C[8]	X	P	X
Emergency housing and shelters	X		X	P	P	X				X	X	X	X
Group home	C	~~P~~	P	X	P	X	~~X~~	~~X~~	~~X~~	X/C[8]	P	P	X
Home occupation	P	~~P~~	P	X /P[10] [4]	P	X /P[10] [4]	~~X~~	~~X~~	~~X~~	X/C[8]	P	P	X /P[10] [4]

Housing for the disabled	P	~~P~~	P	X /P~~10~~ 4	P	X /P~~10~~ 4	~~X~~	~~X~~	~~X~~	X/C 8	P	P	X /P~~10~~ 4
Apartment, multifamily development, row houses	X	~~C/P 7~~	X /P~~10~~ 4	X/P~~1 0~~ 4	C	X	~~X~~	~~X~~	~~X~~	X/C 8	X	P	X
Residence accessory to and connected with a business	P	~~P~~	P	X /P~~10~~ 4	P	X /P~~10~~ 4	~~X~~	~~X~~	~~X~~	X/C 8	P	P	X /P~~10~~ 4
Residential Treatment Facility~~12~~ 6	C	~~P~~	P	P	P	P	~~X~~	~~X~~	~~X~~	X/C 8	P	P	P
Single-family Cottage-style homes	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	X/C 8	X	P	X
Single-family dwelling	X	~~X~~	X	X	P	X	~~X~~	~~X~~	~~X~~	X/C 8	X	X	X
Sober Living Homes	C	~~P~~	P	X	P	X	~~X~~	~~X~~	~~X~~	X/C 8	P	P	X
Transitional Housing	C	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	X/C 8	C	P	P
Communication, Utilities and Facilities													
Electrical vehicle infrastructure	P	~~P~~	P	P	P	P	~~P~~	~~P~~	~~P~~	P	P	P	P
Wireless communications facility (Refer to Ch. 18.35)													
Facilities, minor public	P	~~P~~	P	P	C	P	~~P~~	~~P~~	~~C~~	P	P	C	P
Facility, essential~~6~~	X	~~X~~	C	C	C	C	~~C~~	~~P~~	~~C~~	C	C	C	C
Railroad tracks and facilities~~6~~	C	~~X~~	C	C	C	C	~~X~~	~~X~~	~~C~~	C	C	C	C
Temporary Uses													
Temporary sales office for a development~~4~~ 2	T	~~T~~	T	T	T	T	~~T~~	~~T~~	~~T~~	T	T	T	T

Notes:

1. See CMC Chapter 5.36 Sexually Oriented Businesses for additional regulations for siting sexually oriented business facilities.

~~2. Similar uses are permitted in the zone district only at the discretion of the community development director or designee.~~

~~3. Reserved.~~

~~4~~2.See CMC Chapter 18.47 "Temporary Uses" for additional regulations.

~~5. See secondary use provisions of LI/BP zone.~~

~~6. See CMC Chapter 18.19 "Design Review" for additional regulations. CMC Chapter 18.19 is not applicable to development in the LI/BP zone.~~

~~7. Residential uses may be outright permitted if part of a mixed use building, where residential use is not located on the ground level; otherwise it shall be a conditional use.~~

~~8. If grocery store is less than one hundred thousand square feet then use is outright permitted. If one hundred thousand square feet or over then a conditional use permit is required.~~

~~9~~3. A. Must be sited a minimum one thousand feet of the perimeter of the grounds of any elementary or secondary school, playground, recreation center or facility, child care center, public park, public transit center, or library, or game arcade to which is not restricted to persons twenty-one years or older as defined in WAC 314-55-010 on June 20, 2015;

B. The business shall post clear signage in a conspicuous location near each public entrance stating no person under the age of twenty-one may enter the premises; and

C. No smoke shop/head shop subject to this note shall be located within five miles of an existing lawfully established smoke shop/head shop. All measurements under (A) and (C) shall be measured from the nearest property line of the property on which the use is proposed to the nearest property line of an existing business utilizing Clark County GIS.

~~10~~4. On tracts ten acres or more, subject to approval by city council of a master plan and development agreement, a mixed use development may be approved provided no less than fifty-one percent of the net developable acreage is committed to commercial uses.

~~11~~5. Conditional use permit is required if facilities for kennels are proposed outdoors.

~~12~~6. A Residential Treatment Facility shall not be located within one thousand feet of public and private schools, public parks, public libraries, other RTFs or similar uses.

~~13~~7. Permitted only on sites where automobile repair was previously established and where the existing site or building design, configuration, layout, or access makes it particularly suited for this use.

8. West of Lacamas Creek/Washougal River, residential uses may be allowed as a conditional use only when part of a mixed-use development project. Heavy industrial uses must have ceased on the portion of the site proposed for residential development and the applicant must demonstrate that the proposed residential development will not interfere with any continuing industrial operations on adjoining properties in a manner that cannot be reasonably mitigated through conditions of approval.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § IV(Exh. D), 5-18-2009; Ord. No. 2584, § II, 5-3-2010; Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2656, § I(Exh. A), 7-16-2012; Ord. No. 2667, § III, 12-17-2012; Ord. No. 2672, § II(Exh. B), 1-22-2013; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 2712, § 2, 10-20-2014; Ord. No. 2720, § I(Exh. A), 12-15-2014; Ord. No. 15-012, § II(Exh. B), 8-17-2015; Ord. No. 15-023, § II, 11-16-2015; Ord. No. 15-024, § II, 11-16-2015; Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 19-012, § II(Exh. A), 11-4-2019; Ord. No. 21-004, § II(Exh. A), 3-15-2021; Ord. No. 22-007, § I, 5-16-2022; Ord. No. 23-010, Exh. A, 8-7-2023; Ord. No. 25-025, § I (Exh. A), 12-15-2025)

18.07.040 Table 2—Residential ~~and multifamily~~ land uses.

KEY: P = Permitted Use
C = Conditional Use
X = Prohibited Use
T = Temporary Use

Authorized Uses in Residential ~~and Multifamily~~ Zones

Zoning Districts	R	MF
Residential Uses		
Adult family home, residential care facility, supported living arrangement, or housing for the disabled[1]	P	P
Apartments	P[2]	P
Assisted living[1], retirement home[1]	C	P
Co-living housing	X	P
Cottage housing	P[2]	P
Designated manufactured homes	P	P
Duplex	P[2]	P[2]
Fourplex	P[2]	P[2]
Manufactured home	X	X
Manufactured home park	X	C
Nursing, rest, convalescent home[1]	C	P

Permanent Supportive Housing	C/P[2]	P
Residential Treatment Facility[5]	X	C
Single-family dwelling (detached)	P	P
Sober Living Homes	P	P
Stacked flat	P[2]	P[2]
Townhouses	P[2]	P[2]
Transitional Housing	P	P
Triplex	P[2]	P[2]
Incidental Uses		
Accessory dwelling unit	P	P
Animal training, kennel, boarding	X	C
Day care center[1]	~~C~~P	P
Day care, family home	P	P
Day care, minicenter[1]	~~C~~P	P
Electric vehicle battery charging station and rapid charging stations	P	P
Gardening and horticulture activities	P	P
Home occupation	P	P
Bed and breakfast[1]	C	C
Limited neighborhood commercial[7]	P	P
Recreation/Religious/Cultural		
Church[1]	C	C
Community clubs, private or public[1]	C	C
Library[1]	C	C
Museum[1]	C	C
Open space[1]	P	P
Public or semi-public building[1]	C	C
Park or playground	P	P
Sports fields[1]	C	C
Trails	P	P
Event center[6]	C	C
Educational Uses		
Private, public or parochial school[1]	P	C
Trade, technical, business college[1]	X	C
College/university[1]	X	X
Communication and Utilities		
Wireless communication facility	Refer to Chapter 18.35	
Facilities, minor public	C	C
Public utilities, minor	C	C
Pumping station[1]	C	C
Railroad tracks and facilities 1	C	C
Temporary Uses		
Sales office for a development in a dwelling[1, 4]	T	T
Sales office for a development in a trailer[3, 4]	T	T

Notes:

1. See Chapter 18.19 "Design Review" for additional regulations.
2. Permitted pursuant to Chapter 18.25, Middle Housing and in the LD-NS zone.
3. Site plan review required per CMC Section 18.18.020(A)(1).
4. Notwithstanding the time limitations of a temporary use, a sales office proposed and approved through a Type III application may be approved with a longer time frame than one hundred eighty days.
5. A Residential Treatment Facility shall not be located within one thousand feet of public and private schools, public parks, public libraries, other RTFs, or similar uses.
6. Permitted in the LD-NS and HD-NS zones only.

7. Those Neighborhood Commercial uses listed as permitted (P) are allowed within residential zones along design overlay corridors on corner lots at intersections with collector or arterial streets, pursuant to Chapter 18.20. The neighborhood commercial use must be pedestrian oriented with access to a public sidewalk or walkway and may have a maximum building footprint of 2,500 square feet and no more than five (5) off-street parking spaces, which can be satisfied by on-street parking provided they are along the frontage of the subject parcel.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 § 1 (Exh. A (part)), 2007; Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 21-004, § II(Exh. A), 3-15-2021; Ord. No. 21-005, § I(Exh. A), 3-15-2021; Ord. No. 22-007, § I, 5-16-2022; Ord. No. 23-010, Exh. A, 8-7-2023; Ord. No. 25-025, § I (Exh. A), 12-15-2025)

18.07.050 Table 3 - Park and open space land uses.

KEY: P = Permitted Use
C = Conditional Use
X = Prohibited Use
T = Temporary Use
~~NP = Neighborhood Park~~
~~SU = Special Use~~
~~OS = Open space~~

Authorized Uses in Park and Open Space Zones

	~~NP~~	~~SU~~	~~OS~~	~~P/OS-NS~~	POS
General Uses					
1. City-approved festivals, community events, and event center	~~P~~	~~P~~	~~X~~	~~P~~	P
2. Community and recreation centers	~~P~~	~~P~~	~~X~~	~~P~~	P
3. Community gardens	~~P~~	~~P~~	~~C~~	~~P~~	P
4. Concession stands	~~P~~	~~P~~	~~X~~	~~P~~	P
5. Open Spaces	~~P~~	~~P~~	~~P~~	~~P~~	P
6. Other buildings and structures to support park use	~~P~~	~~P~~	~~P~~	~~P~~	P
7. Other uses identified through the Park, Recreation and Open Space Comprehensive Plan	~~P~~	~~P~~	~~P~~	~~P~~	P
8. Parking areas/lots to serve park use	~~P~~	~~P~~	~~P~~	~~P~~	P
9. Pedestrian and multi-use trails	~~P~~	~~P~~	~~P~~	~~P~~	P
10. Public administrative facilities					P
~~10.~~11. Recreation areas and facilities	~~P~~	~~P~~	~~C~~	~~P~~	P
~~11.~~12. Residence for park caretaker and accessory structures	~~C~~	~~P~~	~~P~~	~~C~~	P
~~12.~~13. Restrooms	~~P~~	~~P~~	~~P~~	~~P~~	P

~~13.~~14. Stages and band shells	~~P~~	~~P~~	~~X~~	~~P~~	P
~~14.~~15. Temporary Use	~~T~~	~~T~~	~~T~~	~~T~~	T
Utility Uses					
~~15.~~16. Public utilities, minor	~~P~~	~~P~~	~~P~~	~~P~~	P
~~16.~~17. Pumping station	~~C~~	~~P~~	~~P~~	~~C~~	P
~~17.~~18. Railroad tracks and facilities	~~X~~	~~X~~	~~X~~	~~X~~	X
~~18.~~19. Communication facilities, minor	~~C~~	~~C~~	~~X~~	~~C~~	C
~~19.~~20. Communication facilities, major	~~X~~	~~X~~	~~X~~	~~X~~	X

(Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 23-010, Exh. A, 8-7-2023)

18.07.060 Table 4 - Downtown Zoning Districts

KEY: P = Permitted Use
C = Conditional Use
X = Prohibited Use
T = Temporary Use

Authorized Uses in Downtown Zoning Districts

Zoning Districts	DT-HMSC	DT-MXM	DT-MXL	DT-R
Active Retail Uses				
Antique shop	P[1]	P[2]	P[3]	P[4]
Appliance sales and service	P[1]	P[2]	P[3]	P[4]
Artisanal/craft/makers	P[1]	P[2]	P[3]	P[4]
Bakery (retail)	P[1]	P[2]	P[3]	P[4]
Barber and beauty shops	P[1]	P[2]	P[3]	P[4]
Book store	P[1]	P[2]	P[3]	P[4]
Bowling alley/billiards	P[1]	P[2]	P[3]	P[4]
Building, hardware and garden supply store	P[1]	P[2]	P[3]	P[4]
Candy; confectionery store	P[1]	P[2]	P[3]	P[4]
Clothing store	P[1]	P[2]	P[3]	P[4]
Coffee shop, cafe or kiosk	P[1]	P[2]	P[3]	P[4]
Day care, mini-center	P[1]	P[2]	P[3]	P[4]
Delicatessen (deli)	P[1]	P[2]	P[3]	P[4]
Department store	P[1]	P[2]	P[3]	P[4]
Feed store	P[1]	P[2]	P[3]	P[4]
Event center	P[1]	P[2]	P[3]	P[4]
Fitness center/sports club	P[1]	P[2]	P[3]	P[4]
Florist shop	P[1]	P[2]	P[3]	P[4]
Food cart/food truck/food delivery business	P[1]	P[2]	P[3]	P[4]
Furniture store	P[1]	P[2]	P[3]	P[4]
Grocery, neighborhood scale	P[1]	P[2]	P[3]	P[4]
Grocery, small scale	P[1]	P[2]	P[3]	P[4]
Hotel, motel	P[1]	P[2]	P[3]	X
Laundry/dry cleaning (retail)	P[1]	P[2]	P[3]	P[4]
Liquor store	P[1]	P[2]	P[3]	P[4]
Nursery, plant	P[1]	P[2]	P[3]	P[4]
Office supply store	P[1]	P[2]	P[3]	P[4]
Pet shops	P[1]	P[2]	P[3]	P[4]
Pharmacy	P[1]	P[2]	P[3]	P[4]
Photographic / electronics store	P[1]	P[2]	P[3]	P[4]
Restaurant	P[1]	P[2]	P[3]	P[4]
Restaurant, fast food	P[1]	P[2]	P[3]	P[4]

Zoning Districts	DT-HMSC	DT-MXM	DT-MXL	DT-R
Second-hand/consignment store	P[1]	P[2]	P[3]	P[4]
Specialty goods production (e.g. brew pub)	P[1]	P[2]	P[3]	P[4]
Taverns	P[1]	P[2]	P[3]	P[4]
Theater, except drive-in	P[1]	P[2]	P[3]	P[4]
Communication, Utilities, and Facilities Uses				
Electrical vehicle infrastructure	X	X	X	X
Wireless communications facility	(Refer to Ch. 18.35)			
Facilities, minor public	X	X	X	X
Facility, essential	X	X	X	X
Railroad tracks and facilities	X	X	X	X
Educational Uses				
College/university	P[1]	P[2]	P[3]	X
Elementary school	P[1]	P[2]	P[3]	X
Junior or senior high school	P[1]	P[2]	P[3]	X
Private, public or parochial school	P[1]	P[2]	P[3]	X
Trade, technical or business college	P[1]	P[2]	P[3]	X
Incidental Uses[9]				
Accessory Dwelling Unit	P[1]	P[2]	P[3]	P[4]
Animal Training, Kennel, Boarding	X	C[2]	C[3]	X
Day care center	P[1]	P[2]	P[3]	C
Day care, family home	P[1]	P[2]	P[3]	P[4]
Day care, minicenter	P[1]	P[2]	P[3]	P[4]
Electric vehicle battery charging station and rapid charging stations	P[1]	P[2]	P[3]	P[4]
Gardening and horticulture activities	P[1]	P[2]	P[3]	P[4]
Home occupation	P[1]	P[2]	P[3]	P[4]
Bed and breakfast	P[1]	C[2]	C[3]	C
Limited neighborhood commercial[10]	P[1]	P[2]	P[3]	P[4]
Industrial Uses				
High-tech industry	X	X	X	X
Manufacturing of miscellaneous goods (e.g. musical instruments, toys, vehicle parts)	X	X	X	X
Optical goods	X	X	X	X
Packaging of prepared materials	X	X	X	X
Scientific and precision instruments	X	X	X	X
Manufacturing and/or Processing Uses				
Cotton, wool, other fibrous material	X	X	X	X
Food production or treatment	X	X	X	X
Foundry	X	X	X	X
Furniture manufacturing	X	X	X	X
Gas, all kinds (natural, liquefied)	X	X	X	X
Gravel pits/rock quarries	X	X	X	X
Hazardous waste treatment—Off-site	X	X	X	X
Hazardous waste treatment—On-site	X	X	X	X
Junkyard/wrecking yard	X	X	X	X
Metal fabrication and assembly	X	X	X	X
Hazardous waste treatment—On-site	X	X	X	X
Paper, pulp or related products	X	X	X	X
Signs or other advertising structures	X	X	X	X
Electronic equipment	X	X	X	X
Passive Retail Uses				
Animal kennel, commercial Boarding	P[1]	P[2]	P[3]	X
Animal shelter	P[1]	P[2]	P[3]	X
Automobile repair (garage)	X	X	X	X
Automobile sales, new or used	X	X	X	X
Automobile service station	X	X	X	X
Automobile wrecking	X	X	X	X

Zoning Districts	DT-HMSC	DT-MXM	DT-MXL	DT-R
Bakery (wholesale)	P[1]	P[2]	P[3]	P[4]
Banks, savings and loan	P[1]	P[2]	P[3]	P[4]
Boat building	P[1]	P[2]	P[3]	P[4]
Boat repair and sales	P[1]	P[2]	P[3]	P[4]
Bus station	C[1]	C[2]	C[3]	C[4]
Cabinet and carpentry shop	P[1]	P[2]	P[3]	P[4]
Convention center	P[1]	P[2]	P[3]	P[4]
Day care center	P[1]	P[2]	P[3]	P[4]
Day care, adult	P[1]	P[2]	P[3]	P[4]
Day care, family home	P[1]	P[2]	P[3]	P[4]
Equipment rental	P[1]	P[2]	P[3]	P[4]
Funeral home	P[1]	P[2]	P[3]	P[4]
Furniture repair; upholstery	P[1]	P[2]	P[3]	P[4]
Gas/fuel station	X	X	X	X
Gas/fuel station with mini market	X	X	X	X
Grocery, large scale	P[1]	P[2]	P[3]	P[4]
Hospital, emergency care	C[1]	C[2]	C[3]	P[4]
Household appliance repair	P[1]	P[2]	P[3]	P[4]
Industrial supplies store	P[1]	P[2]	P[3]	P[4]
Laundry (self-serve)	P[1]	P[2]	P[3]	P[4]
Laundry/dry cleaning (industrial)	X	X	X	X
Machine shop	P[1]	P[2]	P[3]	P[4]
Marijuana processor	X	X	X	X
Marijuana producer	X	X	X	X
Marijuana retailer	X	X	X	X
Manufactured home sales lot	X	X	X	X
Medical or dental clinics (outpatient)	P[1]	P[2]	P[3]	P[4]
Mini-storage/vehicular storage	X	X	X	X
Newspaper printing plant	P[1]	P[2]	P[3]	P[4]
Nursing, rest, convalescent, retirement home	P[1]	P[2]	P[3]	P[4]
Parcel freight depots	P[1]	P[2]	P[3]	P[4]
Pawnshop	P[1]	P[2]	P[3]	P[4]
Permanent supportive housing	P[1]	P[2]	P[3]	P[4]
Plumbing, or mechanical service	P[1]	P[2]	P[3]	P[4]
Printing, binding, blue printing	P[1]	P[2]	P[3]	P[4]
Professional office(s)	P[1]	P[2]	P[3]	P[4]
Public agency	P[1]	P[2]	P[3]	P[4]
Real estate office	P[1]	P[2]	P[3]	P[4]
Recycling center	X	X	X	X
Recycling collection point	P[1]	P[2]	P[3]	P[4]
Recycling plant	X	X	X	X
Research facility	P[1]	P[2]	P[3]	P[4]
Roadside produce stand	X	P[2]	P[3]	X
Sand, soil, gravel sales and storage	X	X	X	X
Sexually oriented business	X	X	X	X
Shoe repair and sales	P[1]	P[2]	P[3]	P[4]
Smoke shop/head shop[5]	P[1]	P[2]	P[3]	X
Stock broker, brokerage firm	P[1]	P[2]	P[3]	P[4]
Truck terminals	X	C[2]	C[3]	C[4]
Veterinary clinic	P[1]	P[2]	P[3]	P[4]
Warehousing, wholesale and trade	X	X	X	X
Warehousing, bulk retail	X	X	X	X
Recreational, Religious, and Cultural Uses				
Auditorium	P[1]	P[2]	P[3]	X
Cemetery	X	X	X	X
Community club	P[1]	P[2]	P[3]	C
Church	P[1]	P[2]	P[3]	C
Golf course/driving range	X	X	X	X

Zoning Districts	DT-HMSC	DT-MXM	DT-MXL	DT-R
Library	P[1]	P[2]	P[3]	C
Municipal	P[1]	P[2]	P[3]	X
Museum	P[1]	P[2]	P[3]	C
Recreational vehicle park	X	X	X	X
Open space	P	P	P	P
Park or playground	P	P	P	P
Sports fields	X	X	X	C
Trails	P	P	P	P
Residential Uses				
Adult family home	P[1]	P[2]	P[3]	P
Apartments	P[1]	P[2]	P[3]	P[11]
Assisted living / retirement homes	P[1]	P[2]	P[3]	P
Bed and breakfast	P[1]	P[2]	P[3]	C
Cottage housing	X	P[11]	P[11]	P[11]
Designated manufactured home	P[1]	P[2]	P[3]	P
Duplex	P[1,11]	P[2,11]	P[11]	P[11]
Group home	P[1]	P[2]	P[3]	C
Emergency housing and shelters	P[1]	P[2]	P[3]	
Housing for the disabled	P[1]	P[2]	P[3]	P
Residence accessory to and connected with a business	P[1]	P[2]	P[3]	C
Residential Care Facility[6]	P[1]	P[2]	P[3]	P
Residential Treatment Facility[6]	P[1]	P[2]	P[3]	X
Single-family dwelling (detached)	X	X	X	P
Sober Living Homes	P[1]	P[2]	P[3]	P
Stacked flat	P[1,11]	P[2,11]	P[3,11]	P[11]
Townhouses	P[1,11]	P[2,11]	P[3,11]	P[11]
Transitional Housing	P[1,11]	P	P	P
Triplex	P[1,11]	P[2,11]	P[3,11]	P[11]
Temporary Uses				
Sales office for a development[7]	T	T	T	T
Sales office for a development in a dwelling[8]	T	T	T	T
Sales office for a development in a trailer[8]	T	T	T	T

Notes:

1. Pursuant to Section 3.1 of the Downtown Design Manual, at least 70% of ground floor area and frontages on Main Streets must be occupied by active retail uses. On all other street types, at least 70% of ground floor area and frontages must be occupied by active or passive retail uses. Municipal uses may occupy 100% of ground floor area and frontages on any street type east of NE Everett St between NE 3rd Ave and NE 5th Ave.

2. Pursuant to Section 3.2 of the Downtown Design Manual, at least 70% of ground floor area and frontages on Main Streets must be occupied by active retail uses. On Mobility and Gateway Steets, at least 70% of ground floor area and frontages must be occupied by active or passive retail uses. On all other street types, residential uses may not occupy more than 70% of ground floor area and frontages.

3. Pursuant to Section 3.3 of the Downtown Design Manual, at least 70% of ground floor area and frontages must be occupied by active or passive retail uses on Mobility and Gateway Steets. Residential uses may occupy 100% of ground floor area and frontages on any street, including Mobility and Gateway Streets.

4. Pursuant to Section 3.4 of the Downtown Design Manual, active or passive retail uses may occupy up to 70% of ground floor area and frontages on Gateway and Connector Steets. Residential uses may occupy 100% of ground floor area and frontages on any street.

5. A. Must be sited a minimum one thousand feet of the perimeter of the grounds of any elementary or secondary school, playground, recreation center or facility, child care center, public park, public transit center, or library, or game arcade to which is not restricted to persons twenty-one years or older as defined in WAC 314-55-010 on June 20, 2015;

   B. The business shall post clear signage in a conspicuous location near each public entrance stating no person under the age of twenty-one may enter the premises; and

   C. No smoke shop/head shop subject to this note shall be located within five miles of an existing lawfully established smoke shop/head shop. All measurements under (A) and (C) shall be measured from the nearest property line of the property on which the use is proposed to the nearest property line of an existing business utilizing Clark County GIS.

6. A Residential Treatment Facility shall not be located within one thousand feet of public and private schools, public parks, public libraries, other RTFs or similar uses.

7. See CMC Chapter 18.47 "Temporary Uses" for additional regulations.

8. Notwithstanding the time limitations of a temporary use, a sales office proposed and approved through a Type III application may be approved with a longer time frame than one hundred eighty days

9. Incidental uses are only allowed as incidental to a residential use, with exception of electric vehicle battery charging station and rapid charging stations.

10. Those Neighborhood Commercial uses listed as permitted (P) are allowed residential zones along design overlay corridors on corner lots at intersections with collector or arterial streets, pursuant to Chapter 18.20. The neighborhood commercial use must be pedestrian oriented with access to a public sidewalk or walkway and may have a maximum building footprint of 2,500 square feet and no more than five (5) off-street parking spaces, which can be satisfied by on-street parking provided they are within 500 feet of the subject parcel. See Chapter 18.20, Design Overlays, for additional provisions.

11. Permitted pursuant to Chapter 18.25, Middle Housing.

Chapter 18.09 DENSITY AND DIMENSIONS[1]

18.09.010 Purpose.

The purpose of this chapter is to establish requirements for development relative to basic dimensional standards, as well as specific rules for general application. The standards and rules are established to provide flexibility in project design, maintain privacy between adjacent land uses, and promote public safety. Supplementary provisions are included to govern density calculations for residential districts and specific deviations from general rules.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.09.020 Interpretation of tables.

A. The Camas Municipal Code Sections 18.09.030 through ~~18.09.050~~ 18.090.055 (Tables) contain general density and dimension standards of the particular zone districts. Additional rules and exceptions are stated in Sections 18.09.060 through 18.09.180.

B. The density and dimension tables are arranged in a matrix format on ~~three~~ four separate tables, and are delineated into three general land use categories:

1. Commercial, mixed use, mixed employment and industrial;
2. ~~Single-family residential~~ Residential; ~~and~~
3. Multifamily residential; and ~~.~~
4. Downtown zones.

C. Development standards are listed down the left side of the tables, and the zones are listed across the top. Each cell contains the minimum or maximum requirement of the zone. Footnote numbers identify specific requirements found in the notes immediately following the table. Additional dimensional and density exceptions are included in Sections 18.09.060 through 18.09.180 of this chapter following the tables.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

[1]Ord. No. 17-013, § I(Exh. A), adopted Oct. 2, 2017, added a second table to § 18.09.040 pertaining to density and dimensions for single-family residential zones, and revised the table designations provided in various section catchlines. For purposes of organization and clarity, the editor has removed table designations (e.g. Table 1, Table 2, etc.) from the catchlines of §§ 18.09.030—18.09.050 and included them with the table headers, also conforming said catchlines stylistically.

18.09.030 Density and dimensions—Commercial, mixed use, mixed employment and industrial zones.

Table 1—Density and Dimensions for Commercial, Mixed Use, Mixed Employment and Industrial Zones

	NC	~~DC~~	CC	RC	MX	ME	~~LI~~	~~BP~~	HI	~~LI/BP[Note 2]~~	C-NS	MX-NS	ME-NS
Bulk Regulations													
Maximum Density (dwelling units/net acre)	n/a	~~None~~	n/a	n/a	24	n/a	~~n/a~~	~~n/a~~	n/a	~~n/a~~	n/a	24[8]	n/a
Minimum lot area (square feet)	5,000	~~None~~	None	None	1,800	None	~~10,000~~	~~½ acre~~	None	~~10 acres~~	None	1,800	None
Minimum lot width (feet)	40	~~None~~	None	None	None	None	~~100~~	~~100~~	None	~~Not specified~~	None	None	None
Minimum lot depth (feet)	40	~~None~~	None	None	None	None	~~None~~	~~100~~	None	~~Not specified~~	None	None	None
Setbacks: Commercial and industrial development setbacks shall be as follows, unless along a flanking street of a corner lot. If along flanking street, then the setback must be treated like a front, and provide safe sight distance.													
Minimum front yard (feet)	15'	~~Note 4~~	Note 4	Note 4	Note 3, Note 7	None	~~None~~	~~15~~	None	~~5' per 1 foot of building height (200' minimum)~~	15[9]	Note 3, Note 7	None
Minimum side yard (feet)	None/10'[Note 1]	~~None~~	None	None	10'	None	~~15' or 25' if abutting a~~	~~15~~	None	~~100' for building;~~	None	10'	None

							~~residential area~~			~~25' for parking~~			
Minimum rear yard (feet)	None	~~None~~	None	None	~~25'~~10'	None	~~25'~~	~~50~~	None	~~100' for building; 25' for parking area~~	None	10'	None
Lot Coverage													
Lot coverage (percentage)	85%	~~None~~	None	None	~~1 story (60%) 2 stories or more (50%)~~ 65%	None	~~70%~~	~~50%~~	None	~~1 story (30%) 2 stories (40%) 3 stories (45%)~~	None	65%	None
Minimum Usable Open Space[5]	N/A	~~N/A~~	N/A	N/A	~~N/A~~ 50 sf/du	5% (net acreage)	~~N/A~~	~~N/A~~	N/A	~~N/A~~	5% (net acreage)	100 sf/du	5% (net acreage)
Building Height													
Maximum building height (feet)	2.5 stories; or 35	~~None~~	None	None	Vertical mixed use 60; Horizonal mixed use 45	100 [6]	~~acre or less: 35'; 1 to 2 acres: 45'; 2 acres or more: 60'~~	~~None~~	None	~~60~~	100[6]	100[6]	100[6, 8]

Notes:

1. If along a flanking street of corner lot.
2. The densities and dimensions in the LI/BP zone may be reduced under a planned industrial development. See Chapter 18.21 Light Industrial/Business Park.
3. Maximum setback at front building line is ten feet.
4. Residential dwelling units shall satisfy the front setbacks of CMC Section 18.09.040 Table 2, based on comparable lot size.

5. Areas that provide opportunities for active and passive uses and encourage community interaction. These spaces are accessible to the general public or to residents, employees, or customers and can include, but are not limited to plazas, courtyards, sports courts, and viewpoints (see 18.03.040 "Definitions for development terms").
6. Building heights shall "step-down" and provide compatible scale and privacy between developments. See the North Shore Design Manual.
7. If buildings are rear loaded from an alley, the rear yard setback shall be twenty feet.
8. Does not apply to cottage-style development.
9. Passive pedestrian space, as identified in the North Shore Design Manual and including elements such as seating and building overhangs, is allowed within the fifteen foot front yard setback.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § V(Exh. E), 5-18-2009; Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2672, § III(Exh. C), 1-22-2013; Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 23-010, Exh. A, 8-7-2023)

18.09.040 Density and dimensions—~~Single-family residential~~ Residential zones.

Table 1—Density and Dimensions for ~~Single-family~~ Residential Zones[1]

	R-6	R-7.5	R-10	R-12	R-15	LD-NS
A. Standard New Lots						
Maximum density (~~dwelling units~~lots/net acre)	7.2	5.8	4.3	3.6	2.9	5.8[7]
Minimum density (~~dwelling units~~lots/net acre)	X	X	X	X	X	4
Average lot area (square feet)[4]	6,000	7,500	10,000	12,000	15,000	7,500
Minimum lot size (square feet)	4,800	6,000	8,000	9,600	12,000	5,400[8]
Maximum lot size (square feet)[3]	9,000	12,000	14,000	18,000	24,000	12,000
Minimum lot width (feet)	60	70	80	90	100	40[9]
Minimum lot depth (feet)	80	90	100	100	100	90[10]
Maximum building lot coverage[5]	40%	40%	35%	30%	30%	N/A
Average building lot coverage[6]	N/A	N/A	N/A	N/A	N/A	45%
Maximum building height (feet)[2]	35	35	35	35	35	35[11]
B. Density Transfer Lots[1]						
Maximum density (~~dwelling units~~lots/net acre)	7.2	5.8	4.3	3.6	2.9	5.8
Minimum lot size (square feet)	4,200	5,250	7,000	8,400	10,500	5,250
Maximum lot size (square feet)[3]	7,200	9,000	12,000	14,400	18,000	9,000
Minimum lot width (feet)[1]	50	60	60	70	80	40
Minimum lot depth (feet)[1]	80	80	90	90	100	80
Maximum building lot coverage	40%	40%	40%	35%	35%	60%
Maximum building height (feet)[2]	35	35	35	35	35	35

Notes:

1. For additional density and dimension provisions, see CMC Sections 18.09.060 through 18.09.180.
2. Maximum building height: three stories and a basement, not to exceed height listed.
3. For parcels with an existing dwelling, a one-time exception may be allowed to partition from the parent parcel a lot that exceeds the maximum lot size permitted in the underlying zone. Any further partitioning of the parent parcel or the oversized lot must comply with the lot size requirements of the underlying zone.
4. The minimum front yard setback may be reduced by up to five feet for the non-garage portions of a dwelling when any garage is set back the full minimum front yard distance required in the underlying zone. This allowance is intended to promote varied building facades and reduce the visual prominence of garages along the street.
5. The maximum building lot coverage for single-story homes may be up to forty-five percent in R-6, R-7.5, and LD-NS zones, and forty percent in R-10 and R-12 zones. To qualify for increased lot coverage, a single-story home cannot include a basement or additional levels.
6. Average building lot coverage is based on the square footage of all lots within the development or plat with an LD-NS zoning designation. The average building lot coverage may increase to fifty-five for single-story development and/or lots below five thousand square feet.
7. Does not apply to cottage-style development.
8. Minimum lot size for cottage-style development shall be two thousand four hundred square feet and rowhouse developments shall be one thousand eight hundred square feet.
9. Minimum lot width for cottage-style development shall be thirty feet and rowhouse developments shall be twenty feet.

10. Minimum lot depth for cottage-style and rowhouse development shall be fifty feet.

11. Maximum building height for cottage-style development shall be twenty-five feet.

Table 2—Building Setbacks for ~~Single-Family~~ Residential Zones[1]

Lot Area	Up to 4,999 sq. ft.	5,000 to 11,999 sq. ft.	12,000 to 14,999 sq. ft.	15,000 or more sq. ft.	LD-NS
Minimum front yard (feet)	20[2]	20[2]	25[2]	30[2]	10-25[3]
Minimum side yard (feet)	5	5	10	15	5
Minimum side yard flanking a street and corner lot rear yard (feet)	10	10	15	15	10
Minimum rear yard (feet)	20	25	30	35	10-20[4]
Minimum lot frontage on a cul-de-sac or curve (feet)	25	30	35	40	25

Notes:

1. Setbacks may be reduced to be consistent with the lot sizes of the development in which it is located. Notwithstanding the setbacks requirements of this chapter, setbacks and/or building envelopes clearly established on an approved plat or development shall be applicable. In the LD-NS zone, cottage-style development setbacks are identified in the North Shore Design Manual.

2. The minimum front yard setback may be reduced by up to five feet for the non-garage portions of a dwelling when any garage is set back the full minimum front yard distance required in the underlying zone. This allowance is intended to promote varied building facades and reduce the visual prominence of garages along the street.

3. LD-NS subarea developments are encouraged to vary the front yard building setbacks to provide visual interest along a residential block. Garage faces shall maintain a minimum setback of twenty feet. Lots with alley-access garages may have a minimum front yard building setback of ten feet.

4. LD-NS subarea developments with street-access garages may have a minimum rear yard setback of ten feet. LD-NS developments with alley-access garages must maintain a twenty foot rear-yard building setback from the alley.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 15-010, § I, 8-17-2015; Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 19-012, § II(Exh. A), 11-4-2019; Ord. No. 21-005, § I(Exh. A), 3-15-2021; Ord. No. 23-010, Exh. A, 8-7-2023; Ord. No. 25-025, § I (Exh. A), 12-15-2025)

18.09.050 Density and dimensions—Multifamily residential zones.

Table 1—Density and Dimensions for Multifamily Residential Zones

	MF-10	MF-18	MF-24	MF-C Overlay	HD-NS
Density					
Maximum density (dwelling units per net acre)	10	18[Note 10]	24 [Note 11]	24	18[Notes 6, 10]
Minimum density (dwelling units per net acre)	6.0	6.0	8	6.0	10
Standard lots					

Minimum lot area (square feet)	3,000	2,100	1,800	None	1800
Minimum lot width (feet)	36	26	20	None	20
Minimum lot depth (feet)	70	60	60	None	60
Maximum gross floor area (GFA) per dwelling unit (square feet)	No max	No max	No max	1,000[Note 4]	No max
Setbacks					
Minimum front yard/at garage front (feet)	15/20	10/20	10/20	0/20	10/20
Minimum side yard (feet)	3[Note 1]	3[Note 1]	3 [Note 1]	0 / If abutting R-zone than setback is 10'	3[Note 1]
Minimum side yard, flanking a street (feet)	15 [Note 8]	15 [Note 8]	15 [Note 8]	15	15[Note 8]
Minimum rear yard	10	10	10	0 / If abutting R-zone than setback is 10'	10
Standard lots coverage					
Maximum building lot coverage	55%	65%	65%	Building coverage is limited by a minimum of 200 sq. ft. of useable yard adjacent to each dwelling unit.	65%
Building Height					
Maximum building height (feet)	35[Note 2]	50[Note 5]	50 [Note 5]	18[Note 3]	50[Notes 5, 9]

Table Notes:

1. The non-attached side of a dwelling unit shall be three feet, otherwise a zero-lot line is assumed.
2. Maximum three stories and a basement but not to exceed height listed.
3. Maximum one story and a basement but not to exceed height listed.
4. Gross floor area (GFA) in this instance does not include covered porches or accessory structures as defined per CMC 18.17.040.
5. Maximum four stories but not to exceed height listed.
6. Does not apply to cottage-style development.
7. In the HD-NS zone, cottage-style development setbacks are identified in the North Shore Design Manual.
8. Minimum side yard flanking street shall be ten feet for cottage-style and rowhouse developments.
9. Building heights shall "step-down" and provide compatible scale and privacy between developments. Building height transitions shall be applied to new and vertically expanded buildings in the HD-NS zone within twenty feet (measured horizontally) of an existing single detached residential building thirty feet or less in height. The building-height-transition standard is met when the height of the taller building does not exceed one foot of height for every one foot separating the new building from the existing single detached residential structure.
10. To encourage apartment development on larger sites, properties that are five acres or larger and developed exclusively with apartment buildings may be developed at up to double the maximum allowed density for the zone.

11. To encourage apartment development on larger sites, properties that are five acres or larger and developed exclusively with apartment buildings may be developed at up to a 50% increase of the maximum allowed density for the zone.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2694, § III, 2-3-2014; Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 23-010, Exh. A, 8-7-2023; Ord. No. 25-025, § I (Exh. A), 12-15-2025)

18.09.055 Density and dimensions—Downtown zones.

Development in the Downtown Subarea and zones shall comply with the general standards and development standards found in section 3.0 of the Downtown Design Manual.

Table 1—Density and Dimensions for Downtown Zones

DT – HMSC	DT – MXM	DT – MXL	DT – R
See General and Development Standards in Section 3.1 of the Downtown Design Manual	See General and Development Standards in Section 3.2 of the Downtown Design Manual	See General and Development Standards in Section 3.3 of the Downtown Design Manual	See General and Development Standards in Section 3.4 of the Downtown Design Manual

18.09.060 Density transfers.

A. Purpose. To achieve the density goals of the comprehensive plan with respect to the urban area, while preserving environmentally sensitive lands and the livability of the single-family residential neighborhoods, while also maintaining compatibility with existing residences.

B. Scope. This section shall apply to new development in all residential (R) zoning districts.

C. Where a land division proposes to set aside a tract for the protection of a critical area, natural open space network, or network connector (identified in the city of Camas parks plan), or approved as a recreational area, lots proposed within the development may utilize the density transfer standards under CMC Section 18.09.040~~.B Table 1~~ Table 1, Section B.

D. Where a tract under "C" above, includes one-half acre or more of contiguous area, the city may provide additional or negotiated flexibility to the lot size, lot width, lot depth, building setback, or lot coverage standards under CMC Section 18.09.040 Table 1 and 2. In no case shall the maximum density of the overall site be exceeded. A letter explaining the request for negotiated flexibility shall be submitted to the director for consideration. The city may also provide the landowner with:

   1. A credit against park and open space impact fees per Chapter 3.88; or

   2. Cash from the parks and open space impact fee fund or other public fund.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 18-014, § XII, 9-4-2018; Ord. No. 19-001, § I(Att. A), 1-22-2019; Ord. No. 21-005, § I(Exh. A), 3-15-2021)

18.09.080 Lot sizes.

A. In planned residential developments with sensitive lands and the required recreational open space set aside, a twenty per-cent density bonus on a unit count basis is permitted. Density may be transferred for sensitive areas but the total lot count shall never exceed the number of lots established in the density standards established in CMC Section 18.23.040 "Density Standards."

B. When creating new lots via short plats or subdivisions that are adjacent to a different residential zone designation, the new lots along that common boundary shall be the maximum lot size allowed for the zone

designation of the new development (if a lower density adjacent zone), or the minimum lot size allowed for the zone designation of the new development (if a greater density adjacent zone), as based on CMC 18.09.040 Table ~~2~~1, Section A. In applying this section, where a land division is required to increase the size of lots, the land division may utilize the density transfer provisions provided for in CMC Section 18.09.060.

C. For residentially zoned parcels owned or controlled by a religious organization, a twenty percent density bonus to the dwelling unit maximum (Refer to Sections 18.09.040 and 18.09.050) is permitted for the development of affordable housing, when the following criteria are met:

1. Affordable housing is for low-income households. "Low-income household" means a single person, family, or unrelated persons living together whose adjusted income is less than eighty percent of the median family income, adjusted for household size for Clark County;

2. A lease or other binding obligation shall require development to be used exclusively for affordable housing purposes for at least fifty years, even if the religious organization no longer owns the property; and

3. Does not discriminate against any person who qualifies as a member of a low-income household.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 21-004, § II(Exh. A), 3-15-2021)

18.09.090 Reduction prohibited.

No lot area, yard, open space, off-street parking area, or loading area existing after the effective date of the ordinance codified in this chapter shall be reduced below the minimum standards required by the ordinance codified in this chapter, nor used as another use, except as provided in Chapter 18.41 "Nonconforming Lots, Structures, Uses."

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.09.100 Lot exception.

If at the time of passage of the code, a lot has an area or dimension which does not conform with the density provisions of the zoning district in which it is located, the lot may be occupied by any use permitted outright in the district, subject to the other requirements of the district. The person claiming benefits under this section shall submit documentary proof of the fact that the lot existed by title at the time of passage of the code. See Section 18.41.040 "Buildable lot of record."

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.09.110 Height—Exception.

A. The following type of structures or structural parts are not subject to the building height limitations of the code: tanks, church spires, belfries, domes, monuments, fire and hose towers, observation towers, transmission towers, wind turbines, chimneys, flag poles (see setbacks at CMC Section 18.09130(G)), radio and television towers, masts, aerials, cooling towers, and other similar structures or facilities.

B. The heights of telecommunication facilities are addressed in CMC Chapter 18.35 Telecommunication Ordinance.

C. Building heights may exceed the maximum allowable height by eight inches to accommodate additional insulation.

D. Building heights may exceed the maximum allowable height by 48 inches to accommodate roof-mounted solar energy panels.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.09.120 Roof overhang permitted.

The maximum a roof overhang may intrude into yard setbacks shall be as follows:

Yard Setback	Maximum Roof Overhang[1]
5 feet	2 feet
10 feet	3.5 feet
15 feet	5 feet
15 feet or greater	5 feet

1. In the C-NS zone, roof overhangs may intrude up to fifteen feet in the front yard setback.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006; Ord. No. 23-010, Exh. A, 8-7-2023)

18.09.130 Setback—Exception.

A. Cornices, eaves, chimneys, belt courses, leaders, sills, pilasters, or other similar architectural or ornamental features (not including bay windows or vertical projections) may extend or project into a required yard not more than two feet.

B. Open balconies, unenclosed fire escapes, or stairways, not covered by a roof or canopy, may extend or project into a required front yard, or a required rear yard along a flanking street of a corner lot, or into a required side yard not more than three feet.

C. Open, unenclosed patios, terraces, roadways, courtyards, or similar surfaced areas, not covered by a roof or canopy, and not more than thirty inches from the finished ground surface, may occupy, extend, or project into a required yard.

D. Cantilevered floors, bay windows, or similar architectural projections, not wider than twelve feet, may extend or project into the required side yard along a flanking street of a corner lot not more than two feet. The total of all projections for each building elevation shall not exceed fifty percent of each building elevation.

E. Detached accessory buildings or structures may be established in a side or rear yard, provided such structure maintains a minimum setback of five feet from side and rear lot lines, and a minimum six feet setback from any building. In no event shall an accessory building(s) occupy more than thirty percent of a rear yard requirement. For accessory dwelling units, see Chapter 18.27.

F. On sloping lots greater than fifty percent, only uncovered stairways and wheelchair ramps that lead to the front door of a building may extend or project into the required front yard setback no more than five feet in any R or MF zone.

G. Flag poles may be placed within any required yard but shall maintain a five-foot setback from any lot line.

H. The portion of exterior wall assemblies that includes insulation may to project up to an additional eight inches into setbacks on all sides.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.09.140 Front yard—Exception.

A. Commercial , Mixed Employment, Mixed Employment, and Industrial Districts. For a lot in a NC, CC, RC, ~~LI~~, MX, ME or HI districts proposed for commercial, mixed use, mixed employment, or industrial development, which is across a street from a residential (R) zone, the yard setback from the street shall be fifteen feet.

B. Sloping Lot in Any Zone. If the natural gradient of a lot from front to rear along the lot depth line exceeds an average of twenty percent, the front yard may be reduced by one foot for each two percent gradient over twenty percent. In no case under the provisions of this subsection shall the setback be less than ten feet. The front of a garage shall not be closer than eighteen feet from the back of the sidewalk.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 17-013, § I(Exh. A), 10-2-2017)

18.09.150 Side yard—Exception.

For a lot in a NC, CC, MX, ME, or RC district containing a use other than a dwelling structure, and adjoining a residential zoning district, minimum side yard along a side lot line adjoining a lot in a residential zoning district shall be fifteen feet. In the case of a lot in ~~a LI or~~ an HI district the side yard setbacks shall be twenty feet. If the adjoining residential district is within an area shown in the comprehensive plan for future commercial or industrial use or expansion, no minimum side yard shall be required.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.09.160 Side yard—Flanking street.

For a corner lot in a NC, CC, RC, ~~LI~~ ME, MX, or HI district proposed for commercial or industrial development, which is across a street from a residential (R) zone, the yard setback from the street shall be fifteen feet.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.09.170 Rear yard—Exception.

For a lot in a NC, CC ME, MX, or RC district containing a use other than a dwelling structure and adjoining a residential zoning district, minimum rear yard along a rear lot line adjoining a side or rear yard of a lot in a residential zoning district shall be fifteen feet. In the case of a lot in a ~~LI or~~ an HI district, the rear yard setback shall be twenty feet. If the adjoining residential district is within an area shown in the comprehensive plan for future commercial or industrial use or expansion, no minimum rear yard shall be required.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.09.180 Elevated decks.

Rear Yard Setback. The rear yard setback for an elevated deck shall be fifteen feet. As used herein, an elevated deck shall mean a deck thirty inches or more aboveground level that is physically attached to a residential structure. The areas covered by an elevated deck shall be counted when calculating the maximum lot coverage permitted under the applicable density provisions.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

Chapter 18.11 PARKING

18.11.010 Parking policy designated.

Except as hereafter provided for the ~~MX District and DC District~~Downtown and Mixed-Use zoning districts, in all Districts there shall be provided minimum off street parking spaces in accordance with the requirements of ~~Section 18.11.020~~this chapter. Such off street parking spaces shall be provided at the time of erecting new structures, or at the time of enlarging, moving, or increasing the capacity of existing structures by creating or adding dwelling units, commercial or industrial floor space, or seating facilities. Under no circumstances shall off street parking be permitted in the vision clearance area of any intersection. Off street parking will only qualify if located entirely on the parcel in question, and not on City owned right-of-way or privately owned streets less than twenty feet in width. Covered parking structures shall not be permitted within the front yard set back or side yard set back along a flanking street.

~~For projects one-half block or less in size in the DC District and MX District, the Community Development Director may waive the off street parking requirements if the City Engineer finds that the anticipated parking needs of the project can be adequately met by existing off street parking on site, if any, and on street parking adjacent to the project. The Community Development Director may, as a condition of waiving the off street parking requirements of Section 18.11.020, require that on street parking be converted at the expense of the applicant to angle parking or another parking configuration approved by the City Engineer.~~

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § VI, 5-18-2009)

18.11.020 Design.

The design of off-street parking shall be as follows:

A. Ingress and Egress. The location of all points of ingress and egress to parking areas shall be subject to the review and approval of the city.

B. Backout Prohibited. In all commercial and industrial developments and in all residential buildings containing five or more dwelling units, parking areas shall be so arranged as to make it unnecessary for a vehicle to back out into any street or public right-of-way.

C. Parking Spaces—Access and Dimensions. Adequate provisions shall be made for individual ingress and egress by vehicles to all parking stalls at all times by means of unobstructed maneuvering aisles.

1. Off-street parking space dimensions shall be as follows or as otherwise approved by the director:

    a. Standard spaces shall be a minimum of nine feet in width;

    b. Standard spaces shall be a minimum of eighteen feet in length.

2. Aisle width dimensions shall be as follows or as otherwise approved by the director:

    a. One-way aisle width shall be fifteen feet;

    b. Two-way aisle width shall be twenty-four feet.

D. Small Car Parking Spaces. A maximum of thirty percent of the total required parking spaces may be reduced in size for the use of small cars, provided these spaces shall be clearly identified with a sign permanently affixed immediately in front of each space containing the notation "compacts only." Spaces designed for small cars may be reduced in size to a minimum of eight feet in width and fifteen feet in length. Where feasible, all small car spaces shall be located in one or more contiguous areas and/or adjacent to ingress/egress points within parking facilities. Location of compact car parking spaces shall not create traffic congestion or impede traffic flows.

E. Wheel stops. Wheel stops shall be installed where parking spaces are oriented toward sidewalks, walkways, or landscape areas and vehicle overhang may obstruct pedestrian access, interfere with maintenance, or damage trees, shrubs, groundcover, flowers, or other plantings. Wheel stops may be omitted where sidewalks are wide enough to maintain required pedestrian clearance despite vehicle overhang, or where plantings are set back sufficiently to avoid damage or maintenance conflicts.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 17-013, § I(Exh. A), 10-2-2017)

18.11.030 Location.

Off-street facilities shall be located as hereafter specified. Such distance shall be the maximum walking distance measured from the nearest point of the parking facility to the nearest point of the building that such facility is required to serve:

A. For single-family or two-family dwelling and motels: on the same lot with the structure they are required to serve.

B. For multiple dwelling, rooming or lodging house: two hundred feet.

C. For hospital, sanitarium, home for the aged, or building containing a club: three hundred feet.

D. For uses other than those specified above: four hundred feet.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

~~18.11.040 Units of measurement.~~

~~A. In a stadium, sports arena, church, or other place of assembly, each twenty inches of bench seating shall be counted as one seat for the purpose of determining requirements for off-street parking facilities.~~

~~B. For purposes of determining off-street parking as related to floor space of multilevel structures and building, the following formula shall be used to compute gross floor area for parking determination:~~

~~Main floor~~	~~100%~~
~~Basement and second floor~~	~~50%~~
~~Additional stories~~	~~25%~~

~~(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)~~

18.11.~~050~~040 Change or expansion.

Except in a ~~DC District or MX District~~Downtown or Mixed Use zoning district, whenever a building is enlarged or altered, or whenever the use of a building or property is changed, off street parking shall be provided for such expansion or change of use.

A. The number of off street parking spaces required shall be determined for only the square footage of expansion and not the total square footage of the building or use; however, no additional off street parking space need be provided where the number of parking spaces required for such expansion, enlargement, or change in use since the effective date of this Code is less than ten percent of the parking spaces specified in the Code.

B. No additional off-street parking spaces shall be required for the addition of dwelling units added within an existing building.

C. Nothing in this provision shall be construed to require off-street parking spaces for the portion and/or use of such building existing at the time of passage of the Code.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § VII, 5-18-2009)

~~18.11.060 Unspecified use.~~

~~In case of a use not specifically mentioned in Section 18.11.130 of this chapter, the requirements for off-street parking facilities shall be determined by the city in accordance with a conditional use permit. Such determination shall be based upon the requirements for the most comparable use listed.~~

~~(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)~~

18.11.~~070~~050 Joint use.

Cumulative parking requirements for mixed-use occupancies or shared facilities may be reduced where it can be shown that the peak parking requirements of the various uses occur at different times of the day, week or year. Methods for calculating parking reduction and submission requirements are outlined in this section. Two methods for determining parking reduction are as follows:

A. Parking Occupancy Rates. When a parking reduction is requested based on parking demand calculations from Table 18-11-1, the applicant shall submit a parking demand summary showing the calculations outlined in this section. To determine the number of parking stalls required:
    1. Determine the minimum required minimum number of parking stalls for each use.
    2. Multiply the minimum required number of stalls by the “occupancy rate” for the corresponding use in Table 18-11-1 (or as determined by a parking study) to produce an adjusted minimum requirement for each use for weekday day, evening and night periods, and for weekend day, evening and night periods.
    3. Sum the adjusted minimum number of stalls for each use for each time period to produce an aggregate adjusted minimum number of stalls for each period.
    4. The greatest of the aggregate adjusted minimum number of stalls for each period shall be the minimum number of shared parking stalls required.

5. Parking reserved for specified individual persons, positions, businesses, or offices, hotel or residential units do not count toward shared parking.

Table 18-11-1. Parking Occupancy Rates

Use[a]	Weekdays[a]			Weekends[a]		
	Day (7:00 a.m. – 6:00 p.m.)	Evening (6:00 p.m. – 11:00 p.m.)	Night (11:00 p.m. – 7:00 a.m.)	Day (8:00 a.m. – 5:00 p.m.)	Evening (5:00 p.m. – 12:00 a.m.)	Night (12:00 a.m. – 8:00 a.m.)
Residential	60%	100%	100%	80%	100%	100%
Office/Industrial/Warehouse	100%	20%	5%	5%	5%	5%
Retail/Commercial	90%	80%	5%	100%	79%	5%
Hotel	70%	100%	100%	70%	100%	100%
Restaurant	70%[b]	100%	10%	70%[b]	100%	20%
Theater (Movie or Live)	40%	80%	10%	80%	100%	10%
Entertainment/Recreation	40%	100%	10%	80%	100%	10%
Convention/Conference	100%	100%	5%	100%	100%	5%
Place of Worship	10%	5%	5%	100%	50%	5%

(a) Weekends are the period from 6:00 p.m. on Friday to 6:00 p.m. on Sunday.

(b) Fast food and breakfast/lunch oriented facilities = 100%

B. Parking Study.

1. A parking study may substitute for a parking occupancy rates summary for uses not found in the table above; for parking reductions based on seasonal variation or other time frames not found in the table; or for a parking reduction greater than provided for in the table.
2. The parking study shall meet the requirements of Section 18.11.110.

~~The city may authorize the joint use of parking facilities for the following uses or activities under conditions specified:~~

~~A. Up to fifty percent of the parking facilities required by the code for a theater, bowling alley, tavern, or restaurant may be supplied by the off-street parking facilities provided by certain types of buildings or uses herein referred to as "daytime" uses in subsection D of this section.~~

~~B. Up to fifty percent of the off-street parking facilities required for any building or use specified in subsection D of this section, "daytime" uses, may be supplied by the parking facilities provided by uses herein referred to as "nighttime or Sunday" uses in subsection E of this section.~~

~~C. Up to one hundred percent of the parking facilities required for a church or for an auditorium incidental to a public or parochial school may be supplied by the off-street parking facilities provided by uses herein referred to as "daytime" uses in subsection D of this section.~~

~~D. For the purpose of this section, the following and similar uses are considered as primary daytime uses: banks, offices, retail, personal service shops, household equipment or furniture stores, clothing or shoe repair shops, manufacturing or wholesale buildings, and similar uses.~~

~~E. For the purpose of this section, the following and similar uses are considered as primary nighttime or Sunday uses: auditorium incidental to a public or parochial school, churches, bowling alleys, theaters, taverns or restaurants.~~

~~F. Owners of two or more buildings or lots may agree to utilize jointly the same parking space, subject to such conditions as may be imposed by the city. Satisfactory legal evidence shall be presented to the city in the form of deeds, leases, or contracts to establish the joint use. Evidence shall be required that there is no substantial conflict in the principal operating hours of the buildings or uses for which joint off-street parking is proposed.~~

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.11.~~080~~060 Plan submittal.

Every tract or lot hereafter used as public or private parking area, having a capacity of five or more vehicles, shall be developed and maintained in accordance with the requirements and standards of this chapter.

The plan of the proposed parking area shall be submitted to the city at the time of the application for the building for which the parking area is required. The plan shall clearly indicate the proposed development, including location, size, shape, design, curb cuts, lighting, landscaping, and other features and appurtenances required. The parking facility shall be developed and completed to the required standards before an occupancy permit for the building may be issued.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.11.~~090~~070 Landscaping.

Landscaping requirements for parking areas shall be provided under Chapter 18.13 "Landscaping."

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.11.~~100~~080 Residential parking.

~~A. Residential off-street parking space shall consist of a parking strip, driveway, garage, or a combination thereof, and shall be located on the lot they are intended to serve.~~

A. For single-family and middle housing, driveways and parking areas shall lead to a garage, attached carport, or a parking area in a side yard or rear yard.

B. All residential off-street parking shall be graded and surfaced with asphalt, concrete, hard pavers, or grass block pavers. Gravel is prohibited for parking lot surfacing except in an existing nonconforming parking area under RCW 36.70A.622.

C. The minimum dimensions for any residential off-street parking space shall be 8 feet wide by 20 feet long. Alternatively, the City shall allow the length of an individual space to be reduced to no less than 18 feet long, provided the width of any space under 20 feet in length is at least 9 feet. For any space under a carport or

within a garage, encroachments are prohibited, including structural columns, posts, fixed appliances or objects like heat pumps, water heaters, and the swing areas of doors.

D. Parking spaces in tandem shall count towards meeting minimum parking requirements at a rate of one space for every 20 linear feet with any necessary provisions for turning radius. For purposes of this subsection, "tandem" is defined as having two or more vehicles, one in front of or behind the others with a single means of ingress and egress.

E. Existing parking spaces that do not conform to the requirements of this section by June 6, 2024, are not required to be modified or resized, except for compliance with the Americans with disabilities act. Existing paved parking lots are not required to change the size of existing parking spaces during resurfacing if doing so will be more costly or require significant reconfiguration of the parking space locations.

F. Minimum parking spaces are not required if compliance with tree retention would otherwise make a residential development infeasible as determined by a parking study. In addition to the requirements of 18.11.110, the parking study shall include a narrative demonstrating site conditions and applicable off-street parking and tree retention standards that impact feasibility and any other evidence and supporting information the applicant wishes to provide to support the request to remove parking requirements.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.11.~~110~~090 Parking for the handicapped.

Off-street parking and access for the physically handicapped persons shall be provided in accordance with the international building code.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.11.~~120~~100 Additional requirements.

In addition to the basic standards and requirements established by other sections of this chapter, the city may make such other requirements or restrictions as shall be deemed necessary in the interests of safety, health and general welfare of the city, including, but not limited to, lighting, jointly development of parking facilities, entrances and exits, accessory uses, and conditional exceptions. Further, performance bonds may be required in such cases where the city determines that such shall be necessary to guarantee proper completion of improvements within time periods specified.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.11.110 Parking study.

A. A parking study is required when:
   1. An applicant proposes fewer parking spaces than allowed under the alternative minimum standards in Section 18.11.120;
   2. A multifamily development containing more than twenty dwelling units requests use of the alternative minimum standards;
   3. No reasonably comparable parking standard exists for an unspecified use; or
   4. The Community Development Director determines that the scale, mix of uses, operating characteristics, or phasing of a development warrants additional parking analysis.

   Approval under this section is an alternative method of compliance and is not a variance under Chapter 18.45.

B. The parking study shall determine the anticipated parking demand of the proposed development, justify any difference between the parking requirements of this chapter and the proposed parking supply, demonstrate that adequate parking will be provided for each phase and the ultimate development scenario, if applicable, and evaluate alternative methods of meeting parking demand, including shared parking, off-site parking, on-street parking, and transportation demand management.

C. A parking study shall use accepted engineering and planning principles and shall include:
1. The project name, property address, purpose of the study, site location, and a brief description of the proposed development, including the type of development, development statistics such as the number of dwelling units and site area, proposed parking areas, access points, amenity areas, and proposed phasing, if applicable.
2. For nonresidential uses, the gross floor area, in square feet, by use and the anticipated hours of operation, if known.
3. A description of existing on-site conditions and the surrounding area, including streets, natural areas, buildings, and parking areas.
4. A concept plan showing proposed building locations, parking areas, vehicular, bicycle, and pedestrian access and circulation, amenity areas, landscaping, grading, natural features, and known natural hazards.
5. The parking requirements applicable to the proposed development under this chapter.
6. Any previously approved parking reductions or modifications applicable to the property or development.
7. An outline of the proposed parking supply, broken down by land use and development phase, if applicable.
8. Identification of the applicable accessible parking requirements and the number of accessible parking spaces proposed.
9. A description of existing parking and any shared or off-site parking proposed or relied upon, including applicable parking agreements.
10. For existing vacant or unoccupied tenant spaces, identification of anticipated tenants or uses, if known. If future tenants or uses are unknown, the analysis shall assume a reasonably foreseeable use with parking demand at the higher end of the range of uses likely to occupy the space.
11. The location of nearby transit facilities and a description of any proposed transportation demand management measures.
12. A summary of the parking analysis, findings, and conclusions, including any reductions or adjustments to the standards of this chapter relied upon in the analysis.
13. A recommendation for the parking supply necessary to meet the anticipated parking demand of the proposed development.
14. Any other special considerations, conditions, or circumstances supporting the recommended parking supply.
15. Other information reasonably required by the Community Development Director to evaluate the proposed parking supply.

D. The parking study shall be submitted with the applicable development application. The Community Development Director will review the study to determine whether the proposed recommended off-street parking supply, outlined in the parking study, will accommodate the needs generated by the proposed development project.

E. The Community Development Director may impose conditions necessary to ensure continued compliance, including shared or off-site parking agreements, transportation demand management measures, parking management or monitoring, or additional review if the use or operating characteristics change materially from those assumed in the approved study.

18.11.120 Alternative minimum standards

As provided by RCW 35A.21.445, the following minimum alternative off-street parking standards may be allowed with an approved parking assessment:

A. No more than 0.5 parking space per multifamily dwelling unit.
B. No more than one space per single-family home.
C. No more than two parking spaces per 1,000 square feet of commercial space.
D. No minimum parking spaces for:
    1. Residences under 1,200 square feet;
    2. Commercial spaces under 3,000 square feet;
    3. Affordable housing;
    4. Senior housing;
    5. Child care centers defined in RCW 43.216.010;
    6. Ground level nonresidential space in mixed use buildings; and
    7. A building undergoing a change of use from a nonresidential to a residential use or a change of use for a commercial use.
E. Parking assessment. A parking assessment shall include:
    1. A site plan and brief description of the proposed development, including the proposed uses and parking supply;
    2. The parking requirement under Section 18.11.130 and the alternative minimum requested;
    3. A brief explanation of the anticipated parking needs of the development based on its size, use, and operating characteristics;
    4. A description of existing on-site and abutting on-street parking, including applicable restrictions;
    5. A description of available transit, pedestrian and bicycle facilities, shared or off-site parking, and proposed transportation demand management measures, as applicable; and
    6. A description of any site constraints affecting the ability to provide the otherwise required parking.
D. The Director may approve the alternative minimum upon finding that the proposed parking supply is reasonably expected to serve the development, considering the information provided in the parking assessment and the availability of other parking and transportation options.
E. Multifamily residential projects with more than twenty units are required to conduct a parking study under Section 18.11.110 in place of a parking assessment in order to utilize the alternative minimum standards.

18.11.130 Standards.

A. The minimum number of off-street parking spaces for the listed uses shall be shown in Table 18.11-~~1~~2, Off-Street Parking Standards. The city shall have the authority to request a parking study when deemed necessary.

B. Unspecified uses. For a use not specifically listed in Section 18.11.130, the required number of off-street parking spaces shall be determined by the Director based on the listed use with the most similar parking demand and operating characteristics. The Director may require a parking study under Section 18.11.065 when no reasonably comparable use exists.

C. Downtown and mixed-use zones. Commercial uses and ground-floor nonresidential space in a mixed-use building have no minimum parking requirements. For other uses in projects one-half block or less in size, the Community Development Director may reduce the off-street parking requirements if the City Engineer finds that the anticipated parking needs of the project can be adequately met by existing off-street parking on site, if any, and on-street parking adjacent to the project. The Community Development Director may, as a condition of this section, require that on-street parking adjacent to the project be

converted at the expense of the applicant to angle parking or another parking configuration approved by the City Engineer.

Table 18.11-2 Off-Street Parking Standards

Use	Required Number of Off-Street Parking Spaces
Residential	
Single-family dwelling, ~~duplex, rowhouse~~ middle housing	2 per unit on lots greater than 6,000 square feet 1 per unit on lots smaller than 6,000 square feet
Studio apartment	1 per unit
Apartment 1 bedroom/ 2+ bedrooms	1.5/2
Housing for elderly (apartment/unassisted)	.33 per unit
Retirement dwellings	2 per unit
Residential care facility/assisted living	1 per 2 beds + 1 per day shift employee
Affordable housing	No minimum
Residential new construction or retrofit of existing buildings meeting passive house requirements	No minimum
Residential modular construction	No minimum
Residential mass timber construction	No minimum
Lodging	
Hotel or motel	1 space per unit plus additional for bars, restaurants, assembly rooms
Bed and breakfast	1 space per room
Recreation	
Marina	1 space per 2 slips
Miniature golf	1 per hole
Golf course	6 spaces per hole and 1 per employee
Golf driving range	1 space per 15 feet of driving line
Theater, auditorium	1 space per 4 seats maximum occupancy
Stadium, sports arena	1 space per 4 seats, or 1 for each 8 feet of benches, plus 1 space per 2 employees
Tennis, racquetball, handball, courts/club	3 spaces per court or lane, 1 space per 260 square feet of gross floor area (GFA) of related uses, and 1 space per employee
Basketball, volleyball court	9 spaces per court
Bowling, bocce ball center, billiard hall	5 spaces per alley/lane, and/or table
Dance hall, bingo hall, electronic game rooms, and assembly halls without fixed seats	1 space per 75 square feet of gross floor area (GFA)
Sports club, health, spa, karate club	1 space per 260 square feet of gross floor area, plus 1 space per employee
Roller rink, ice-skating rink	1 space per 100 square feet of gross floor area
Swimming club	1 space per 40 square feet of gross floor area
Private club, lodge hall	1 space per 75 square feet of gross floor area
Institutional	
Church/chapel/ synagogue/temple	1 space per 3 seats or 6 feet of pews
Elementary/middle/ junior high school	1 space per employee, teacher, staff, and 1 space per 15 students
Senior high school	1 space per employee, teacher, staff, and 1 space per 10 students

Technical college, trade school, business school	1 space per every 2 employees, staff, and 1 space per every full-time student, or 3 part-time students
University, college, seminary	1 per every 2 employees and staff members, and either 1 per every 3 full-time students not on campus, or 1 for every 3 part-time students, whichever is greater
Multi-use community centers	1 per 4 seats maximum occupancy
Museum, art gallery	1 space per 500 square feet of gross floor area
Library	1 per employee and 1 per 500 square feet of gross floor area
Post office	1 per 500 square feet of gross floor area, plus 1 space per each 2 employees
Medical care facilities	
Hospitals	1 per 2 beds
Veterinary clinic/hospital	1 space per 250 square feet of gross floor area
Medical/dental clinic/office	1 per employee plus 1 per 300 square feet of gross floor area
Office	
General offices	1 per employee, plus 1 per 400 square feet of gross floor area
General office (no customer service)	1 per 250 square feet of gross floor area
Office park	1 space per 400 square feet of gross floor area
Meeting rooms	1 per 4 person occupancy load, and 1 per 2 employees
Commercial/service	
Automobile sales new/used	1 per 400 square feet of gross floor area
Auto repair accessory to auto sales	2 spaces per auto service stall
Automobile repair shop, automobile service station, automobile specialty store, automobile body shop	4 per bay
Gas station	1 per 2 fuel pumps
Gas station with mini-market	1 per nozzle plus 1 per 250 square feet of gross floor area
Car wash or quick service lubrication facilities	2 spaces per stall, and 1 space per 2 employees
Beauty parlor, barber shop	1 per 300 square feet of gross floor area
Massage parlor	1 per 300 square feet of gross floor area
Exhibition halls, showrooms, contractor's shop	1 space per 900 square feet of gross floor area
Photographic studio	1 space per 800 square feet of gross floor area
Convenience market, supermarket	1 space per 250 square feet of gross floor area
Multi-use retail center	1 per 250 square feet of gross floor area
Finance, insurance, real estate office	1 per employee plus 1 per 400 square feet of gross floor area
Bank	1 per employee, plus 1 per 400 square feet of gross floor area
Drug store	First 5,000 square feet = 17 spaces plus 1 per additional 1,500 square feet
Furniture/appliance store	1 per 500 square feet of gross floor area
Clothing store	1 per 400 square feet of gross floor area
Lumber yard, building material center	1 space per 275 square feet of indoor sales area, plus 1 space per 5,000 square feet of warehouse/storage

Hardware/paint store	1 per 400 square feet of gross floor area
Restaurant	1 per 100 square feet of gross floor area
Restaurant, carry-out	1 space per 225 square feet of gross floor area
Fast food restaurant/coffee kiosk	1 space per 110 square feet of gross floor area, plus 6 stacking spaces for drive-through lane
Repair shop	1 per 400 square feet of gross floor area
Laundromats, coin-operated dry cleaners	1 space per every 3 washing or cleaning machines
Mortuary	1 space per 150 square feet of gross floor area
Express delivery service	1 space per 500 square feet of gross floor area, plus 1 space per employee
Retail stores in general	Less than 5,000 square feet: 1 per 300 square feet. Greater than 5,000 square feet: 17 plus 1 per 1,500 square feet
Industrial	
Industrial, manufacturing	1 per 500 square feet of gross floor area
Warehousing, storage	1 per 1,000 square feet of gross floor area
Public or private utility building	1 per 1,000 square feet of gross floor area
Wholesaling	2 plus 1 per 1,000 square feet of gross floor area
Research and development	1 per 500 square feet of gross floor area
LI/BP general office	1 per employee peak plus 15%
LI/BP research	1 per employee peak + 10%

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.11.140 Loading standards.

In all districts except the DC districts, buildings or structures to be built or substantially altered which receive and distribute material and merchandise by trucks shall provide and maintain off-street loading berths in sufficient numbers and size to adequately handle the needs of the particular case.

The following standards in Tables 18.11-~~2~~3 and 18.11-~~3~~4, shall be used in establishing the minimum number of berths required:

Table 18.11-~~2~~3 Berth Standards for Commercial and Industrial Buildings

Number of Berths	Gross Floor Area of the Building in Square Feet
1	Up to 20,000
2	20,000—50,000
3	50,000—100,000
* One additional berth is required for each 50,000 in excess of 100,000	

Table 18.11-~~3~~4 Berth Standards for Office Buildings, Hotels, Hospitals and Other Institutions

Number of Berths	Gross Floor Area of the Building in Square Feet
1	Up to 100,000
2	100,000 to 300,000

3	300,000 to 600,000
* One additional berth is required for each 300,000 in excess of 600,000	

No loading berth shall be located closer than fifty feet to a lot in any residential zoning district unless wholly within a completely enclosed building, or unless screened from such lot in the residential district by a wall, fence, or sight-obscuring evergreen hedge not less than six feet in height.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.11.150 Bicycle parking.

Bicycle parking shall be provided for new development unless otherwise exempt under this section. Single-family dwellings, middle housing, accessory dwelling units, home occupations, and temporary uses are exempt.

A. **Minimum spaces required.** Bicycle parking shall be provided as shown in Table 18.11-5. When a calculation results in a fraction, the number of spaces shall be rounded up to the nearest whole number.

Table 18.11-5 Bicycle Parking Standards

Use	Short-term bicycle parking	Long-term bicycle parking
Multifamily dwellings, 5 or more units	2 spaces, or 1 per 20 dwelling units, whichever is greater	1 per 5 dwelling units
Nonresidential and mixed-use buildings, 10,000 gross square feet or more	2 spaces, or 1 per 10,000 gross square feet, whichever is greater	2 spaces, or 1 per 20,000 gross square feet, whichever is greater
Hotels and lodging	2 spaces	1 per 20 guest rooms

B. **Short-term bicycle parking.** Short-term bicycle parking shall be located outside the building, within 50 feet of a primary entrance, and visible from the entrance or public right-of-way, and shall not obstruct sidewalks, walkways, drive aisles, fire lanes, or required accessible routes. Short-term bicycle parking spaces shall use racks or lockers securely anchored to the ground or structure and allow the bicycle frame and at least one wheel to be locked to the rack.

C. **Long-term bicycle parking.** Long-term bicycle parking shall be covered and secured within a building, bicycle room, locked enclosure, individual locker, garage, or other area accessible only to residents, employees, or other authorized users. Long-term bicycle parking for residential uses may be provided in private garages or storage areas assigned to individual dwelling units or inside individual dwelling units.

D. **Electric bicycle charging.** Electric bicycle charging facilities are encouraged near short-term and long-term parking areas. Where provided, charging equipment shall be located or managed so they do not create tripping hazards or obstruct required access.

18.11.160 Electric vehicle charging.

New developments shall provide electric vehicle charging infrastructure in compliance with WAC 51-50-0429.

Chapter 18.13 LANDSCAPING

18.13.010 Purpose.

A. To establish minimum standards for landscaping in order to provide screening between incompatible land uses, minimize the visual impact of paved areas, provide for shade, and minimize erosion; and

B. To implement the city's comprehensive plan goals which include preserving natural beauty in the city, and protecting Camas' native landscape and mature tree cover.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 18-014, § XIII, 9-4-2018)

18.13.020 Scope.

A. Unless otherwise exempted, the standards of this chapter shall apply to any site to be developed. All applicable development activities shall be required to prepare a landscape plan and shall be required to meet the minimum tree density herein created.

B. The standards of this chapter shall apply to the following:

1. Commercial, industrial, governmental uses, and land divisions;
2. Redevelopment including change of use when Site Plan Review is applicable (refer to Chapter 18.18 Site Plan Review);
3. Parking lots with greater than four spaces;
4. Development that is subject to Design Review (refer to Chapter 18.19 Design Review);
5. Undeveloped property converting to an allowed use in the zone (e.g. infill lots); and
6. Conditional uses. The standards for landscaping will be the same as the landscaping standards in commercial zones if conditional use will occur in a residential zone.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 18-014, § XIII, 9-4-2018)

18.13.025 Exemptions.

The following activities are exempt from submittal of a Landscape Tree and Vegetation Plan:

A. Commercial Nurseries. Removal of trees and vegetation which are being grown to be sold as landscape trees.

B. Forest Practices Permit. Removal of trees as allowed with a forest practices permit issued by the Washington State Department of Natural Resources. Exemption does not include conversion of forest land to other uses.

C. Developed Residential Lots. Removal of trees on lots which: (1) are less than twenty-four thousand square feet and are part of a subdivision or short plat; (2) which cannot be further divided in accordance with the underlying zoning district; and (3) trees to be removed are not within shoreline areas or critical areas.

D. Undeveloped property and developed lots (twenty-four thousand square feet and greater). Removal of up to six trees per acre, up to a total of six trees within any twelve consecutive month period when: (1) the property is intended to remain undeveloped for a period of six years and such intent is recorded in a covenant; (2) if a minimum tree density of thirty tree units per acre is maintained; and (3) the trees to be removed are not within shoreline areas or critical areas. Removal of trees on parcels of less than one acre in size shall be limited in proportion to six trees per acre (e.g. a half acre parcel can remove three trees).

E. Downtown commercial zone. Downtown commercial zone properties must include properly spaced street trees, and other landscape screening in accordance with downtown design review standards, but are not required to meet tree density minimums.

F. Minor development. A Landscape, Tree and Vegetation plan is not required for any site disturbance less than five hundred square feet and where no tree will be removed or adjacent tree(s) impacted.

(Ord. No. 18-014, § XIV, 9-4-2018)

18.13.030 Expansion.

In a case where a site expands, landscaping shall be provided only for the percentage of expansion.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.13.040 Procedure for landscape, tree and vegetation plans.

A. Applicants shall submit a detailed Landscape, Tree and Vegetation Plan with building and site improvement plans. Included in the plans (at a minimum) shall be type, size, and location of plants and materials.

B. A tree survey must be included for any applicable development proposing to remove trees.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 18-014, § XIII, 9-4-2018)

18.13.045 Tree survey.

A. The applicant must submit a tree survey that is prepared by a certified arborist or professional forester.

B. A tree survey must contain the following:

1. Inventory.

   a. Map of the site, with tree locations numbered

   b. Include all significant trees that will be impacted by the proposed development, which may include trees off-site if canopies overhang the subject property. Open space tracts to be set aside for conservation purposes do not need to be included in survey.

   c. Provide the common and scientific name of inventoried trees.

2. Assessment.

    a. Size. Measure and provide the diameter at breast height (DBH).

    b. Tree protection zone. (Refer to CMC 18.03.050 Environmental Definitions)

    c. Tree health. An overall assessment of the trees structural stability and failure potential based on specific structural features (e.g. decay, conks, co-dominate trunks, abnormal lean) and rated as good, fair or poor.

    d. Recommendation for preservation or removal. The recommendation will consider proposed grading, trenching, paving, fencing and other construction plans.

    e. If hazardous, then an evaluation of hazardous trees will include a numerical value of hazard based on the following: failure potential; size of part most likely to fail; and distance to target (e.g. new residence).

(Ord. No. 18-014, § XIV, 9-4-2018)

18.13.050 Standards for landscape, tree and vegetation plans.

A. The property owner shall be responsible for any future damage to a street, curb, or sidewalk caused by landscaping.

B. Landscaping and trees shall be selected and located to deter sound, filter air contaminants, curtail erosion, minimize stormwater run-off, contribute to living privacy, reduce the visual impacts of large buildings and paved areas, screen, and emphasize or separate outdoor spaces of different uses or character.

C. Landscape, Tree and Vegetation Plan must include a combination of trees, shrubs, and ground cover to achieve the purposes of this chapter.

    1. Required landscaping shall be comprised of a minimum of sixty percent native vegetation (or adapted to northwest climate), or drought-tolerant vegetation, and fifty percent evergreen.

    2. Deciduous trees shall have straight trunks, be fully branched, have a minimum caliper of two inches, be equivalent to a fifteen-gallon container size, and be adequately staked for planting.

    3. Evergreen trees shall be a minimum of five feet in height, fully branched, and adequately staked for planting.

D. Street trees will be required as part of the frontage improvements. Species, size and spacing of the trees must be consistent with the Design Standards Manual. Unless otherwise specified, trees must generally be spaced thirty feet apart. Substitute varieties are subject to approval by the City of Camas.

E. Proposed vegetation cannot be an invasive species as listed within the most current edition of the Clark County Noxious Weed List (e.g. English Ivy cultivars).

F. Shrubs shall be a minimum of five-gallon pot size. Upright shrubs shall have a minimum height at planting of eighteen inches. Spreading shrubs at planting shall have a minimum width of eighteen inches (smaller shrub sizes may be approved where it is more appropriate within a particular landscape plan).

G. Ground Cover, defined as living material and not including bark chips or other mulch, shall be from containers of one gallon or larger. Plants shall be planted and spaced in a triangular pattern which will result in eighty percent cover in three years. Lawn cannot be the primary ground cover within required landscape buffers unless approved for stormwater conveyance. Grass species, if used as ground cover, shall be native or drought-tolerant, and appropriate for the use of the area.

H. Appropriate measures shall be taken, e.g., installation of irrigation system, to assure landscaping success. If plantings fail to survive, it is the responsibility of the property owner to replace them.

I. Required trees, as they grow, shall be pruned in accordance with the International Society of Arboriculture. The pruned tree will provide at least ten feet of clearance above sidewalks and fourteen feet above street roadway surfaces.

J. Existing trees may be used as street trees if there will be no damage from the development which will kill or weaken the tree. Sidewalks of variable width and elevation may be utilized to save existing street trees, subject to approval by the city.

K. Vision clearance hazards shall be prohibited.

L. Street trees and other required landscaping which dies or is removed, must be replaced within one year of death or removal. Replacement street trees may be an alternative species from the city's recommended tree list, and may be in a different location as approved by the city.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 17-013, § I(Exh. A), 10-2-2017; Ord. No. 18-014, § XIII, 9-4-2018; Ord. No. 21-005, § I(Exh. A), 3-15-2021)

18.13.051 Minimum tree density requirement.

A. Tree Density. A minimum tree density per net acre is required and must be incorporated within the overall landscape plan. The tree density may consist of existing trees, replacement trees or a combination of existing and replacement trees, pursuant to the priority established in Section 18.13.052. At least fifty percent of minimum tree density shall be achieved through retention of existing trees where the existing tree coverage on the site would allow for this standard to be met. If this standard cannot be met, an arborist report is required to demonstrate that it cannot be met. Replacement trees must be native and/or coniferous species.

18.13.051 Table 1: Required Tree Density

Proposed Activity	Required Minimum Tree Density per Net Acre	Required Tree Replacement	~~North Shore Subarea Required Minimum Tree Density per Net Acre~~[1]
New Development	~~20~~ 30 Tree Units	~~20~~ 30 Tree Units per acre	~~30 Tree Units~~
Residential	~~20~~ 30 Tree Units	~~20~~ 30 Tree Units per acre	~~30 Tree Units~~
Developed commercial and industrial properties	~~20~~ 30 Tree Units	3 Tree Units for every 1 tree unit removed up to the minimum tree density per acre.	~~30 Tree Units~~

[1] At least fifty percent of minimum tree density shall be achieved through retention of existing trees where the existing tree coverage on the site would allow for this standard to be met. If this standard cannot be met, an arborist report is required to demonstrate that it cannot be met. Replacement trees must be native and/or coniferous species. More information is included in the North Shore Design Manual.

B. Tree Density Calculation. Specific instructions on how to perform tree density calculations are provided in the Design Standards Manual. "Tree Unit" is a unit of measurement based upon the size of the diameter of the tree measured at the breast height ("dbh"). New trees are given a value of one (1) Tree Unit, as they must be a minimum of 2" dbh when planted. Tree Unit values are summarized in the following Table:

18.13.051 Table 2: Tree Units for Existing Trees

Diameter at Breast Height "dbh"	Tree Units	Diameter at Breast Height "dbh"	Tree Units
1" to 5"	1	31" to 32"	12
6" to 12"	2	33" to 34"	13
13" to 14"	3	35" to 36"	14
15" to 16"	4	37" to 38"	15
17" to 18"	5	39" to 40"	16
19" to 20"	6	41" to 42"	17
21" to 22"	7	43" to 44"	18
23" to 24"	8	45" to 46"	19
25" to 26"	9	47" to 48"	20
27" to 28"	10	49" to 50"	21
29" to 30"	11	For larger trees, allow a ½ tree unit for every additional inch of dbh.	

(Ord. No. 18-014, § XIV, 9-4-2018; Ord. No. 23-010, Exh. A, 8-7-2023)

18.13.052 Tree and native vegetation preservation.

A. When determining where to retain or plant trees, locations with healthy soils, native understory vegetation, and mature trees shall have priority when there are feasible alternative locations on site for proposed buildings and site improvements to achieve the minimum tree unit density per acre. This may require site redesign. Provided, where necessary, density transfer areas may be used to ensure protection and retention of trees. Residential and mixed-use developments may use density transfer standards when setting aside area outside of critical or natural areas to protect existing trees.

B. In designing a development project and in meeting the required tree density, the applicant must provide a Landscape, Tree and Vegetation plan that retains healthy, wind firm trees in the following priority:

   1. Trees located within critical area buffers. Trees must be identified within a protected tract.

   2. Significant wildlife habitat, or areas adjacent and buffering habitat.

   3. Significant trees that are greater than 36 inch dbh.

   4. Groves of trees, or other individual healthy trees with the intent to retain must be located in separate tract if part of a land division, or other protective mechanism if other development type,

   5. Trees, that if removed would cause trees on adjacent properties to become hazardous.

C. Mitigation and Replacement. In areas where there are currently inadequate numbers of existing trees to meet minimum tree density, where the trees are inappropriate for preservation, the soils are poor, or there are significant invasive species, then mitigation shall be required to meet the minimum tree density. The applicant's proposed location for replacement trees or mitigation shall be subject to the city's approval of the Landscape Plan. Replacement trees shall be planted in the following priority:

   1. Onsite.

      a. Within or adjacent to critical area buffers or wildlife habitat areas

      b. Adjacent to stormwater facilities

      c. Landscaping tracts, such as at entrances, traffic islands or other common areas

d. Removal of invasive species and restorative native vegetation planting equivalent to the area necessary for new tree planting.

2. City tree fund. When on-site locations are unavailable or infeasible, then the applicant can pay an amount equal to the market value of the replacement trees into the city's tree fund.

(Ord. No. 18-014, § XIV, 9-4-2018; Ord. No. 23-010, Exh. A, 8-7-2023)

18.13.055 Landscape buffering standards.

A. Landscape buffers shall be in compliance with the below referenced table:

Table 1—Landscape Buffers

Abutting Zone ▶	Residential		Commercial		~~Business Park~~ Mixed Employment		Industrial	
Uses on Site ▼	Not Separated by a Street	Separated by a Street	Not Separated by a Street	Separated by a Street	Not Separated by a Street	Separated by a Street	Not Separated by a Street	Separated by a Street
Multifamily Residential	5' L1	5' L1	10' L3	10' L2	10' L2	10' L2	10' L2 w/F2 Fence	10' L3
Commercial	10' L3	5' L2	5' L1	5' L2	5' L2	5' L2	10' L3	10' L2
Industrial	10' L2 w/F2 Fence	10' L2	10' L3	L2	10' L3	5' L2	5' L2	5' L1

B. Landscaping and Screening Design Standards.

1. L1, General Landscaping.

a. Intent. The L1 standard is intended to be used where distance is the principal means of separating uses or development, and landscaping enhances the area between them. The L1 standard consists principally of groundcover plants; trees and high and low shrubs also are required.

b. Required Materials. There are two ways to provide trees and shrubs to comply with an L1 standard. Shrubs and trees may be grouped. Groundcover plants, grass lawn, or approved flowers must fully cover the landscaped area not in shrubs and trees.

2. L2, Low Screen.

a. The standard is applied where a low level of screening sufficiently reduces the impact of a use or development, or where visibility between areas is more important than a greater visual screen.

b. Required Materials. The L2 standard requires enough low shrubs to form a continuous screen three feet high and ninety-five percent opaque year-round. In addition, one tree is required per thirty lineal feet of landscaped area, or as appropriate to provide a tree canopy over the landscaped area. Groundcover plants must fully cover the remainder of the landscaped area. A three-foot high masonry wall or fence at an F2 standard may be substituted for shrubs, but the trees and groundcover plants are still required.

3. L3, High Screen.

    a. The L3 standard provides physical and visual separation between uses or development principally using screening. It is used where such separation is warranted by a proposed development, notwithstanding loss of direct views.

    b. Required Materials. The L3 standard requires enough high shrubs to form a screen six feet high and ninety-five percent opaque year-round. In addition, one tree is required per thirty lineal feet of landscaped area, or as appropriate to provide a tree canopy over the landscaped area. Groundcover plants must fully cover the remainder of the landscaped area. A six-foot high wall or fence that complies with an F1 or F2 standard may be substituted for shrubs, but the trees and groundcover plants are still required. When applied along street lot lines, the screen or wall is to be placed along the interior side of the landscaped area.

4. Fences.

    a. F1, Partially Sight-Obscuring Fence.

        i. Intent. The F1 fence standard provides partial visual separation. The standard is applied where a proposed use or development has little impact, or where visibility between areas is more important than a total visual screen.

        ii. Required Materials. A fence or wall that complies with the F1 standard shall be six feet high, and at least fifty percent sight-obscuring. Fences may be made of wood, metal, bricks, masonry, or other permanent materials.

    b. F2, Fully Sight-Obscuring Fence.

        i. Intent. The F2 fence standard provides visual separation where complete screening is needed to protect abutting uses, and landscaping alone cannot provide that separation.

        ii. Required Materials. A fence or wall that complies with the F2 standard shall be six feet high, and one hundred percent sight obscuring. Fences may be made of wood, metal, bricks, masonry or other permanent materials.

5. The applicant may provide landscaping and screening that exceeds the standards in this chapter provided:

    a. A fence or wall (or a combination of a berm and fence or wall), may not exceed a height of six feet above the finished grade at the base of the fence or wall (or at the base of a berm, if combined with one), unless the approval authority finds additional height is necessary to mitigate potential adverse effects of the proposed use, or other uses in the vicinity; and landscaping and screening shall not create vision clearance hazards.

    b. The community development director may approve use of existing vegetation to fulfill landscaping and screening requirements of this chapter, if that existing landscaping provides at least an equivalent level of screening as the standard required for the development in question.

    c. Required landscaping and screening shall be located on the perimeter of a lot or parcel. Required landscaping and screening shall not be located on a public right-of-way or private street easement.

(Ord. No. 17-013, § III(Exh. A), 10-2-2017)

18.13.060 Parking areas.

A. Parking areas are to be landscaped at all perimeters.

B. All parking areas shall provide interior landscaping for shade and visual relief.

C. Parking lots shall include a minimum ratio of one tree per six parking spaces.

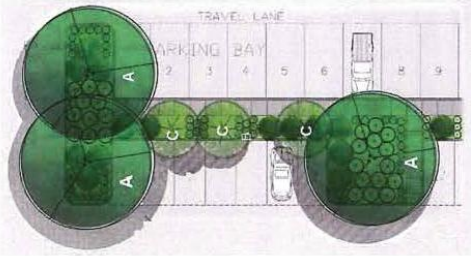


Figure 18.13.060-1 Example of Parking Lot Planter Areas.

In this example, there are three medium-sized trees ("A") for eighteen parking spaces, with ground cover ("B") and shrubs ("C").

D. Planter strips (medians) and tree wells shall be used within parking areas and around the perimeter to accommodate trees, shrubs and groundcover.

E. Planter areas for trees must provide a minimum of five hundred cubic feet of soil, and shall provide eight-foot by eight -foot minimum of clear planting space. For other vegetative buffer areas a minimum of a five foot clear width must be provided.

F. Wheel stops ~~should be used adjacent to tree wells and planter areas to protect landscaping from car overhangs.~~ shall be installed where parking spaces are oriented toward sidewalks, walkways, or landscape areas and vehicle overhang may obstruct pedestrian access, interfere with maintenance, or damage trees, shrubs, groundcover, flowers, or other plantings. Wheel stops may be omitted where sidewalks are wide enough to maintain required pedestrian clearance despite vehicle overhang, or where plantings are set back sufficiently to avoid damage or maintenance conflicts.

G. Curbed planting areas shall be provided at the end of each parking aisle to protect parked vehicles.

H. No more than fifteen parking spaces shall be located in a row without a landscaped divider strip (See Figure 18.13.060-1).

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006; Ord. No. 18-014, § XIII, 9-4-2018; Ord. No. 19-012, § II(Exh. A), 11-4-2019)

18.13.070 Assurance device.

In appropriate circumstances, the city may require a reasonable performance of maintenance assurance device, in a form acceptable to the finance department, to assure compliance with the provisions of this chapter and the approved landscaping plan.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

Chapter 18.15 SIGNS[1]

18.15.010 Purpose.

The city council finds that the manner of the construction, location, and maintenance of signs affects the public health, safety, and welfare of the people; the safety of motorists, and other users of the public streets are affected by the number, size, location, lighting, and movement of signs that divert attention of such users. Uncontrolled and unlimited signs may degrade the aesthetic attractiveness of the natural and man-made attributes of the community that could undermine economic value of tourism, visitation, and economic growth. The regulations in this chapter are found to be the minimum necessary to achieve these purposes.

(Ord. No. 2600, § II, 11-1-2010)

18.15.020 Scope.

The primary intent of this chapter shall be to regulate signs of a commercial nature intending to be viewed from any vehicular or pedestrian right-of-way. This chapter shall not apply to building design, to official traffic or government signs, or to any sign authorized or permitted by any other ordinance or resolution of the city. This section shall further not apply to the display of street numbers or to any display or construction not defined herein as a sign.

(Ord. No. 2600, § II, 11-1-2010)

18.15.030 Maintenance and repair of signs.

A. All signs and all components thereof, including supports, braces and anchors, shall be kept in a state of good repair. With respect to freestanding signs, components not bearing a message shall be constructed of materials that blend with the surrounding environment.

B. Abandoned signs and all supporting structural components shall be removed by the sign owner, owner of the property where the sign is located, or other party having control over the sign. Each is individually and severally responsible for removing such sign within thirty days after abandonment, unless such sign is replaced with a conforming sign.

C. If a sign suffers more than fifty percent damage or deterioration as determined or is dangerous because of insecure construction or fastening with resultant danger of falling by the building official, or because it is an extreme fire hazard as deter-mined by the fire marshal then such sign shall be brought into conformance with this code or removed.

(Ord. No. 2600, § II, 11-1-2010)

[1]Editor's note(s)—Ord. No. 2600, § I, adopted November 1, 2010, repealed former Ch. 18.15, §§ 18.15.010—18.15.240. Section II of said ordinance enacted provisions designated as a new Ch. 18.15 to read as herein set out. See also the Code Comparative Table and Disposition List.

18.15.040 General definitions and regulations.

A. Regulated. In the event that a definition is not listed in this section and is necessary in the interpretation of this chapter, the director shall primarily rely upon the general definitions established for this title, and secondarily on the definition found in a standard English dictionary. For the purpose of this chapter the following definitions and regulations shall apply:

1. "Abandoned" means a sign which no longer identifies or advertises a bona fide business, service, owner, product, or activity, and/or for which no legal owner can be found.

2. "Awning" is a structure that may support a sign. An awning is a shelter projecting from, and supported by, the exterior wall of a building, constructed of non-rigid materials on a supporting framework. [Refer to "awning signs."]

3. "Commercial" means the purpose of the sign is to engage in commerce, or to advertise for one's work that is intended for sale.

4. "Date of adoption" means the date the ordinance codified in this chapter was originally adopted or the effective date of an amendment to it, if the amendment makes a sign nonconforming.

5. "Height" is defined at "Dimensions of Signs" within this chapter.

6. "Internally illuminated" means signs where the source of the illumination is inside the sign and light emanates through the message of the sign, rather than being reflected off the surface of the sign from an external source. Neon signs are considered internally illuminated signs.

7. "Multiple building complex" means a group of structures housing at least one retail business, office, commercial venture, or independent or separate part of a business which shares the same lot.

8. "Nit" means a luminance unit equal to one candela per square meter measured perpendicular to the rays from the source.

9. "Off-premises sign" means a sign that advertises products, services, or facilities, or directs person to premises different than where the sign is placed.

10. "On-premises sign" means a sign that advertises products or services related to the building or structure where it is located.

11. "Permanent sign" means a sign that is intended to remain for the life of the project or business without fundamental or marked changes and is attached to a building or structure by means of a rigid wall, frame, or structure.

12. "Public right-of-way." There are two distinctions of right-of-way. "Privately maintained right-of-way" means that portion of the public right-of-way maintained by the abutting property owner. "Publicly maintained right-of-way" means that portion of the public right-of-way maintained by the City of Camas or other public agency. Signs placed in the public right-of-way must be located outside vision clearance areas and may not pose a traffic hazard or other threat to human safety.

13. "Sign" means any device, structure, or placard using graphics, logos, symbols, and/or written copy designed specifically for the purpose of advertising or identifying any establishment, product, goods, or services.

14. "Sign area" is defined at "Dimensions of Signs" within this chapter.

15. "Sign schedule" means a listing of multiple signs proposed within an application or development project, which consists of dimensions and descriptions; normally this is in a tabular format (e.g., spreadsheet).

16. "Site plan" means a drawing of the location of a sign or multiple signs within the city limits.

B. Sign Types—Regulations and Limitations. In the event that a sign type as provided in this section is in conflict with provisions elsewhere in this chapter, the more restrictive criteria shall apply.

1. "Animated sign." [Refer to "electronic message board" sign.]

2. "Awning signs." Signage on awnings shall not exceed thirty percent of the awning and shall be included in the combined sign calculation for particular business or storefront.

3. "Banner" is a sign constructed of fabric, vinyl or other non-rigid, durable material that can withstand the typical weather in this area, and does not exceed sixty square feet in size. Banners primarily announce a special occasion, such as a grand opening or special event. National, state or municipal flags are not considered banners.

4. "Bulletin board" is often installed to provide a central location for people to gather information about events or classes that are happening within the building or community in which it is installed. Bulletin boards are included in the overall signage calculation for the site. They are not electronic, LED or otherwise programmable for messaging.

5. "Cabinet sign" is generally a wall sign. This type of sign is usually internally illuminated with a removable face and is enclosed on all edges with a metal cabinet, and does not extend more than ten inches from the wall face on which it is mounted.

6. "Construction sign" means a temporary sign identifying an architect, contractor, subcontractor, and/or material supplier participating in construction on the property on which the sign is located.

7. "Directory sign" identifies two or more establishments and/or the complex as a whole. If a tenant in a multi-building complex has a sign on the freestanding directory sign, then the tenant shall not have an individual freestanding sign. Directory sign area may not exceed one-hundred square feet.

8. "Electronic message board sign," "animated sign," and "LED sign" are considered to be similar sign types for purposes of this chapter. These signs use changing lights to form a message, or messages in sequence, uses movement or change of lighting to depict action or create a special effect or scene. This element of a sign may not exceed thirty percent of total sign area or thirty-six square feet, whichever is less. This calculation does not include post or mounting framework. The electronic board must avoid using flashing, rotating or blinking lights or videos.

9. "Entrance structure." Refer to "monument sign."

10. "Freestanding sign" is attached to, erected on, or supported by some structure (such as a pole, mast, frame, or other structure) that is not itself an integral part of or attached to a building or other structure whose principal function is something other than the support of a sign.

    a. Height limit. Freestanding sign height shall not exceed twenty-five feet from the ground to the top of sign in any zone.

    b. Construction. Rigid, fire-proof material that can withstand wind pressure of thirty mph per square foot.

    c. Combination. A freestanding sign is permitted in combination with wall signs; however, the size of all permitted signs cannot exceed the overall size permitted per building face per zone. A freestanding sign is not permitted in combination with a projecting or monument sign.

11. "Incidental sign" means a small sign, two square feet or less in surface area. Included are decals informing the public of goods, facilities, or services available on the premises, e.g., designating restrooms, a credit card sign, hours of operation, or "help wanted." May also contain the name or logo of an establishment, e.g., parking, or exit and entrance signs. Incidental signs if placed in windows may

not cover more than twenty-five percent of window area in combination with any other permitted signs.

12. "Monument sign" is a sign not attached to a building, not more than five feet in height or twenty feet in length, which is attached to the ground by means of a wide base of solid appearance. Monument signs must be designed so as to be compatible with adjacent architecture and landscaping, and must be constructed with materials conductive to abutting structures and the surrounding area. They may not be constructed from fabric or banner material.

13. "Pennant" is a small, double-faced sign that is intended to be viewed by pedestrians and is hung above the sidewalk or street, with the bottom edge conforming to sign height regulations. Pennants may not exceed four square feet, may not be placed closer than twenty feet apart, and are constructed of fabric or other durable materials with a message, logo or artistic rendering on the sign face.

14. "Portable sign" means any sign designed to be moved easily, and not permanently affixed to the ground, or other permanent structure, to include such other descriptive names such as "A-frame," "sandwich board," and "poster panels."

    a. Size. The sign shall not exceed forty-two inches above ground, and six square feet in sign area per side.

    b. Construction. Portable signs shall be firmly and solidly constructed so as to be able to bear a wind pressure of at least thirty pounds per square foot of area.

    c. Location. It is unlawful to erect or maintain any portable sign in such a position as to obstruct any fire escape or any window or door leading thereto, or within vision clearance at intersections; and must allow for a pedestrian clearance of five feet on sidewalks.

    d. Portable signs may only be displayed during business hours. If business hours continue past daylight hours, precautions should be taken to place the sign in a location that is visible after dark.

    e. One sign per business entity and located on same lot as business entity.

15. "Poster" is a piece of sales literature that presents information through words and graphic images. It has text and symbols or pictures to convey an idea or concept. Usually, it is designed vertically and displayed on a wall or window. Posters, where allowed, may not exceed six square feet.

16. "Projecting sign" is a sign affixed to a building or wall in such a manner that its leading edge extends more than ten inches beyond the surface of such building or wall.

17. "Real estate sign" means a temporary sign advertising that real estate is for rent, lease, or sale.

18. "Roof sign" means any sign erected over or on the roof of a building. The roof sign may not exceed the maximum building height allowed in the zoning district in which it is located. If the zoning district has no limitation to building height, then the height from base of sign shall not exceed that of a freestanding sign, which is limited to twenty-five-feet tall.

19. "Sandwich board sign." [Refer to definition of "Portable Sign."]

20. "Temporary sign" means a sign that is used in connection with a circumstance, situation, or event that is designed, intended or expected to take place or to be completed within a reasonably short or definite period after erection of such sign; or is intended to remain on the location where it is erected or placed for a short period of time [refer to additional requirements in Section 18.15.100 CMC]. "Temporary signs" include, but are not limited to, the following examples:

    a. Political signs advocating political candidates or political issues;

    b. Real estate signs advertising property for sale or lease;

c. Construction signs identifying the builder of a structure or the developer of a residential, commercial or industrial development;

d. Special event signs or banners advertising grand openings, fairs, carnivals, circuses, festivals; or

e. Community events, garage and yard sale signs, and any other sign of a similar purpose.

21. "Vehicular sign" means a sign adhered to or mounted to the vehicle body that is parked along a vehicular right-of-way for the principle purpose of displaying advertising.

22. "Wall sign" is any permanent sign that is attached parallel to and extending not more than ten inches from the wall of a building. This includes painted, individual letter, cabinet signs and signs attached to a mansard roof (if constructed at an angle of seventy-five degrees or more from horizontal). No more than two wall signs are permitted per building face, and in combination with all other permitted signs shall not exceed ten percent of wall area.

C. Determination of number of signs.

1. For the purpose of determining the number of signs permitted, a sign shall be considered to be a single display surface or display device containing elements organized, related, and composed to form a unit. Where matter is displayed in a random manner without organized relationship of elements, each element shall be considered a single sign. A two-sided or multi-sided sign shall be regarded as one sign if the sign faces are identical.

2. Only one projecting or monument sign is permitted per street frontage (either one or the other) and neither is permitted in combination with a freestanding sign, per lot.

3. Only one permanent sign per lot in residential zones.

4. Combination. Only one freestanding sign may be allowed per street frontage for each commercial and industrial zoned lot on which the business is located in combination with a maximum of two wall signs (if the lot does not contain a monument or projecting sign). The combined square footage of signs may not exceed size allowance per building face per zone. If a lot contains a multi-building complex a directory sign is permitted in combination with a freestanding sign and wall signs. For a multi-building complex with property frontage that exceeds three-hundred feet, an additional freestanding sign may be allowed for each three hundred feet and set apart no less than one-hundred feet.

5. Refer to "Temporary Sign" section of this chapter for limitation on number of temporary signs.

D. Dimensions of signs.

1. Sign Area. The sign area is defined as the area of the surface, or surfaces, which displays letters or symbols identifying the business or businesses occupying the parcel, together with any allowable electronic message board. In calculating the sign area, the following apply:

a. The sign area shall not include the base or pedestal to which the sign is mounted.

b. The sign surface area of a double-faced (back-to-back) sign shall be calculated by using the area of only one side of such sign and shall be considered one sign structure.

c. The sign surface area of double-faced signs constructed in a "V" shall be calculated by using the area of only one side of such sign and shall be considered one sign structure.

d. The sign surface area of three dimensional signs shall be computed by including the total of all sides designed to attract attention or communicate information that can be seen at any one time by a person from one vantage point.

2. Sign Height. Height is measured from the finished grade at the point of support to the topmost point of a sign. Height limitations are determined by type of sign as defined in this chapter.

3. Placement. All signs, unless attached to a building, must be set back from the property line by a minimum of five feet, unless otherwise stated in this chapter. Setbacks may be increased or decreased during plan review if there are concerns for vision clearance or other public safety concerns. Signs must provide a minimum clearance of fourteen feet over any vehicular use area, and ten feet over any pedestrian area. Where a sign is affixed to an awning over a pedestrian area, the minimum pedestrian clearance may be reduced to 7 feet six inches.

(Ord. No. 2600, § II, 11-1-2010; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 19-012, § II(Exh. A), 11-4-2019)

18.15.050 Signs controlled by zoning district.

The following table identifies signs by zoning district as permitted (P), prohibited (X), or only allowed with a Conditional Use Permit (C). All permitted signs are subject to the requirements of this chapter, and any other applicable sections of CMC. If dimensions of a sign vary by zone, then it is noted in this table.

Table 1 - Signs controlled by Zoning District

Sign Types as defined in this chapter	Residential and Multi-family Zones	Commercial, Industrial, and Park Zones	LI/BP
Animated/electronic message board signs	C	P	P
Awning signs	X	P	P
Bulletin board	P[Note 4]	P[Note 2]	P[Note 2]
Cabinet	X	P[Note 2]	P[Note 2]
Directory sign	X	P	P
Freestanding sign	X	P[Note 2]	P[Note 2, 3]
Incidental sign	P	P	P
Monument sign	P	P	P
Portable sign	X	P[Note 2]	P[Note 2]
Projecting sign	X	P[Note 2]	P[Note 2]
Roof sign	X	P[Note 2]	P
Temporary sign (e.g., construction signs, real estate, banners, and other sign types as defined in this chapter)	P[Note 1]	P[Note 2, 3]	P[Note 2, 3]
Vehicular signs	P	P	P
Wall signs	P[Note 1]	P[Note 2]	P[Note 2]

Notes:

[1] Sign may not exceed six square feet in area per lot unless approved with a Master Sign Permit.

[2] Sign may not exceed ten percent of the size of the wall area in combination with all other permitted signs on the same plane and visible from public view unless approved with a Master Sign Permit.

[3] If lot is vacant, then sign is limited to ninety-six square feet.

[4] Only allowed if approved in combination with a Type III development permit.

(Ord. No. 2600, § II, 11-1-2010)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.15.060 General sign permit requirements.

A. Sign permit required.

1. Except as otherwise provided in this chapter, no sign may be erected, placed, or substantially altered in the city except in accordance with the provisions of this chapter and the requirements of the International Building Code, current adopted edition.

2. If plans submitted for a Conditional Use Permit (Type III permit) or Design Review include sign construction plans in sufficient detail to determine compliance with the provisions of this chapter, then issuance of such conditional use or design review may constitute approval of the proposed placement of sign or signs (other structural/mechanical permits may be required).

B. Application Requirements. Applications for a General Sign Permit shall contain the following information when submitted to the Community Development Department at a minimum:

1. Application form and payment of current fee as determined by resolution.

2. Site Plan. Drawn to scale showing the subject property, streets, all existing buildings, and the location of any existing freestanding signs, utility poles and other structures within fifty feet of the proposed new sign's location;

3. Construction Drawings. Includes the structural details of the proposed sign, including its dimensions, heights, materials, type of illumination, landscaping (if required) and structural support;

4. Photographs. Provide photographs of all existing signs on the subject property and building(s), and marked to indicate the proposed location of the new sign(s). Staff will accept original photos, color copies or compatible electronic format (e.g. compact disc).

5. When required by the building official, the construction of the sign may require submittal of structural and/or mechanical drawings prepared by a licensed Washington State professional.

(Ord. No. 2600, § II, 11-1-2010; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.15.070 Master sign permit requirements.

A. Purpose. The purpose of this section is to establish a binding Master Sign Permit that will allow for placement of both permanent and temporary signs on a group of lots or within a business complex, in order to encourage comprehensive sign design, and reward proper placement and prompt removal of temporary signs, which combined will benefit the city by reducing municipal costs for code enforcement. This section allows the size of signs on a lot or within a zoning district to be exceeded and other bonuses as set forth. Individual signs may be permitted by the building department without additional General Sign Permits after a Master Sign Permit has been approved.

B. Application Requirements. Applications for a Master Sign Permit shall contain the following materials in addition to the requirements for a General Sign Permit:

1. Application form and payment of current fee as determined by resolution.

2. Site Plan. Site plan shall include the proposed placement of all signs, both on-premises and off-premises.

3. Consent of property owner for placement of signs within privately-maintained right-of-way or on private lots. The provisions of this section shall not apply to allow placement of any signs within the public right-of-way.

4. Sign Schedule - existing conditions. The schedule will include a calculation of the combined maximum sign area permitted and the number of signs allowed on the proposed lot(s).

5. Sign Schedule - proposed. The schedule will include a calculation of the combined total proposed sign area included in the plan, sign types, number, and short description.

6. Construction Plans. Detailed construction plans shall be provided at a reasonable scale to include type of material and method of installation.

7. Time frame for installation of each sign indicated on plan.

8. Narrative that supports how this application meets or exceeds the criteria for approval for a Master Sign Permit and other regulations in this chapter.

C. Maximum total area of all signs. The combined sign area of all proposed signs on a lot or lots under consideration for a Master Sign Permit shall not exceed ten (10) percent of the total ground floor area (GFA) of the building(s) or in the case of a vacant lot then ten (10) percent of the area of building lot coverage.

D. Bonus. If the owners of two or more contiguous (disregarding intervening streets and alleys) lots or the owner of a single lot with more than one building (not including any accessory building) file with the Director for such lots a Master Signage Plan conforming with the provisions of this section, a thirty percent (30%) increase in the maximum total sign area of that zone shall be allowed for each included lot. This bonus shall be allocated within each lot as the owner(s) elects. Or if a subdivision, then the applicant may combine potential sign area from multiple lots for a single sign to be no greater than thirty-two (32) square feet in lieu of the residential zone size limitation of six square feet.

E. Criteria of Approval for Master Sign Permit.

1. Provisions have been made to have a consistent design with regard to: color scheme; lettering or graphic style; lighting; location of each sign on the buildings or on the lots or elsewhere; material; and sign proportions.

2. Provisions have been made to install signs that will not detract from the natural beauty of the city or contribute to urban blight.

3. The locations of off-premises signs do not exceed one sign per radius of 300-feet.

4. The application and plans shall be consistent with the applicable regulations of the adopted development codes, comprehensive plans, shoreline master plan, state and local environmental acts and ordinances in accordance with RCW 36.70B.030.

F. Approval and Modification. The designated official shall approve a master sign permit and subsequent modifications. Any deviation from the approved master sign permit such as additional signs, relocating signs, and any other changes (excluding tenant name changes and maintenance) shall require a modification to the master sign permit on file with the city.

G. Expiration. Master Sign Permits expire in two years from date of issuance unless at least one sign of the Master Sign Permit has been installed prior to that date.

(Ord. No. 2600, § II, 11-1-2010; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.15.080 Signs prohibited.

The following signs are specifically prohibited in the city:

A. Signs attached to any telephone or utility pole;

B. Signs located in such a manner so that by location, color, size, shape, nature would tend to obstruct the view or be confused with official traffic signage.

C. Signs advertising activities that are illegal under state or federal laws, or regulations in effect at the location of such signs, or at the location of such activities.

D. Signs emitting pollutants (e.g. smoke, or sound).

E. Posters. The tacking or pasting of posters to exterior walls, which are visible from the public right-of-way, is prohibited unless otherwise permitted as a sign in this chapter.

(Ord. No. 2600, § II, 11-1-2010)

18.15.090 Exemptions.

A. No permit is required for mere repainting; changing the message of a sign, or routine maintenance shall not in and of itself be considered a substantial alteration.

B. Although no permits will be issued, compliance with this chapter is required.

C. Signs that are exempt and that do not require a permit are as follows:

1. Signs not exceeding six square feet in area that are customarily associated with residential use, and that are not of a commercial nature, such as: signs giving property identification names or numbers, or names of occupants; signs on mailboxes or newspaper tubes; and signs posted on private property that warn the public against trespassing or danger from animals;

2. Integral decorative or architectural features of buildings, or works of art, so long as such features or works do not contain commercial trademarks, moving parts, or lights (e.g. commemorative plaques or inscriptions with the name of a building, its date of construction). Feature must be attached to the face of the building and shall not exceed three square feet in sign area.

3. Signs painted on or otherwise permanently attached to currently licensed motor vehicles;

4. Traffic or other municipal signs, signs required by law, legal notices, or signs of public utility companies indicating danger;

5. Flag, emblem, or insignia of a nation or other governmental unit or institution, or non profit organization subject to the guidelines concerning their use set forth by the government or organization which they represent;

6. Signs located in the interior of a building or within a sport complex that are designed and located to be viewed exclusively by patrons within the building or sport complex

(Ord. No. 2600, § II, 11-1-2010)

18.15.100 Temporary signs.

A. Temporary signs are exempt from permit requirements as described in this section. Although no permits will be issued, compliance with this chapter is required. Temporary signs may be permitted with a Master Sign Permit as described in this chapter.

1. Number. One sign per lot, per candidate, issue or event.

2. Size. Refer to "Table 1" of this chapter for sign dimensions per zoning district and bonuses as allowed with a Master Sign Permit.

3. Consent. If displayed on private property, the responsible party must obtain consent of property owner.

4. Location. Temporary signs are prohibited from being placed within the center island of roundabouts, any splitter islands adjacent to any roundabout, and within ten feet of the outer curb of all circulatory travel lanes that are within the public right-of-way of any roundabout, and within the center median of any public right-of-way.

B. Temporary signs may not be illuminated.

C. Removal. Temporary signs shall be removed by sign owner within ten days after occurrence of the event. For example, political signs should therefore be removed within ten days following an election, real estate signs should be removed within ten days following sale or lease of the property, construction signs should be removed within ten days following issuance of the certificate of occupancy for the building, special event signs should be removed within ten days after occurrence of the special event, and yard and garage sale signs should be removed within ten days following the sale.

D. Confiscation. The city or property owner may confiscate signs installed in violation of this chapter and dispose of it. The property owner is not responsible for notifying owners of confiscation of the illegal sign.

(Ord. No. 2600, § II, 11-1-2010; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 22-008, § I, 5-16-2022)

18.15.110 Sign illumination and electronic message board signs.

Unless otherwise prohibited by this chapter, signs may be illuminated if such illumination is in accordance with this section.

A. No sign within one hundred fifty feet of a residential district may be illuminated between the hours of midnight and six a.m., unless the impact of such lighting beyond the boundaries of the lot where it is located is entirely inconsequential.

B. Lighting directed toward a sign shall be hooded or shielded so that it illuminates only the face of the sign and does not shine directly onto a public right-of-way or a residential property.

C. Except as herein provided, internally illuminated signs are not permitted in residential districts. Where permitted, internally illuminated signs may not be illuminated during hours that the business or enterprise advertised by such sign is not open for business, or in operation.

D. All electronic message board signs shall be constructed as an integral part of a permanent sign constructed on-site. Integral shall be considered to be incorporated into the framework and architectural design of the permanent sign.

E. Maximum Luminance:

a. Daytime: five thousand nits.

b. Nighttime (one-half hour before sunset and one-half hour after sunrise): five hundred nits.

c. Signs shall include ability to adjust brightness and auto-dimming features with light-sensory capabilities to dim the sign to allowable luminance levels.

(Ord. No. 2600, § II, 11-1-2010; Ord. No. 19-012, § II(Exh. A), 11-4-2019)

18.15.120 Nonconforming signs.

A. Existing signs which do not conform to the specific provisions of the chapter may be eligible for the designation "legal nonconforming"; provided that:

1. The building department determines that such signs are properly maintained and do not in any way endanger the public;

2. The sign was covered by a permit deemed valid by the city, or complied with all applicable laws on the date on which it was established.

B. A "legal nonconforming" sign may lose this designation if the following occur:

1. The sign is relocated or replaced;

2. The structure or size of the sign is altered in any way except toward compliance with this chapter. This does not refer to change of copy or normal message;

3. The business, use, or product for which the sign is directed has been abandoned (has not occurred on the property for a period of six consecutive months). The burden of demonstrating non-abandonment shall be on the owner.

C. Removal of nonconforming signs. A sign which has been removed and held by the city longer than thirty days and not recovered by its owner, shall be declared abandoned and discarded by the city.

(Ord. No. 2600, § II, 11-1-2010)

Chapter 18.18 SITE PLAN REVIEW

18.18.010 Intent.

This chapter is intended to provide procedures for the review of site plan applications. Site plan review is intended to ensure that development projects carried out in given zoning districts are executed in a manner consistent with existing ordinances concerning public utilities, traffic, facilities, and services, and provide unified site design, access, landscaping, screening, building placement and parking lot layout. The site plan review process is not intended to review and determine the appropriateness of a given use on a given site. It is intended to ~~insure~~ ensure that development of a site will provide the features necessary to protect the health, safety, and general welfare of the citizens of the city.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.18.020 Applicability.

A. Site plan review and approval shall be required for the following development activities prior to issuance of a building permit:

1. All new nonresidential uses for the location of any building(s);
2. Any multifamily development in which more than two dwelling units would be contained, not including any middle housing or accessory dwelling unit development on a single residential lot;
3. The expansion of any building or development as defined in CMC Section 18.18.020(A) exceeding twenty percent of the existing floor or site area, or any one thousand square foot addition, or increase in impervious coverage thereto, whichever is lesser.

B. Exemptions. The following developments and land use categories shall be exempt from site plan review:

1. Planned unit developments, land divisions, binding site plans and boundary line adjustments pursuant to CMC Titles 17 and 18;
2. ~~Light industrial/business park development applications pursuant to CMC Chapters 18.20 North Dwyer Creek Residential Overlay and 18.21 Light Industrial/Business Park;~~
2~~3~~. Normal or emergency repair or maintenance of public or private buildings, structures, landscaping, or utilities;
3~~4~~. Interior remodeling and tenant improvements to buildings previously reviewed and approved; and
4~~5~~. Unless otherwise required, proposals that are subject to Type I procedures under CMC Chapter 18.55 Administration and Procedures.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 § 1 (Exh. A (part)), 2007: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.18.030 Site plans and review procedures.

A. Any use that is subject to the requirements for a site plan review shall be processed in accordance with the procedures established under CMC Chapter 18.55 Administration and Procedures for Type II project permit applications.

B. Site plan review and approval shall be required prior to issuance of grading or other building permits.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 § 1 (Exh. A (part)), 2007: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.18.040 Submittal and contents of a complete application.

In addition to the submittal requirements under CMC Chapter 18.55 Administration and Procedures, each application for site plan review shall contain the following information. Items may be waived if, in the judgment of the community development department, the items are not applicable to the particular proposal.

A. A written description addressing the scope of the project, the nature and size in gross floor area of each use, and the total amount of square feet to be covered by impervious surfaces;

B. A vicinity map showing site boundaries, and existing roads and accesses within and bounding the site;

C. A topographic map based upon a site survey delineating contours, existing and proposed, at no less than five-foot intervals, and which locates existing streams, marshes, and other natural features;

D. Site plans drawn to a scale no smaller than one inch equals fifty feet showing location and size of uses, buffer areas, proposed areas of disturbance or construction outside of the building footprint, yards, open spaces and landscaped areas, and any existing structures, easements and utilities;

E. A circulation plan drawn to a scale acceptable to the community development director illustrating all access points for the site, the size and location of all driveways, streets, and roads, with proposed width and outside turning radius, the location, size, and design of parking and loading areas, and existing and proposed pedestrian circulation system. If a project would generate more than one hundred average daily trips either based on the latest edition of the International Transportation Engineer's (ITE) Trip Generation Manual or evidence substantiated by a professional engineer licensed in the state of Washington with expertise in traffic engineering, a traffic impact study shall be submitted;

F. A preliminary stormwater technical information report (TIR) supporting the preliminary stormwater drainage and runoff plan. The preliminary stormwater TIR is to be prepared in accordance with Ecology's latest edition Stormwater Management Manual for Western Washington (SWMMWW);

G. A utility plan;

H. A plot plan of all proposed landscaping including the treatment and materials used for open spaces, and the types of plants and screening to be used; and

I. Typical building elevation and architectural style.~~; and~~

~~J. Reserved.~~

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 § 1 (Exh. A (part)), 2007: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 19-012, § II(Exh. A), 11-4-2019; Ord. No. 21-005, § I(Exh. A), 3-15-2021)

18.18.050 Reserved.

Editor's note(s)—Ord. No. 2612, § I(Exh. A), adopted February 7, 2011, repealed § 18.18.050, which pertained to application open for public inspection. See also the Code Comparative Table and Disposition List.

18.18.060 Criteria for approval.

The city shall consider approval of the site plans with specific attention to the following:

A. Compatibility with the city's comprehensive plan;

B. Compliance with all applicable design and development standards contained in this title and other applicable regulations;

C. Availability and accessibility of adequate public services such as roads, sanitary and storm sewer, and water to serve the site at the time development is to occur, unless otherwise provided for by the applicable regulations;

D. Adequate provisions are made for other public and private services and utilities, parks and trails (e.g., provide copies of private covenant documents);

E. Adequate provisions are made for maintenance of public utilities; and

F. All relevant statutory codes, regulations, ordinances and compliance with the same. The review and decision of the city shall be in accordance with the provisions of CMC Chapter 18.55 Administration and Procedures.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 (Exh. A (part)), 2007: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.18.070 Improvements for residential development.

A. Public. Prior to the issuance of a building permit for residential construction, all public improvements required to adequately service that portion of the plat for which the building permit will be issued shall be installed, or the developer shall provide financial surety acceptable to the city pursuant to CMC Section 17.21.050 Bonds and Other Financial Agreements.

B. Private. Prior to issuance of final occupancy permits all public and private improvements shall be completed in accordance with CMC Section 17.21.070 Final Acceptance.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 § 2 (Exh. A (part)), 2007)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.18.080 Duration of approval.

Construction on the project must commence within twenty-four months from the date of final action by the city; otherwise, the approval of the project becomes null and void.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 (Exh. A (part)), 2007: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.18.090 Amendments to a site plan.

A. Minor site plan adjustments may be made and approved when a building permit is issued. Any such alteration must be approved by the community development director. Minor adjustments are those which may affect the precise dimensions or siting of building (i.e., lot coverage, height, setbacks) but which do not affect the basic character or arrangement and number of buildings approved in the plan, nor the density of the development or the amount and quality of open space and landscaping. Such dimensional adjustments shall not vary more than ten percent from the original, but shall not exceed the standards of the applicable district.

B. Major amendments are Type II permit applications and are processed in accordance with CMC Chapter 18.55 Administration and Procedures. Major amendments are those that substantially change the character, basic design, density, open space or other requirements and conditions of the site plan. When a change constitutes a major amendment, no building or other permit shall be issued without prior review and approval by the city.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 (Exh. A (part)), 2007: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

Chapter 18.19 DESIGN REVIEW[1]

18.19.010 Purpose.

This chapter is intended to provide for orderly and quality development consistent with the design principles of the "Camas Design Review Manual: Gateways, Commercial, Mixed-Use and Multifamily Uses," hereafter referred to as the Design Review Manual (DRM), the "Downtown design manual," and the "North Shore design manual." The design review process is not intended to determine the appropriateness of a given use on a given parcel. The design review process is intended to produce a meaningful integration of building, landscaping and natural environment. This will protect the general health, safety, and welfare of the community by making efficient use of the land, which is consistent with the visual character and heritage of the community.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

(Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 23-010, Exh. A, 8-7-2023)

18.19.020 Scope.

A. Design review is required for all new developments within commercial, mixed-use, mixed employment~~business park,~~ or multifamily zones, redevelopment (including change in use, e.g., residential to commercial), or major rehabilitation (exterior changes requiring a building permit or other development permit). Commercial uses in the context of design review include both traditional uses listed as commercial under the zoning code, including those listed as active or passive retail uses in the Downtown design manual, as well as recreational, religious, cultural, educational, and governmental buildings and associated properties. Additionally, design review is applicable to all new developments or redevelopments within a design overlay~~gateway area~~ as defined in Chapter 18.20 Design Overlays~~the design review manual~~. Design review is also required for all development within the North Shore subarea, consistent with the North Shore design manual.

B. Consistency with this chapter shall be reviewed by the approval authority during the development review process.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

(Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 23-010, Exh. A, 8-7-2023)

18.19.025 Applicability and scope of the downtown design manual (DDM).

The provisions of this manual shall be applied to public and private parcels located within the downtown subarea~~commercial zone~~. Development of parcels within the downtown subarea shall comply with the standards found in the DDM. ~~The standards within the DDM supersede the general requirements of the DRM for parcels located within the downtown commercial zone.~~

(Ord. 2518 § 1 (Exh. A (part)), 2008)

[1]Prior ordinance history: Ords. 2443 and 2515.

18.19.030 Design review manual adopted.

The city's design standards are primarily contained in the design review manual, which was adopted by the city.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

18.19.035 Downtown design manual adopted.

The city's design standards for the downtown subarea~~commercial zone~~ are contained in the manual, which is adopted by the city.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

~~18.19.040 Design review committee.~~

~~A. The city council shall establish a seven-person design review committee (DRC) for the purposes of reviewing specific proposals, and recommending conditions and/or other actions necessary for consistency with the principles of the DRM. The DRC members serve at the pleasure of the city council. The DRC shall consist of six members appointed by the city council, including two from the development community, one council member, one planning commissioner, and two citizens at large. A seventh member shall be a neighborhood representative of the surrounding neighborhood to a specific proposal, or a United Camas Association of Neighborhoods member.~~

~~B. The DRC will hold a public meeting to consider a design review application when:~~

~~1. The city planner determines that the issues related to a specific proposal are complex enough to warrant a review by the DRC;~~

~~2. The proposal varies from the guidelines of the DRM; or~~

~~3. When an administrative decision on a design review application is appealed with no prior review by the DRC.~~

~~C. The DRC shall not issue a decision, but shall prepare a written recommendation, together with findings to support the recommendation, to the approval authority within ten days of a public meeting held for that purpose (RCW 36.70.020(5)).~~

(Ord. 2518 § 1 (Exh. A (part)), 2008)

18.19.050 Design principles.

The principles as provided in the DDM or DRM are mandatory and must be demonstrated to have been satisfied in overall intent in order for approval of a design review application to be granted. Standard principles listed below shall apply to all commercial, mixed use, or multifamily uses outside of Downtown. Specific principles are used in addition to the standard principles outside of Downtown for design overlaysgateways and corridors, commercial~~,~~ and mixed uses, ~~and~~ multifamily (e.g. ~~apartments~~stacked housing~~,~~ ~~townhouses, duplexes~~), and the North Shore subarea. Design principles for Downtown are included in the DDM.

A. Standard Principles.

1. Landscaping shall be done with a purpose. It shall be used as a tool to integrate the proposed development into the surrounding environment.

2. All attempts shall be made at minimizing the removal of significant natural features. Significant natural features shall be integrated into the overall site plan.

3. Buildings shall have a "finished" look. Any use of panelized materials shall be integrated into the development in a manner that achieves a seamless appearance.

4. A proposed development shall attempt to incorporate or enhance historic/heritage elements related to the specific site or surrounding area.

B. Specific Principles.

1. All new development and redevelopment within design overlays shall meet the minimum requirements in Chapter 18.20 Design Overlays~~Gateways~~, which supersede the specific principles for Commercial and Mixed Uses and Multifamily as described in 18.19.050.B.2 and B.3 below.

~~a. Gateways shall be devoid of freestanding signs. Preexisting freestanding signs will be subject to removal at the time of any new development, redevelopment, or major rehabilitation on the site. Exemptions include approved directional or community information signage as approved by the city.~~

~~b. Business signage not placed on buildings shall be integrated into the landscaping/streetscaping of the subject property.~~

~~c. Permanent signage within a gateway shall be standardized in a manner that creates a consistent look within the gateway in question.~~

~~d. The surface of pedestrian walkways within intersections shall be accentuated with a unique character.~~

~~e. A consistent streetscape lighting scheme shall be used.~~

2. Commercial and Mixed Uses.

a. On-site parking areas shall be placed to the interior of the development unless site development proves prohibitive. All on-site parking areas along adjacent roadways shall be screened with landscaping. ~~Downtown commercial and mixed-use areas shall not be required to provide on-site parking.~~

b. Buildings shall be used to define the streetscape unless site conditions prove prohibitive.

c. Structures abutting, located in, or located near less intensive uses or zoned areas (such as commercial developments next to residential areas) shall be designed to mitigate size and scale differences.

d. Developments containing ~~a~~ multiple ~~of~~ uses/activities shall integrate each use/activity in a manner that achieves a seamless appearance, or creates a cohesive development.

e. Mixed-use developments that place uses throughout the site (horizontal development) shall organize elements in a manner that minimizes their impact on adjacent lower intensity uses.

f. Walls shall be broken up to avoid a blank look and to provide a sense of scale.

g. Outdoor lighting shall not be directed off-site.

3. Multifamily

a. Stacked Housing.

i. All on-site parking areas shall be screened with landscaping. Parking spaces shall be clustered in small groups of no more than six to ten spaces.

ii. Stacked houses abutting or located in single-family residentially zoned areas shall be designed to mitigate size and scale differences.

iii. Walls shall be articulated in order to avoid a blank look and to provide a sense of scale. Consistent with RCW 36.70A.815, this standard does not apply to affordable housing, new construction meeting passive house requirements, retrofit of existing buildings meeting passive house requirements, the conversion of existing buildings to housing, modular construction, mass timber construction.

iv. Detached garages shall be located to the rear of stacked unit(s) so as not to be directly viewable from a public street.

v. Attached garages shall account for less than fifty percent of the front face of the structure. Garages visible from the street shall be articulated by architectural features, such as windows, to avoid a blank look except as not allowed per RCW 36.70A.815, as noted in 18.19.050.B3.iii above.

b. ~~Townhomes and Rowhouses.~~

~~i. All on-site parking areas (excluding driveways and garages) shall be screened with landscaping.~~

~~ii. Buildings shall be used to define the streetscape unless site conditions prove prohibitive.~~

~~iii. When appropriate, structures abutting or located in single-family residentially zoned areas shall be designed to mitigate size and scale differences.~~

~~iv. Walls shall be articulated in order to avoid a blank look and to provide a sense of scale.~~

~~v. Detached garages shall be located to the rear of the townhouse or rowhouse unit(s) so as not to be directly viewable from a public street.~~

~~vi. Attached garages shall account for less than fifty percent of the front face of the structure. Garages visible from the street shall be articulated by architectural features, such as windows, to avoid a blank look.~~

~~c. Duplex, Triplex and Four-Plex.~~

~~i. Garages shall account for less than fifty percent of the front face of the structure. Garages visible from the street shall be articulated by architectural features, such as windows, to avoid a blank look.~~

4. North Shore Subarea. All development within the North Shore subarea shall meet the minimum requirements determined in North Shore Design Manual.

a. Use a stepped-transition in building height and mass to move from higher density to lower density and from more intense mix-of-uses to single uses to provide compatible scale and privacy between developments. Building height transitions shall be applied to new and vertically expanded buildings in the HD-NS, C-NS, MX-NS, and ME-NS zones within twenty feet (measured horizontally) of an existing single detached residential building thirty feet or less in height. The building height transition standard is met when the height of the taller building does not exceed one foot of height for every one foot separating the new building from the existing single detached residential structure.

b. Vary lot sizes, front yard setbacks, and building product type for residential uses to avoid predictable suburban development patterns (also known as "cookie cutter" development) and better reflect the natural geography.

c. Minimize the visibility of off-street surface parking where feasible by instead integrating structured and tuck-under parking in buildings or locating surface parking behind buildings.

d. Provide public-facing facades and building entries-regardless of land use-that provide weather protection from wind, rain, sun, and the occasional snow.

e. Include multiple entries and windows on ground floor commercial uses facilitate business access, create visual interest, and promote safety.

f. Encourage an aesthetic that complements the surroundings (such as the Pacific Northwest style) through site design, exterior building materials, landscaping, and other features. Exterior building materials may include: concrete, wood, standing-seam sheet metal, glass, board-and-batten, wood siding, corrugated sheet metal, board-formed concrete, board-and-batten siding, commercial/industrial terra-cotta, stone siding, spaced wood sun screens, ply-formed concrete, horizontal wood siding, brick, sheet metal panels, standing-seam metal roofing, stucco, and/or heavy-timber.

g. Use dark-sky friendly lighting for outdoor areas, such as full cutoff fixtures, or limiting light trespass from buildings into the street.

h. Design the development to maximize potential for passive solar and solar-ready construction.

5. Downtown Subarea. All development within the Downtown Subarea shall meet the minimum requirements in the Downtown Design Manual.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

(Ord. No. 16-006, § I, 5-2-2016; Ord. No. 23-010, Exh. A, 8-7-2023)

18.19.060 Guidelines.

A. The guidelines include five major categories:

1. Landscaping and screening;

2. Architecture;

3. Massing and setbacks;

4. Historic and heritage preservation; and

5. Circulation and connections.

B. Each of the major guidelines include subcategories. Compliance with the guideline categories and subcategories demonstrate compliance with the principles. However, not every guideline may be deemed applicable, and therefore required, by the approval authority. Additionally, there may be circumstances where an alternative design solution is proposed that meets the guidelines and intent of the established principles, but is not in strict compliance. Development proposals with alternative design solutions are subject to review by the approval authority, and the approval authority may approve a ~~variance~~ deviation from one or more guidelines, provided the overall intent of the principles is satisfied.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

(Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.19.070 Application requirements.

Application for design review shall be submitted on the most current forms provided by, and in a manner set forth by the ~~community development director or designee~~Community Development Director (Director). The application shall include such drawings, sketches, and narrative as to allow the approval authority review of the specific project on the merits of the city's design review manual and other applicable city codes. An application shall not be deemed complete unless all information requested is provided.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.19.090 Deviations to design review guidelines.

A design review application that includes a deviation from any of the five major guidelines of the DRM shall be subject to review ~~and recommendations~~ from the approval authority~~design review committee~~. The approval authority~~DRC~~ shall base ~~its~~their ~~recommendation~~decision upon findings setting forth and showing that all of the following circumstances exist:

A. Special conditions or circumstances exist which render a specific requirement of the DRM unreasonable, given the location and intended use of the proposed development;

B. The special conditions and circumstances are characteristic of the proposed general use of the site, and not of a specific tenant;

C. The specific conditions and circumstances are not representative of typical development which may be allowed within the zoning district;

D. The requested deviation is based upon functional consideration rather than economic hardship, personal convenience or personal design preferences;

E. Variation from a guideline(s) has sufficiently been compensated by other site amenities; and

F. The requested deviation will not result in a project that is inconsistent with the intent and general scope of the DRM principles.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

18.19.100 Enforcement.

Failure to comply with the requirements of this chapter, or a decision resulting from this chapter are enforceable under Article VIII of CMC Chapter 18.55 Administration and Procedures.

(Ord. 2518 § 1 (Exh. A (part)), 2008)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

Chapter 18.20 Gateway Design Overlays

18.20.010 Purpose and Applicability.
18.20.020 Permitted Uses.
18.20.030 Downtown Design Overlays
18.20.040 General Design Overlay Standards.
18.20.050 Tier 1 and Tier 2 Corridors Design Overlays
18.20.060 Incentives.

18.20.010 Purpose and Applicability.

A. Purpose and Intent

1. To encourage new development and business opportunities along identified corridors throughout the city;
2. To elevate the design standards beyond the base zoning requirements along the identified corridors that result in developments that are arranged, scaled, and designed to create a unique sense of place that is complementary with surrounding land uses; and
3. To promote a mix of uses with a compact growth pattern to efficiently use the remaining developable land and to help support community and neighborhood businesses and residents.

B. Applicability.

1. Unless provided elsewhere in this title or in adopted manuals, this chapter applies to all new development and redevelopment (~~including change in use, e.g., residential to commercial~~ not including ordinary maintenance, interior tenant improvements, or changes of use that do not involve substantial exterior building or site modifications) within the identified overlays, which are shown on the City's Gateway Design Overlays map as Tier 1 and Tier 2 corridors. The overlay applies to properties within 200 feet of the frontage on these corridors. The underlying zoning standards still apply along with the overlay requirements. New development and redevelopment shall submit a site plan review application in accordance with Camas Municipal Code (CMC) Chapter 18.18 Site Plan Review, unless otherwise exempted in this title.
2. All new developments and redevelopment shall be required to submit a design review application in accordance with CMC Chapter 18.19 Design Review of this title prior to applying for a building permit.
3. Unless noted elsewhere in this title or in adopted manuals, landscaping requirements shall be the same as landscaping standards in the underlying base zones.
4. Development and redevelopment of public and private properties that have frontage along corridors in the Downtown Subarea shall comply with the standards found in the Downtown Design Manual.
5. To demonstrate arrival into the community, entry points along Tier 1 corridors shall feature public and private amenities in the form of public art and entry signage.

18.20.020 Permitted Uses.

The uses permitted in a Gateway Design Overlay shall be governed by *Chapter 18.07 Use Authorization*.

18.20.030 Downtown Design Overlays

All development and redevelopment within the Downtown Subarea shall meet the minimum design standards in the Downtown Design Manual.

18.20.040 General Design Overlay Standards.

Before any approval of a design review application is granted, all new development and redevelopment (including change in use, e.g., residential to commercial) within each design overlay shall comply with the general overlay design standards.

General standards are developed with the intent of being applied throughout each design overlay regardless of the underlying land use. Public improvements applied within design overlays that transition between the street segments of the Downtown Subarea and adjacent areas shall be consistent. Development/redevelopment within a design overlay must adhere to the applicable Gateway Design Overlay goals and policies in the Land Use element of the Comprehensive Plan. Development/redevelopment must also adhere to the applicable goals and policies in the Community Character, Land Use, Housing, Transportation, and Economic Development elements, as well as applicable development regulations and other design review standards.

1. ~~Entry points shall be devoid of freestanding signs. Pre-existing freestanding signs will be subject to removal at the time of any new development, redevelopment, or major rehabilitation (exterior changes requiring a building permit) on the site. Exemptions include approved directional or community information signage as allowed by the approval authority.~~

   Freestanding signs shall be permitted in accordance with Chapter 18.15, provided they are monument-style signs designed to complement the architecture and landscaping of the associated development. Freestanding signs shall be limited in number and consolidated where feasible to minimize visual clutter. Multi-tenant developments shall utilize coordinated signage identifying multiple businesses on a single sign or sign structure.

2. Placement, size, and type of signs will be controlled by the zoning district and Chapter 18.15 Signs.
3. Permanent wayfinding, historic, and/or interpretive signage within a Design Overlay shall be standardized in a manner that creates a consistent look within the Design Overlay area. Permanent signage within entry points shall be standardized in terms of size, color, and materials.
4. The surface of pedestrian walkways within intersections shall be accentuated, consistent with ADA standards, with a unique character, such as stamped or colored concrete or pavers.
5. Bike lanes shall be incorporated into the public right of way where feasible, as determined by the City Engineer and approval authority.
6. A consistent iconic streetscape lighting scheme shall be used that portrays the primary development period, architecture characteristics, or predetermined theme as identified in a concept plan, sub-area plan, or master plan recognized by the City.
7. Layered landscaping must be provided as a transition to properties adjacent to the public right of way, including a mix of trees, shrubs, rockeries, and ground cover.
8. Sidewalks shall be separated from the roadway through the use of planter strips (minimum 4-feet wide), 6-foot diameter tree wells, or if feasible, raingardens/bioswales.

9. Street trees of no less than two inches in diameter shall be planted within planter strips or tree wells at a spacing that creates the appearance of a continuous canopy at tree maturation. Street trees must be replaced with an appropriate species as defined by the City's Plant Materials document if they are removed due to a hazardous condition or other reasons that are first verified by a certified arborist.

18.20.050 Tier 1 and Tier 2 Corridors Design Overlays

As shown on the Gateway Design Overlays map, Tier 1 and Tier 2 corridors extend along intersections and identified routes throughout the city. Tier 1 corridors are located along arterial roadway functional classifications. Tier 2 corridors primarily extend from Tier 1 corridors and include arterial and collector roadway functional classifications. Specific overlay design standards apply to Tier 1 and Tier 2 corridors. All development and redevelopment within the corridors shall comply with the special design standards outlined below.

A. The following list of streets and street segments are referred to as Tier 1 corridors to which other standards below apply.
   a. NE Ingle Road Corridor: Just north of N 92nd Avenue to NE Goodwin Road.
   b. NE Goodwin Road Corridor: NW Camas Meadows Drive to N Boxwood Street.
   c. North Shore Boulevard Corridor: SR-500 to NE 232nd Ave
   d. NE Everett Street Corridor: NE 15th Avenue to the northern Urban Growth Boundary and from SR-14 to E 1st Avenue.
   e. NW Lake Road Corridor: NW Friberg-Strunk Street to NW Leadbetter Drive.
   f. NW Brady Road/NW Parker Street Corridor: City Limits to NW Lake Road.
   g. NW 38th Avenue Corridor: City Limits to NW Parker Street.
   h. NW Pacific Rim Blvd Corridor: City Limits to NW Parker Street.
   i. NW 6th Avenue Corridor: NW 6th Ave/Hwy 14 roundabout to NW Drake Street.
   j. NE 3rd Avenue Corridor: 6th Street/Lechner to NE Joy Street.

B. The following list of streets and street segments are referred to as Tier 2 corridors to which other standards below apply.
   a. NE Ingle Road Corridor: The northern Urban Growth Boundary to N 92nd Avenue.
   b. Green Mountain Corridor: NE 92 Avenue to N Boxwood Street.
   c. NW Camas Meadows Drive Corridor: NE Goodwin Road to NW Lake Road.
   d. NW Friberg-Strunk Street Corridor: NE Goodwin Road to and NW Lake Road.
   e. NW Lake Road Corridor: NW Leadbetter Drive to NE Everett Street.
   f. NW 38th Avenue Corridor: NW 38th Avenue to NW Lake Road.
   g. NW Sierra Street Corridor: NW Brady Road to NW 43rd Avenue.
   h. NW McIntosh Road Corridor: NW Brady Road to NW 18th Avenue.
   i. Division Street Corridor: NE 6th Avenue to NW Sierra Street.
   j. NE Dallas Street Segment: NE 13th Avenue and NE 15th Avenue.
   k. NE Garfield Street Segment: NE Ione Street and NE 15th Avenue.
   l. SE Crown Road Corridor: NE 3rd Avenue to SE 15th Street.
   m. NE 43rd Avenue/SE 15th Street Corridor: NE Everett Street and SE 283rd Avenue.

Table 18.20-1. Gateway Design Overlay Specific Standards

Design Standards	Tier 1 Design Overlay	Tier 2 Design Overlay
18.20-010 Landscaping and Screening Standards		
A. Landscaping adjacent to the public right-of-way shall provide multiple layers of plantings, including canopy trees, understory trees, shrubs and groundcover.	S	S
~~B. Hanging baskets shall be used along building frontages to add visual interest, and must be installed so that the bottom of the basket is a minimum of 80 inches above the finished grade of the sidewalk.~~ Buildings frontages adjacent to pedestrian areas shall incorporate pedestrian-oriented architectural amenities such as flower baskets, window planters, decorative wall-mounted lighting, awnings, or similar features.	S	N/A
C. Median planting design/plant selection shall create a unique and cohesive streetscape design.	S	S
18.20-020 Use Standards		
A. If allowed in the underlying zone, drive-throughs are allowed in a Tier 1 Design Overlay and shall be screened with landscaping or architectural features that integrate them into the building. Freestanding drive-throughs are not allowed.	S/C (if allowed in underlying zone, see Chapter 18.07 Use Authorization)	N/A
B. Those Neighborhood Commercial uses listed as permitted (P) are allowed within residential zones on corner lots at intersections with collector or arterial streets. The neighborhood commercial use must be pedestrian oriented with access to a public sidewalk or walkway and may have a maximum building footprint of 2,500 square feet and no more than five (5) off-street parking spaces, which can be satisfied by on-street parking provided they are along the frontage of the subject parcel.	S	S
18.20-030 Architecture Standards		
A. Permanent signage within Design Overlays shall be standardized in terms of size, color, and materials.	S	N/A
18.20-040 Massing and Setback Standards		
A. New construction shall include a maximum setback of 20 feet. Developments containing multiple principal buildings or a principal building exceeding 20,000 square feet may exceed this setback, provided that the development includes enhanced frontage landscaping and direct pedestrian connections between principal building entrances and the public sidewalk. Main entrances to the buildings must be oriented to the street or to an internal pedestrian circulation system connected to the public sidewalk.	S	N/A

Design Standards	Tier 1 Design Overlay	Tier 2 Design Overlay
B. On-site parking areas shall be located to the rear or the side of a building except that parking may be located between a building and the public right-of-way when screened by landscaping and connected to the public sidewalk by a designated pedestrian walkway.	S	N/A
C. Setbacks shall include landscaping, hardscaping, and public art to enhance the pedestrian experience.	S	N/A
18.20-050 Historic and Heritage Preservation Standards		
A. The use of historic markers, information kiosks, project names, architectural features, or other elements of the project shall promote the historic heritage of the site or surrounding area, where appropriate.	S	N/A
18.20-060 Circulation and Connections Standards		
A. Orient the main public entrance toward the public right-of-way or toward an internal pedestrian circulation system connected to the public sidewalk. Pedestrian walkways shall connect each building's front entry with the sidewalk, without conflicting with accessways on the site.	S	S
B. New developments shall include plans for alternative transportation, such as providing attractive and convenient bus stop shelters, bicycle parking, etc.	S	S
C. Trees and planting strips or raingardens/bioswales shall be used for separating vehicles and pedestrian movements, as well as provide a secure and pedestrian friendly environment.	S	S
18.20-070 Public Realm Standards		
A. Where applicable (as determined by the City), and when corridors intersect with an existing street, provide modular, movable, and durable seating in public spaces and ensure seating areas are shaded and accessible.	S/C (see *Chapter 18.07 Use Authorization)*	S/C (*see Chapter 18.07 Use Authorization*)

NA – Not Applicable

S – Standard

S/C – Standard with certain conditions

C. Gateway Design Overlay Features

Specific design standards in Table 18.20-1 apply to Tier 1 and Tier 2 corridors. Additional design features ~~are recommended to~~ shall be included ~~along~~ where Tier 1 and Tier 2 corridors intersect and for properties located within 200 ft. of city limits ~~that represent~~ to enhance the character and style desired for a particular design overlay area. Development/redevelopment proposals within Tier 1 and Tier 2 Design Overlays should include public and private design features listed in Table 20-2 to demonstrate arrival into the community.

a. Tier 1 Design Overlay areas ~~should~~ shall include two additional design features from Table 20- 2.

b. Tier 2 Design Overlay areas ~~should~~ shall include one additional design feature from Table 20- 2.

c. Required design features shall be provided on the development site or within the adjoining public right-of-way, subject to City approval. Features located within the public right-of-way shall be consistent with adopted City standards.

d. Design features used to satisfy this section shall be in addition to improvements otherwise required by applicable development standards.

Table 20-2. List of unique design overlay features.

Sidewalks	• Wide sidewalk (minimum of 8 feet) • Bus stop improvements (shelter, lighting, bench) – develop consistent bus stop standards to be implemented throughout the city • Public seating areas, benches, or other pedestrian amenities adjacent to sidewalks, plazas, or pedestrian gathering areas
Roadway Right-of-way	• Roundabouts at entry point intersections • Public art in center of roundabout • Protected or buffered bike lanes to provide a horizontal separation of 1 to 3 feet between the bike lane and motor vehicle lane • Community entry or neighborhood identification signage welcoming visitors to Camas or identifying a neighborhood or district
Other Public Realm amenities and features	• Install posts/poles for community pride/event banners (less than 16 square feet), such as school pendants and community events • Identify and develop locations for public green spaces and pedestrian access through campus style development • ~~Iconic guardrails (e.g., Columbia River Highway)~~ Decorative fencing, railings, or guardrails that complement the character of the corridor • Public art, including murals, sculptures, decorative installations, or other publicly visible artwork • Enhanced landscaping, including ornamental plantings, flowering trees, or landscaped entry features beyond minimum requirements • Decorative pedestrian-scale lighting along sidewalks or pedestrian gathering areas • Publicly accessible plazas, courtyards, or outdoor gathering areas • Limit lighting to allow for views of the night sky (motion sensors, or other technology to limit excessive light) • ~~Deep/wide frontage landscaping areas should match the natural areas along the DNR property that is west of Ingle Road.~~ Enhanced frontage landscaping that complements adjacent natural areas and incorporates native trees, shrubs, and other vegetation to create a natural transition between the development and surrounding properties.

18.20.060 Incentives.

A. Public Art. A five percent increase in lot coverage area may be granted upon staff approval for providing public art, equal in value to 1% of a project's construction cost, within a proposed project.

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § I(Exh. A), 5-18-2009)

Chapter 18.22 Mixed Employment (ME)

18.22.010 Purpose

18.22.020 Site development standards

18.22.030 Building design guidelines

18.22.040 Warehousing

18.22.050 Mixed use

18.22.010 Purpose

A. Purpose and Intent. The Mixed Employment District provides a variety of employment focused activities located in strategic areas of the community. These areas are important to the local and regional economy, contributing to the overall economic sustainability of the City of Camas by enhancing service variety and job diversity through a range of employment opportunities closer to residents with access to good transportation options. Mixed Employment Districts are characterized by higher employment density such as advanced manufacturing, research and development, service commercial, offices, and limited retail uses. These districts encourage innovation and a business environment that is flexible and resilient to changing economic conditions and customary business cyclical conditions.

   The ME district standards encourage and accommodate the adaptive reuse of existing development and emphasize multimodal accessibility and connectivity. It also provides a zoning designation for uses which will create local higher wage employment opportunities and offer a wide range of uses that are compatible with one another as well as adjoining residential and commercial areas. The ME districts can be located on small or large sites and present a sustainable alternative to solely commercial or industrially designated areas while retaining legacy light industrial and business park uses. Primary uses include a broad mix of light industrial, research and development, advanced technology production, artisan/craft industrial, commercial, office, and personal service uses, within a more amenity-rich environment.

B. Flexibility of Property Development Regulations. The ME district provides for flexibility of certain property development regulations, placement and clustering of buildings, and provisions for site design intended to promote innovative approaches to planning, including:
   1. The encouragement of employment expansion to the city's economic base through emerging business types and new capital investment;

2. The preservation of natural features, open space areas and native vegetation;
3. The provision of on-site essential services for industries, employees, and customers;
4. The protection of adjacent properties from adverse impacts; nearby existing and future non-employment land uses and activities; and
5. The arrangement of buildings and land use intensities, as they relate to surrounding land uses to minimize and mitigate adverse impacts.

C. Anticipated Benefits. Development within the ME district is of direct and indirect economic benefit to the city in the form of high-wages, innovative and resilient employers, local employment with a diverse work force, desirable creative designs for projects, and tax revenue for the city to fund urban services at appropriate levels. Development within this district will also diversify the economy by realizing diverse employers and uses.

18.22.020 Site development standards

Site improvements shall be designed to result in a complementary appearance that will blend with surroundings and be compatible with neighboring developments.

A. Dimensional Standards are established in Section 18.09.030.

B. Grading and Drainage. Site grading and drainage shall be designed by a Washington licensed civil engineer. Grading and slopes are to be compatible with landscaping materials, shall not permit erosion, and shall minimize use of retaining walls to control slopes. Plans submitted for building permits shall include a construction phase mitigating procedure to control temporary runoff, erosion, sedimentation, or other objectionable effects.

C. Parking and Loading.

1. Shared parking is encouraged between adjacent uses.

2. Parking areas available to the general public should be clearly identified.

3. Parking areas between the primary street and the front of the building should be limited to visitor and accessible spaces. Employee parking should be located behind the front of the building screened from the public right of way.

4. Parking areas between the primary street and front of building should have a minimum landscape area of 20 feet from right of way to the paved area.

5. All new developments should provide multimodal connections throughout the development, as well as to adjacent developments.

6. All loading areas within parking areas shall be located to minimize viewing from adjacent properties and roadways. They shall be screened from horizontal view with the use of dense landscaping, mounds, view screen fencing, or other approved means.

7. Truck docks and loading areas are not permitted on the front elevation of the property and are to be screened from the front view if located within the side yards.

D. Refuse/Storage. Refuse areas and service/storage areas are to be located under cover. Refuse areas should be located behind the building screened from the right of way.

E. Utilities. All utility service lines are to be located underground. All pad-mounted equipment and other visible utility and service equipment are to be carefully located to minimize appearance and shall be appropriately screened consistent with required access and safety requirements.

F. Fencing. Perimeter fencing shall be so constructed as to minimize visual impacts. Walls or fences separating adjoining parcels may be located at the property line. No wall or fence taller than three feet shall be placed within the landscape setbacks along rear or side lot lines, and no wall or fence exceeding three feet in height shall be located on the property, except for security fencing. Security fencing shall blend into and be compatible with landscaping. Fencing shall have earth tone colors of brown, tan, gray, or green. Walls shall be constructed of materials compatible with the building architecture.

G. Lighting. Site and building lighting shall be designed to minimize glare to the adjacent properties. Site-lighting poles shall not exceed twenty feet in height and shall direct the light downward. Lighting sources viewed from above or below on adjacent property shall be shielded. Building lighting is to be concealed and indirect. Lighting in service areas is to be contained to conceal visibility of light sources from street and adjacent property. Site lighting is to be designed to provide uniform distribution, and the light levels shall be adequate for reasonable security and safety on the premises.

18.22.030 Building design guidelines

A. All structures should be designed to complement the local setting and with neighboring developments, while contributing to the overall architectural character of the area. The building design should appear as an integrated part of the design concept. All facilities

should be designed by a Washington licensed architect and reflect a high standard of architectural design. Buildings should be either reinforced concrete and steel, masonry, or wood frame construction. Prefabricated metal buildings or sheet metal-sided structures are not permitted, unless an exception is made by staff review, based upon a design that meets or exceeds the overall architectural character of the area.

B. Building design should consider the orientation toward major streets and thoroughfares; vehicular and pedestrian flow patterns; the character of neighboring development; expression of the facilities functional organization and individual character; and the satisfaction of the physical and functional needs of facility users.

C. Design features that can contribute to the design character of a project include entrance drives, enhanced visitor parking areas, highlighted visitor entrances and entry plazas, decorative pedestrian plazas and walkways, focal landscape treatments and site sculptures, employee lunch areas (with amenities such as outdoor seating, garden areas, etc.), atriums and interior courts, dynamic building and roof forms, distinctive window patterns, shade and shadow patterns, surface treatments, and accent lighting and landscaping.

D. Long, blank, straight building facades are generally discouraged as they are uninviting and visually uninteresting. Building setbacks shall be varied, and all facades articulated to add visual variety, distinctiveness, and human scale. Space created by the varied setbacks of the building facades can accommodate landscaping and pedestrian/employee areas that contribute to visual interest. Buildings should orient along the length of the primary street frontage in order to avoid visual exposure of loading areas to the public right of way.

E. Exterior building colors shall be compatible with the surrounding man-made and natural environments, and not in competition with surrounding elements for attention (i.e., building color should not, in any way, become signing for the site). Generally, muted colors are encouraged with primary colors or other bright colors used only as accents to enliven the architecture. Repetition and overuse of a single approach to the use of color, such as horizontal stripes/bands, can result in this treatment losing its effectiveness.

F. Roof-mounted equipment that is visible from adjacent, elevated property should be painted a compatible color with the roof screen.

G. All rooftop or outdoor mechanical equipment shall be fully screened from public view in a manner which is architecturally integrated with the structure. Screening shall be constructed to a finished standard using materials and finishes consistent with the rest

of the building. Building designs should consider potential visibility of equipment from elevated rights-of-way or adjoining property.

H. All vents, flues, or other protrusions through the roof, less than sixteen inches in diameter need not be screened from view but must be painted or treated to blend with the color of the background. All such vents, flues, or other protrusions through the roof, more than sixteen inches in diameter shall be considered mechanical equipment and shall be screened from view.

18.22.040 Warehousing

A. Warehousing, indoor storage, and distribution activity may be allowed only as an accessory use when directly associated with and subordinate to a permitted principal use located on the same site. Accessory warehousing may include storage of raw materials, equipment, inventory, finished goods, tools, vehicles, or supplies used in connection with the principal use, but shall not function as a stand-alone warehouse, distribution center, fulfillment center, freight terminal, mini-storage facility, self-service storage facility, or outdoor storage yard.

B. Accessory warehousing, indoor storage, and distribution areas shall not exceed fifty percent of the gross floor area of the building or tenant space unless a greater percentage is approved by the approval authority upon finding that the storage area is necessary to support the principal permitted use, the principal use remains the dominant use of the site or tenant space, and the use will not generate traffic, truck trips, loading activity, outdoor storage, noise, or other operational impacts inconsistent with the purpose of the zone.

18.22.050 Mixed use

The primary purpose of the Mixed Employment (ME) district is to promote employment opportunities and job creation. As an economic development incentive, on sites of 25 acres or greater, mixed-use development incorporating residential uses may be authorized through a City Council-approved development agreement when associated with substantial office, manufacturing, or industrial development that advances the City's economic development objectives and facilitates significant employment investment and job creation. Employment uses shall remain the predominant component of the development. The agreement shall establish the permitted mix of uses, development phasing, and enforceable employment commitments. Building permits for the qualifying employment development shall be issued, and construction commenced, prior to or concurrently with residential development.

Chapter 18.23 PLANNED RESIDENTIAL DEVELOPMENT (PRD)

18.23.010 Purpose.

The purpose of this chapter is to promote the public health, safety and general welfare of the citizens of the City of Camas in accordance with state law and the city's comprehensive plan; to facilitate the innovative development of land; and to provide for greater flexibility in the development of residential lots in ~~medium and high-density~~ residential districts.

A further purpose of this chapter is to allow for the modification of certain regulations when it can be demonstrated that such modification would result in a development which would not increase the density and intensity of land use (except as provided for in Section 18.23.040 of this chapter); would preserve or create features or facilities of benefit to the community such as, but not limited to, open space or active recreational facilities; would be compatible with surrounding development; and would conform to the goals and policies of the City of Camas' comprehensive plan.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.23.020 Definitions.

In addition to those definitions listed in CMC Chapter 18.03, the following definitions shall also apply:

"Density bonus" means a percentage of units allowed in a PRD over and above the number of units provided for in the zoning district absent a PRD proposal.

"Density transfer" means a transfer of dwelling units located on a site identified as sensitive lands or open space to the developable portion of land on the site. (Refer to Section 18.09.060 Density transfers)

"Development agreement" means a legal contract between the city and the developer relative to a specific project and piece of property. The agreement may specify and further delineate, and may include but is not limited to, findings of council, actions, requirements of the developer and city, benefits to the parties involved, conditions of approval, time frames, etc. A development agreement shall become binding upon the land.

"Master plan" means a planned proposal for development that includes and illustrates the division of land into lots, the location and sizes of streets, roads and accessways, pedestrian circulation, landscaping, parking areas and the location of and types and densities of uses. A master plan further identifies the dimensions, height, location, and setbacks of all such buildings to the extent necessary to comply with the purpose and intent set forth in this chapter.

"Open space" means land that is set aside and maintained in a natural state, providing air, light, and habitat for wildlife, and/or containing significant trees and vegetation. Open space may also contain environmentally sensitive lands, which include but are not limited to steep slopes and areas with unstable soils, wetlands, and streams and watercourses. Open space may also provide for active and passive recreation use. There are two general categories of open space:

1. Natural open space is land that is devoted to protecting environmentally sensitive lands as defined in this code. Natural open space generally has no developed areas, with the exception of trails as identified in the comprehensive parks, recreation, and open space plan, or by a condition of development approval.

2. Recreational open space is land that is set aside and shall include development for recreational opportunities such as trails, sports fields, playgrounds, swimming pools, tennis courts, and picnic areas. Recreational open space is generally limited in size and intensity, proportionate to the development, and is intended for the enjoyment of the residents of the development.

"Peripheral yard" means those areas which form the boundary between a planned unit or planned residential development district and any other zoning district, planned unit, or planned residential development.

"Planned residential development" (hereinafter referred to as a PRD) means a development constructed on land of at least ~~ten~~ five acres in size, designed and consistent with an approved master plan. A PRD is comprised of two primary components: detached single-family and middle housing or multifamily units. ~~The single-family component shall contain only single-family detached residences on lots equal to or greater than four thousand square feet~~. The middle housing or multifamily component may contain duplexes, triplexes, fourplexes, townhouses, stacked flats, courtyard apartments, and cottage housing or apartments~~either attached or detached single-family residences on lots smaller than four thousand square feet, or it may contain, but may not be limited to, duplexes, rowhouses, apartments, and designated manufactures homes~~, all developed in accordance with Section 18.23.030(A) of this chapter. Secondary components include park and recreational amenities, accessory uses, and limited commercial uses as provided in this chapter.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006; Ord. No. 15-008, § I, 3-16-2015)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.23.030 Scope.

Planned residential developments (PRDs) are optional. If proposed, it shall be established under the following criteria:

A. A PRD may be allowed in all ~~R and MF~~ residential zoning districts. Where residentially zoned land is contiguous to lands zoned for commercial uses, the city may, subject to a development agreement, provide for the inclusion of the commercial area into the PRD for the purposes of establishing continuity community design, pedestrian and commercial circulation, streetscape standards and design, and effective transitions between commercial and residential uses.

B. The minimum land area necessary to apply for a PRD shall be ~~ten~~ five acres of contiguous land.

C. All land in which a PRD is to be developed shall be held and maintained in a single ownership, including but not limited to an individual, partnership, corporation, or homeowner's association. Evidence of such ownership shall be provided to the ~~planning commission and city council~~ Hearings Examiner before PRD approval.

D. Permissible uses within a PRD include any use listed as a permitted use or condition use in the applicable zones, as per CMC Chapter 18.07, when approved as part of a master plan. Notwithstanding an approved master plan, incidental accessory buildings, incidental accessory structures, and home occupations may be authorized on a case by case basis.

E. A minimum of fifty percent to a maximum of seventy percent of the overall permitted residential density of the PRD must be single-family homes.

F. The middle housing or multifamily component ~~(two or more attached dwelling units)~~ of a PRD shall ideally be developed toward the interior of the tract, rather than the periphery, to ensure compatibility with existing single-family residences that border the surrounding properties. Alternatively, when the tract borders a non-residential use or a collector or arterial street, the middle housing or multifamily components can be located on the periphery to act as a transition or buffer. Deviation from this

requirement shall be requested during the preliminary master plan review, and specifically approved by the ~~planning commission and city council~~Hearings Examiner.

G. Density standards and bonuses for the residential portion of a PRD shall be in accordance with CMC Sections 18.23.040 and 18.23.050.

H. ~~An equivalent amount of up to twenty~~ At least fifteen percent of the ~~developable~~ gross land area shall be set aside ~~and developed~~ as ~~recreational~~ open space in a PRD, and shall include the following:

1. Passive or active recreation concentrated in large usable areas;

2. Existing groves of matures trees or other individual healthy mature trees to be retained;

~~2~~3. Provide trails and open space for connection and extension with the city's open space and trail plan, if feasible; and

~~3~~4. Be held under one ownership, and maintained by the ownership; or be held in common ownership by means of homeowners' association, and maintained by the homeowners' association. The open space and recreation areas shall be dedicated for public use and be maintained by the ownership or homeowners' association.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 15-008, § II, 3-16-2015)

18.23.040 Density standards.

A. Density standards for a PRD shall be based on the gross area of the parcel being considered. Open space, greenways, sensitive areas, parks, and recreation areas set aside within the tract shall be used in the computation of the gross development area. The maximum number of dwelling units in the PRD shall be determined as follows:

Divide the gross land area (in square feet) by the minimum lot size (in square feet) of the underlying zoning district.

B. The minimum lot size for a single-family dwelling within the single-family component of the PRD shall be four thousand square feet. The minimum lot width, depth and setback requirements, and maximum lot coverage requirement shall be established for each PRD as part of the approval process. The minimum lot size for the dwellings within the middle housing or multifamily component of the PRD shall be established as part of the master plan approval.

C. If more than one zoning district is included within the PRD area, the number of dwelling units allowed in each zoning district shall be computed, and then combined to determine the total number of dwelling units within the entire development.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.23.050 Density bonus.

A density bonus of ~~no more than twenty~~ fifteen percent ~~may~~shall be granted ~~by the city council~~ for a PRD~~, as demonstrated by site design and layout~~. For example: ten acres in an R~~1~~-10 zone yields four hundred thirty-five thousand six hundred square feet. This is then divided by ten thousand square feet. Using this example, the maximum number of units equals forty-three and one-half units, and with a ~~twenty~~fifteen percent density bonus the maximum number of units allowed would be fifty~~-two~~. The hearing examiner may grant an additional density

bonus of up to twenty percent for any PRD that sets aside twenty percent or more open space under Section 18.23.030(H).

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.23.060 Permitted uses.

Permitted or conditional uses currently listed in the applicable zoning classification shall be considered permitted within a PRD. All proposed uses shall be reviewed in conjunction with the preliminary master plan review.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.23.070 ~~Preliminary m~~Master plan—Requirements.

A. Initial Conference. Schedule a pre-application conference to discuss and resolve conceptual problems prior to submission of the ~~preliminary~~ master plan related to such application.

B. Contents. The ~~preliminary~~ master plan shall include the following information:

1. The legal description of the total site proposed for development;
2. The existing and proposed land uses within the development, and the existing and proposed location of all structures;
3. The proposed residential density for the development, which shall include the number and types of dwelling units;
4. The proposed lot sizes and building envelopes. Approved building envelopes will establish the setbacks for each lot or parcel in which development may occur;
5. A site plan drawn to scale and depicting the following:
    a. The location of all areas to be conveyed, dedicated, or maintained as public or private streets; access and egress to the development showing proposed traffic circulation, parking areas, and pedestrian walks,
    b. The proposed location of any residential buildings, and any other structures, including identification of all buildings as single-family, duplex, townhouse, apartment, condominium, designated manufactured home, or otherwise,
    c. The location of areas to be maintained as common open space, and a description of the proposed use of those areas,
    d. The location of areas to be maintained as open space network, if applicable,
    e. Proposed lot or boundary lines for residential, open space, parks, and recreational areas, management or allocation purposes;
6. An accurate survey of the property showing the topography in five-foot contours, identifying slopes above fifteen percent, all existing, isolated trees six inches or more in diameter, all wooded areas, all existing streets, utility easements, drainage patterns, structures, and other improvements, the location of all easements and rights-of-way for utilities, including, but not limited to water, sanitary sewers, storm sewer, electricity, gas, telephone, and cable TV lines;
7. A document containing agreements, provisions, and covenants regarding the establishment of a homeowner's association, which provides for the permanent ownership, maintenance, protection, and

use of the planned development, including streets (if privately owned), storm drain facilities, utilities, common areas (e.g., storage areas, parking areas, and landscaping) open spaces, greenways, parks, and recreational areas;

8. A landscaping plan drawn to scale and demonstrating compliance with CMC Chapter 18.13 Landscaping of this title. Additionally, the landscape plan shall indicate the landscaping features such as screening, fences, lighting, and signage;

9. A development schedule outlining the expected schedule and phases of development;

~~10. The calculation of all applicable impact fees. This shall be coordinated with the city prior to submission of the preliminary master plan.~~

C. Effect of Approval. Approval by the ~~city council~~ Hearings Examiner of a ~~preliminary~~ master plan shall constitute provisional approval of the PRD. This approval is contingent upon the applicant submitting a final development plan ~~and development agreement, if required,~~ that complies with the provisions of this chapter.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.23.080 Professional preparation.

A. The applicant for a proposed PRD shall certify that one or more of the following have been involved with the preparation of the ~~preliminary~~ master plan:

1. An architect licensed in the state of Washington;

2. A landscape architect licensed in the state of Washington;

3. A registered civil engineer or a registered land surveyor licensed in the state of Washington; and/or

4. A certified landscape architect, certified arborist, or a qualified biologist, if a vegetation management plan is required.

B. All plans and specifications required for the development shall be prepared and designed by engineers and/or architects licensed in the state of Washington.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.23.100 Approval standards.

Approval for a PRD shall be based on the following standards:

A. The proposed PRD conforms to:

1. The City of Camas' comprehensive plan;

2. All provisions of the Camas Zoning Code which are not proposed for modification;

3. All engineering design standards; and

4. Any other applicable city, state, federal regulations, policies, or plans, except those standards proposed for modification.

B. Utilities and other public services necessary to serve the needs of the proposed development shall be made available, including open spaces, drainageways, streets, alleys, other public ways, potable water,

transit facilities, sanitary sewers, parks, playgrounds, schools, sidewalks, and other improvements that assure safe walking conditions for students who walk to and from school.

C. The probable adverse environmental impacts of the proposed development, together with any practical means of mitigating adverse impacts, have been considered such that the proposal shall not have ~~an unacceptable~~ a significant adverse effect upon the quality of the environment, in accordance with CMC Title 16 and 43.21C RCW.

D. Approving the proposed development shall serve the public use and interest, and adequate provision has been made for the public health, safety, and general welfare.

E. The proposed development satisfies the standards and criteria as set forth in this chapter.

F. The proposed development shall be superior to, or more innovative than conventional development, and shall provide greater public benefit without additional probable adverse impacts to public health, safety, or the environment, than available through the use of conventional zoning and/or development standards.

G. The proposed development shall provide at least two access points (where a PRD does not have access to a primary or secondary arterial) that distribute the traffic impacts to adjacent streets in an acceptable manner.

H. ~~Preliminary~~Master plan approval alone does not constitute approval to obtain any building permits or begin construction of the project.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.23.110 Relationship to adjacent areas.

The design and layout of a planned development shall take into account the integration and compatibility of the site to the surrounding areas. The perimeter of the planned development shall be so designed as to minimize any undesirable impact on adjacent properties. Setbacks from the property lines of the planned development shall be comparable to, or compatible with, those of any existing development on adjacent properties. Or, if adjacent properties are undeveloped, then setbacks shall conform to the type of development that may be permitted on adjacent properties.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.23.120 Amendments.

A. Minor Amendments. In issuing building permits for construction of a PRD, the city may approve minor adjustments provided that such adjustments shall not:

1. Increase the number of dwelling units;
2. Decrease the amount of parking spaces, loading spaces, or open space;
3. Permit structures to be located closer to any property line;
4. Change any points of ingress or egress to the development as set forth in the final development plan;
5. Conflict with any conditions or statements within a development agreement;
6. Increase the height of buildings beyond the limits of the underlying zone.

B. Amendment of Final Development Plan. Any change in the final development plan, other than those minor adjustments specifically authorized in writing by the city at the time building permits are issued, must be

reviewed by the ~~planning commission~~ Hearings Examiner ~~and recorded in the minutes thereof. The recommendation of the planning commission regarding any change in the final development plan, together with its reasons therefore, shall be submitted to the city council for its approval~~. Upon approval of such changes by the ~~city council~~ Hearings Examiner, the final development plan shall be considered amended to that extent.

C. Unauthorized Changes. Unauthorized changes or substantial deviations from the final development plan shall be subject to a stop work order by the city. If not corrected, no occupancy permits shall be issued until the development is brought into compliance with the approved final development plan.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.23.130 Procedure.

An application for a PRD shall be processed as a Type III procedure pursuant to CMC Chapter 18.55 Administration and Procedures of this title. A public hearing before the ~~planning commission and review by the city council~~ Hearings Examiner is required for ~~preliminary~~ master plan approval. ~~Final master plan approval is subject to review and acceptance by the city council at a public meeting. Final approval shall be in accordance with the provisions of this chapter.~~

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2451 § 3, 2006: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

Chapter 18.24 MIXED USE[1]

18.24.010 Purpose.

A. To encourage new development and business opportunities;

B. To foster the development of mixed use areas that are arranged, scaled, and designed to be compatible with surrounding land uses;

C. To promote a compact growth pattern to efficiently use the remaining developable land and to help sustain neighborhood businesses; and

D. To promote new construction of multi-story structures with commercial uses on the ground floor and residential uses on the upper stories.

E. To require design integration if the mixed use project is proposed and constructed in a horizontal, rather than vertical regime.

F. To encourage vibrant, walkable neighborhoods that integrate a variety of land uses and foster economic vitality.

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § I(Exh. A), 5-18-2009)

18.24.020 Applicability.

A. All new development within the Mixed Use (MX) zone shall submit a site plan review application in accordance with CMC Chapter 18.18 Site Plan Review of this title unless otherwise exempt per this title.

B. All new developments and uses shall be required to submit a design review application in accordance with CMC Chapter 18.19 Design Review of this title prior to applying for a building permit.

C. Landscaping requirements shall be the same as landscaping standards in community commercial zones.

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § I(Exh. A), 5-18-2009)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.24.030 Mix of Uses

A. To ensure projects within the Mixed Use zone have a mix of commercial and residential uses, and no one use predominates the other, development proposals shall include a mix of nonresidential and residential uses through either vertical mixed use, horizontal mixed use, or a combination of both. The mix of uses shall be demonstrated through approval of a site plan.

B. Vertical Mixed Use. Residential uses may be located above ground-floor commercial or nonresidential uses. A building with ground-floor commercial or nonresidential uses and residential uses above shall be considered consistent with the mixed-use intent of this chapter.

[1]Editor's note(s)—Ord. No. 2547, § I, adopted May 18, 2009, amended Ch. 18.24, in its entirety, to read as herein set out. See also the Code Comparative Table and Disposition List.

C. Horizontal Mixed Use. Where commercial or nonresidential uses and residential uses are provided in separate buildings, separate portions of a site, or otherwise in a horizontal development pattern, the development shall consist of a maximum of fifty percent residential uses and a minimum of fifty percent commercial or nonresidential uses.

1. The required use mix may be measured using either site acreage, based on the portion of the site devoted primarily to each use; or gross floor area, based on the total floor area devoted to each use.

2. When the use mix is measured by site acreage, the area devoted to each use shall include buildings, outdoor use areas, service areas, loading areas, and parking areas primarily associated with that use. Shared parking areas, drive aisles, internal circulation, stormwater facilities, landscaping, open space, and other common improvements may be allocated proportionally between uses based on floor area, parking demand, or another reasonable method approved by the approval authority.

3. The development shall be designed as a cohesive mixed-use project. The site plan shall demonstrate integration of uses through building orientation, shared or coordinated parking, pedestrian connections, landscaping, open space, architectural compatibility, signage, lighting, and other design features that connect the commercial or nonresidential and residential components.

D. Commercial Frontages. Where a development site has frontage on an arterial, collector, or design overlay corridor, commercial or nonresidential uses shall be located and oriented towards the street frontage so as to maximize visibility and accessibility of these uses to the street.

E. Smaller lots. On lots smaller than 20,000 square feet, a development proposal may be allowed to be either 100% commercial or 100% residential.

F. Residential Flexibility. The approval authority may allow residential uses to exceed fifty percent of the site acreage, up to a maximum of seventy percent residential acreage, when the applicant demonstrates that the proposal will provide a superior mixed-use outcome by ensuring timely delivery of the commercial or nonresidential component. Approval of residential acreage above fifty percent may be conditioned on:

1. Concurrent construction of the commercial or nonresidential component with the residential component where building permits for the commercial or nonresidential components are issued and construction is started before or at the same time as the residential components; or

2. Execution of a development agreement with a phasing plan.

G. Property Previously Zoned Residential. Any property that was zoned for residential use immediately prior to being rezoned to Mixed Use as part of the 2026 Comprehensive Plan Update may be developed with up to one hundred percent residential uses.

18.24.040 General Standards

A. Building height: Buildings shall be limited to four stories and 60 feet in height for vertical mixed use and 45 feet in height for horizontal mixed use.

B. Ground floor design standards: In vertical mixed-use developments, ground floors shall be designed to support adaptable uses and meet the following requirements:

1. A minimum floor-to-ceiling height of fifteen feet, unless the approval authority determines that a lesser height is appropriate due to building design or other site-specific conditions; and

2. A minimum façade transparency of sixty percent.

3. To support small business and flexible tenant occupancy, ground floors shall be designed to be capable of subdivision into a variety of tenant spaces, demonstrated by location of walls, entrances, and mechanical

systems. This requirement does not apply where the applicant demonstrates that a larger tenant space is needed for a specific tenant, anchor tenant, build-to-lease arrangement.

C. Shared parking requirements: Mixed-use developments are encouraged to make efficient use of parking through shared parking, reduced parking demand, pedestrian and bicycle access, and connections between complementary uses. Required parking may be reduced pursuant to Section 18.11.050 when the mix of uses on a site have different peak parking demand periods or when parking can be effectively shared among uses, buildings, parcels, or phases of development.

18.24.~~030~~050 Incentives.

A. Traffic Impact Fee (TIF) Reduction. A reduction of the TIF may be granted pursuant to § 18.22.100 CMC.

B. Public Art. A five percent increase in lot coverage area may be granted ~~upon design review committee approval~~ for providing public art within proposed project.

C. Sustainability. Up to a ten percent reduction in building and/or engineering review fees may be authorized at the discretion of the director in proportion to a proposed low-impact development method.

D. To encourage affordable housing development, regulated affordable units may be exempted from the residential portion of the use percentage and counted towards the non-residential percentage minimum.

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § I(Exh. A), 5-18-2009)

18.24.~~040~~060 Exemptions.

Newly created lots, via short plats or subdivisions or combined lots, that are adjacent to existing single-family lots shall not be required to bevel to existing platted lots (Refer to §18.09.080-B).

(Ord. No. 2545, § III, 5-4-2009; Ord. No. 2547, § I(Exh. A), 5-18-2009)

Chapter 18.26 FLEXIBLE DEVELOPMENT

18.26.010 Purpose and intent.

This chapter is optional in all zoning districts ~~except the LI/BP zone~~. The purpose and intent of this chapter is to promote the public health, safety and general welfare of the citizens of the City of Camas in accordance with state law and the City's Comprehensive Plan; and

A. To provide for greater flexibility in the development of properties;

B. To foster the development of land that is arranged, scaled, and designed to be compatible with existing and potential densities;

C. To promote a growth pattern to efficiently use land;

D. To promote construction and redevelopment that implements ~~the most current~~ sustainable features;

E. Retain historical building or other structures to the greatest extent possible; and

F. To allow for the modification of certain regulations when it can be demonstrated that such modification meets the minimum points for development under this chapter.

G. To encourage site and building design that supports renewable energy, electric vehicle charging infrastructure, low-impact development, tree retention and planting, and other features that advance Comprehensive Plan climate and resiliency goals and policies.

G. To provide for an alternative to CMC Chapter 18.23 - Planned Residential Development (PRD). The city shall review a proposal for either a PRD or a flexible development, not a combination.

(Ord. No. 2628, § I(Exh. A), 10-17-2011)

18.26.030 Permitted uses.

Only permitted land uses within the underlying zoning classification shall be considered permitted within a flexible development. A use listed as conditional use within the underlying zoning classification may be proposed in combination with a flexible development if submitted concurrently with an application for such use.

(Ord. No. 2628, § I(Exh. A), 10-17-2011)

18.26.040 Definitions of terms.

For the purposes of this chapter, the flexible development score sheet, the following definitions shall apply in addition to those definitions within Chapter 18.03:

A. "Building envelope" means the exterior dimensions of a structure. For detached multi-family housing, a suitable size and configuration includes a building envelope capable of siting a twenty-foot by fifty-foot dwelling within the building envelope.

B. "Double-frontage lot" means a lot, other than a corner lot, having street frontage on two sides. If proposed on streets other than arterials, then both sides of the lot must provide pedestrian access to the sidewalk, and the more intensely traveled street must be the front of the structure. This could

require that each frontage provide a gate if fencing is proposed or the installation of stairs if there is a slope.

C. "Green roof" means a landscaped area on the roof of a structure that provides stormwater benefits. Green roofs may serve dual purposes of stormwater management and as an aesthetic enhancement.

D. "GFA" means the gross floor area of a structure as measured from the outside surface of the outer building wall for all levels.

E. "Permeable paving" means that the method and material of paving will allow the movement of water and air through the paving material.

F. "Energy star/LEED (Leadership in Energy and Environmental Design)" are nationally recognized programs for measuring the amount of overall environmental benefit that is provided in a building versus conventional methods.

G. "LED lighting" means "light-emitting diode." These lights consume less energy, have a longer useable life, and are smaller in size than other lights with the same amount of lighting output.

H. "Meandering sidewalks" means that the course of the walkway is winding or curving rather than straight. This design may cost more to develop given that more land may be required for curvature and landscaping.

I. "Rain gardens" are landscaped areas planted with wild flowers and other native vegetation to soak up rain water, mainly from the roof of a house or other building. The rain garden fills with a few inches of water after a storm and the water slowly filters into the ground rather than running off to a storm drain. Compared to a conventional patch of lawn, a rain garden allows about thirty percent more water to soak into the ground.

J. "Recreational open space" means lands that are developed for active recreation such as for park and trail use. These lands may contain critical features such as streams, steep slopes or wetlands, however only the unencumbered area of land is used in the score sheet calculations.

K. "Repurpose structure" means to alter or renovate a building for a different purpose, on a long-term basis in lieu of demolition (e.g., renovating a barn into a restaurant, or a warehouse into a performing arts theatre).

L. "Solar lighting" is any use of sunlight or sky light for illuminating the interior of a building, or may be defined as the conversion of sunlight to power a fixture.

M. "Vegetated wall" means a vertical surface designed and planted to be covered at maturity by plants.

N. "White roof" means a roof with reflective shingles that exceed a 0.15 reflectivity, as established by the Department of Ecology. White roofs increase energy efficiency and lower the heat island effects of new development.

(Ord. No. 2628, § I(Exh. A), 10-17-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.26.050 Score sheet adopted.

The city's "Flexible Development Score Sheet" (score sheet) is a required form for this chapter and is adopted by the city by resolution (RES1223, or as amended).

(Ord. No. 2628, § I(Exh. A), 10-17-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.26.060 Application requirements for flexible development proposals.

In addition to those items listed in CMC 18.55.110, the following items are required for a complete application for a flexible development. Items may be waived if, in the judgment of the director or designee, the items are not applicable to the particular proposal:

A. Flexible development score sheet;

B. Complete and signed SEPA checklist;

C. A transportation impact study to determine the adequacy of the transportation system to serve the proposed development and to mitigate impacts of the proposal on the surrounding transportation system;

D. Preliminary stormwater plan and preliminary stormwater technical information report (TIR). The preliminary stormwater TIR is to be prepared in accordance with Ecology's latest edition Stormwater Management Manual for Western Washington (SWMMWW);). If proposed, rain gardens-shall meet the standards of CMC Section 17.19.030.F.6 Storm Drainage Facilities;

E. Preliminary grading plan;

F. Site plan drawn to scale and depicting the following:

1. The existing land uses within the development, and the existing location of all structures (indicate if any structures are to be repurposed);

2. A list of owners of land adjacent to the proposed development;

3. The proposed location of all buildings, if commercial or industrial project;

4. The proposed lot sizes and building envelopes, if subdivision project;

5. Location of any critical areas, critical area buffers, and significant trees in compliance with CMC Chapter 18.31 and CMC Title 16 Environment;

6. Location of sidewalks, driveways, street lighting and street trees;

7. The location of all areas to be conveyed, dedicated, or maintained as public or private streets/tracts;

8. Provide a plan with the ingress/egress to the development with the proposed traffic circulation, parking areas, pedestrian walkways;

9. A draft document containing agreements, provisions, and covenants regarding the permanent ownership, maintenance, protection, and use of the development;

G. A preliminary landscape plan;

H. Building elevations for each unique type of structure; and

I. Narrative to describe how the proposed project complies with this chapter in balance with proposed flexible elements, relevant requirements of Camas Land Development and Zoning Codes, and the requirements of Chapter 58.17 RCW, if applicable. The city shall not consider variances to the minimum provisions of this chapter.

(Ord. No. 2628, § I(Exh. A), 10-17-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 21-005, § I(Exh. A), 3-15-2021)

18.26.070 Professional preparation

The applicant for a proposed flexible development shall certify that one or more of the following have been involved with the preparation of the preliminary plan:

A. An architect or engineer licensed in the State of Washington.

B. A landscape architect licensed in the State of Washington.

C. A registered civil engineer or a registered land surveyor licensed in the State of Washington.

(Ord. No. 2628, § I(Exh. A), 10-17-2011)

18.26.080 Criteria for approval.

A preliminary flexible development plan approval may be authorized by the decision maker if findings are made that the following criteria is satisfied:

A. The proposal shall meet the purpose and intent of a flexible development as stated in this chapter in balance with development bonuses.

B. The proposal ~~meets the minimum~~ scores at least 0.30 ~~per the~~according to the "flexible development score sheet"~~ based on the particular land use zone~~.

~~Residential zones0.3~~

~~Commercial zones0.3~~

~~Industrial zones0.3~~

~~LI/BP ZonesNot applicable~~

C. The proposal is in conformance with the Camas Comprehensive Plan.

(Ord. No. 2628, § I(Exh. A), 10-17-2011)

18.26.090 Development bonuses.

Upon meeting the minimum standards of a flexible development per the score sheet, the project may be eligible for the following additional flexibility in land development standards:

A. If proposed to meet the standards of this chapter, then rain gardens are exempt from the thirty-foot setback standard of CMC Section 17.19.030.F.6 Storm Drainage Facilities.

B. Residential development:

1. May increase density of residential development in accordance with the Density Transfer Standards of CMC Section 18.09.040 ~~of the underlying zone, or, if a multifamily zone, then standards may reflect those of the MF-18 zone of CMC Section~~or 18.09.050, if landscaping is not sacrificed.

2. If project scores higher than minimum score, then for standard lots, building setbacks may be reduced to five feet on all sides of the structure with eighteen feet from garages (if driveways are accessed at the front of the lot). Refer to Figure 1.

3. On corner lots, vision clearance setbacks must be maintained in accordance with CMC Section 17.19.030.D.7 Corner Lots.

4. Height of buildings may exceed the maximum building height of the zoning district by one story or ten feet, whichever is less.

C. Commercial/industrial projects.

1. If project scores higher than a minimum score, then the applicant may reduce the required off-street parking for the GFA by twenty-five percent ~~and participate in the city's Commute Trip Reduction Program~~, provided that the project provide bicycle parking equal to the number of parking spaces reduced.

2. If a green roof is proposed, then the applicant may reduce up to fifty percent of the required off-street parking spaces (calculated on the first level ~~if~~ of a multi-story building) for the equivalent square footage of a green roof, provided that the project provide bicycle parking equal to the number of parking spaces reduced. Refer to Figure 2 for formula.

(Ord. No. 2628, § I(Exh. A), 10-17-2011; Ord. No. 2691, § I(Exh. A), 1-21-2014; Ord. No. 17-013, § I(Exh. A), 10-2-2017)

18.26.100 Development assurances.

A. To assure full performance of the proposed flexible development, the developer shall provide certification from the qualified professional of record that the project element has been built as approved in the decision, prior to receiving an occupancy permit from the Building Department.

B. Perpetual maintenance covenant.

1. The applicant shall be required to perform maintenance functions on the flexible development aspects of their approved project in perpetuity to maintain functionality at the current industry standards (e.g. roof gardens or solar panels).

2. The maintenance covenant in a form acceptable to the city shall be recorded with the Clark County Auditor for each applicable lot or parcel. A copy of the recorded document must be provided to the Building Department prior to receiving an occupancy permit.

3. The maintenance covenant as described herein shall run with the land and be binding upon the heirs, successors, and assigns of the applicant or owner.

C. Amount of financial security. The director may require financial security to be provided for certain elements of the project that are not otherwise required to be secured pursuant to CMC Chapter 17.21-Procedures for Public Improvements. The financial security shall be based on one hundred five percent of the cost estimates. Cost estimates of the following shall be submitted to and approved by the director:

1. Estimated construction cost for green roofs, white roofs, and solar lighting.

2. Estimated installation costs for landscaping and maintenance for a period of three years post-construction.

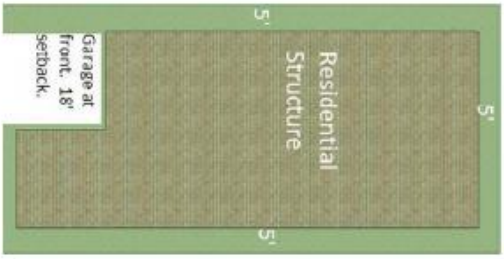


Figure 1: Potential reduced building setbacks.

Figure 2: Formula for parking calculation.

Answer 1 is [(SF of green roof) ÷ (parking # per use [note])] ÷ 2 = ____

Answer 2 is (SF of standard roof) ÷ (parking # per use [note]) = ____

Answer 1 + Answer 2 = parking spaces required

Example: 1,750 SF Office Building with 500 SF of green roof.

Answer 1: (500 SF ÷250) ÷ 2 = 1

Answer 2: 1,250 SF ÷ 250 = 5

1 + 5 = 6 parking spaces are required

Notes: *The amount of parking spaces for the equation is determined from* ***CMC 18.11.130*** *Parking Standards Table.* "SF" = Square Feet

(Ord. No. 2628, § I(Exh. A), 10-17-2011)

Chapter 18.28 Co-living Housing

18.28.010 Purpose.

The purpose in providing for co-living is to authorize the development of rental homes affordable to people with moderate to low incomes that do not require any public funding, and to be consistent with RCW 36.70A.535.

18.28.020 Applicability.

Co-living housing is a permitted use on any lot that allows at least six multifamily residential units, including on a lot zoned for mixed-use development, excluding lots where six units are permitted only through an affordable housing density bonus, such as under RCW 36.70A.635(1)(b)(iii).

18.28.030 General Standards.

Room dimensional standards shall minimally meet the Washington State building code, including dwelling unit size, sleeping unit size, room area, and habitable space;

A. Co-living units may be provided in a mix of sizes and number of rooms;
B. Co-living developments are not required to include other types of land uses;
C. For purposes of calculating dwelling unit density, a sleeping unit in co-living housing is no more than one-quarter of a dwelling unit.
D. Sleeping units may include kitchenettes, but shall not include kitchens;
E. Where open space standards are applied based on the number of dwelling units, one half of the open space requirement will be required for sleeping units that is required of dwelling units.

18.28.040 Parking.

A. Off-street parking shall be provided at a rate of 0.25 off-street parking spaces per sleeping unit.
B. No off-street parking is required for co-living units within one-half mile walking distance of a major transit stop as defined in RCW 36.70A.030.

18.28.050 Processing and Administration.

A. The review, notice, or public meeting requirements for co-living housing shall be the same as those required for other types of residential uses in the same location, unless otherwise required by state law.
B. Co-living housing development may be included in an affordable housing incentive program, such as RCW 36.70A.540.
C. For purposes of calculating sewer connection fees, a sleeping unit in co-living housing is no more than one-half of a dwelling unit, unless a finding, based on facts, is made that the connection fees should exceed the one-half threshold.

18.28.060 Definitions.

A. "Co-living housing" means a residential development with sleeping units that are independently rented and lockable and provide living and sleeping space, and residents share kitchen facilities, and may share bathroom facilities, with other sleeping units in the building.
B. “Major transit stop” means:
    a. A stop on a high capacity transportation system funded or expanded under the provisions of chapter 81.104 RCW;
    b. Commuter rail stops;

c. Stops on rail or fixed guideway systems, including transitways;
d. Stops on bus rapid transit routes or routes that run on high occupancy vehicle lanes; or
e. Stops for a bus or other transit mode providing actual fixed route service at intervals of at least 15 minutes for at least five hours during the peak hours of operation on weekdays.

C. "Sleeping unit" means an independently rented or owned and lockable unit that provides living and sleeping space.
D. "Kitchenette" means a room or part of a room which is used, intended, or designed to be used for basic food preparation, with a sink and at least one 120v electrical outlet.
E. "Kitchen" means a room or part of a room which is used, intended, or designed to be used for preparing food. The kitchen includes facilities, or utility hookups for facilities, sufficient to prepare, cook, and store food, and wash dishes, including, at a minimum, countertops, a kitchen-style sink, space and utilities sufficient for a gas or 220/240v electric stove and oven, and a refrigerator.
F. "Shared kitchen" means a kitchen that is used, intended, or designed to be used by residents of multiple dwelling or sleeping units for preparing food simultaneously.

18.28.070 Conflicting code.

If any section this ordinance conflicts with another section of code, these regulations will take precedence over any conflicting standards elsewhere in code.

Chapter 18.32 PARKS AND OPEN SPACE ZONE~~ZONING~~[1]

18.32.010 ~~Applicability~~ Purpose.

The regulations of this chapter apply only to land held in public trust.

(Ord. No. 2667, § IV, 12-17-2012; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.32.020 Permitted uses.

Uses shall be allowed in accordance with Table 18.07.050 - Park and open space land uses. Park use is also subject to the requirements and limitations of Chapter 12.32 Park Rules and Regulations.

(Ord. No. 2667, § IV, 12-17-2012; Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.32.030 Development standards.

A. Lot Area. There is no minimum or maximum lot size in the Park zoning districts.

B. Setbacks. The minimum setbacks are twenty feet.

C. Building lot coverage. The maximum building lot coverage shall not exceed thirty-five percent of lot area, with the exception of community or recreation centers, where lot coverage shall not exceed sixty percent.

D. Landscaping. All required yard setbacks shall be landscaped. Any storage areas visible to the right-of-way shall be screened. Parking area landscaping shall be consistent with CMC Chapter 18.13 Landscaping.

E. Parking. The number and location of off-street parking shall be consistent with CMC Chapter 18.11 Parking.

F. Signs. Signs shall be permitted according to the provisions of Chapter 18.15 Signs, under the commercial zoning standards.

(Ord. No. 2667, § IV, 12-17-2012)

18.32.040 Site plan review ~~and design review~~.

A. Before a clearing, grading or building permit will be issued; Site Plan approval per Chapter 18.18 Site Plan Review is required. A phased site plan may be allowed in order to guide a new park development as funds and resources become available.

~~B. When Design Review is applicable; the Parks & Recreation Commission shall conduct design review and find that the development is generally consistent with the design standards of CMC Chapter 18.19 Design Review, guidelines and principles for commercial and mixed uses.~~

(Ord. No. 2667, § IV, 12-17-2012)

[1]Ord. No. 2691, § I(Exh. A), adopted Jan. 21, 2014, amended the code by retitling Ch. 18.32 to read as herein set out. Ch. 18.32 was formerly titled Park Zoning.

Chapter 18.43 CONDITIONAL USE PERMITS

18.43.010 Purpose.

It is the purpose of this chapter to establish review and permit approval procedures for unusual or unique types of land uses which, due to their nature, require special consideration of the impact on the neighborhood and land uses in the vicinity.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.43.020 Scope.

This chapter shall apply for each application for a conditional use permit (CUP). Only those uses indicated by a "C" in the use tables contained in CMC Chapter 18.07 Use Authorization of this title will be considered for a conditional use permit.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.43.030 Application.

Application for a conditional use permit shall be filed with the community development department on forms provided by the city. The application shall be accompanied by a filing fee as may be set from time to time by resolution of the city council. The application and review process shall be subject to a Type III procedure, pursuant to CMC Chapter 18.55 Administration and Procedures of this title.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.43.050 Criteria.

The hearings examiner shall be guided by all of the following criteria in granting or denying a conditional use permit:

A. The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated;

B. The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated;

C. The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design;

D. Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located;

E. The proposed use is consistent with the goals and policies expressed in the comprehensive plan;

F. Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.43.070 Expiration and renewal.

Expiration, renewals or extensions of any conditional use permit shall be governed by the terms of CMC Section 18.55.260.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 22-007, § I, 5-16-2022)

18.43.090 Performance bond or security.

A performance bond or other adequate and appropriate security may be required by the hearing examiner for any elements of the proposed project which the ~~city council~~ hearing examiner determines are crucial to the protection of the public welfare. Such bond shall be in an amount equal to one hundred fifty percent of the cost of the installation or construction of the applicable improvements.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.43.100 Resubmittal of application.

An application for a conditional use permit that has been denied may not be resubmitted within one year from the date of the disapproval.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.43.115 Reserved.

Editor's note(s)—Ord. No. 2655, § I, adopted July 16, 2012, repealed § 18.43.115, which pertained to special conditions and criteria for licensed liquor establishments in the downtown commercial zone. See also the Code Comparative Table and Disposition List.

Chapter 18.45 VARIANCES

18.45.010 Purpose.

A variance to any development standard contained in this title, other than density and lot area, may be granted when practical difficulties, unnecessary hardship, or results inconsistent with the general purposes of CMC Title 16, Environment, and CMC Title 18, Zoning, would result from the literal enforcements of its requirements. The sole purpose of any variance shall be to prevent such difficulties, hardship, or results and no variance shall be granted that would have the effect of granting a special privilege not shared by another property in the same vicinity and zone, except when necessary to avoid such difficulties, hardship, or results.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2649, § I, 5-21-2012)

18.45.020 Approval process.

A. Minor Variance. A minor variance is one that results in the modification of up to ten percent of a numerical development standard (other than lot area or density) or up to one foot of setback that shall be subject to Type I procedure, pursuant to CMC Chapter 18.55 Administration and Procedures, and subject to the approval criteria contained in CMC Section 18.45.030(A).

B. Major Variance. A major variance is one that results in the modification of a numerical development standard by more than ten percent but less than forty percent. ~~The board of adjustment is generally the decision maker regarding major variances. Where a variance is consolidated with an application for a Type III decision, the decision maker shall be the same as that for the Type III application.~~ A major variance is subject to a Type III procedure with a final decision issued by the hearing examiner. A major variance shall not be approved unless findings are made by the approval authority that all of the approval criteria under CMC Section 18.45.030 are satisfied.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

18.45.030 Minor variance.

The community development director may grant a minor variance upon demonstration by the applicant of compliance with all of the following approval criteria:

A. Unusual circumstances or conditions apply to the property and/or the intended use that do not apply generally to other property in the same vicinity or district;

B. The variance requested is the minimum necessary to relieve the unusual circumstances or conditions identified in subsection (A) of this section;

C. The granting of such variance will not be materially detrimental to the public welfare or injurious to property in the vicinity or district in which property is located;

D. The proposed variance does not exceed ten percent of the requested dimensional standard in which the variance is requested or one foot of setback, whichever is greater.

E. The unusual circumstances and conditions associated with the variance are not a result of the actions of the applicant or property owner.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.45.040 Major variance.

A. The hearing examiner ~~board of adjustment (or hearing examiner, or planning commission, in accordance with Section 18.45.020(B))~~ shall consider all requests for major variances from the zoning code.

B. Approval of a major variance must demonstrate with findings of compliance with all of the following criteria:

1. The variance shall not constitute a grant of special privilege inconsistent with the limitation upon uses of other properties in the vicinity and zone in which the subject property is located;

2. That such variance is necessary, because of special circumstances or conditions relating to the size, shape, topography, location, or surroundings of the subject property, to provide it with use, rights, and privileges permitted to other properties in the vicinity and in the zone in which the subject property is located;

3. The granting of such variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the vicinity and in the zone in which the subject property is located.

(Ord. No. 2691, § I(Exh. A), 1-21-2014)

18.45.050 Conditions for granting—Extension.

In authorizing the variance, the hearing examiner~~approval authority~~ may attach thereto such conditions that it deems to be necessary or desirable in order to carry out the intent and purpose of this chapter and the public interest. A variance so authorized shall become void after the expiration of one year, or a longer period as specified at the time of the approval authority action, if no building permit has been issued in accordance with the plans for which such variance was authorized, except that the community development director~~approval authority~~ may extend the period of variance authorization, without a public hearing, for a period not to exceed twelve months upon a finding that there has been no basic change in pertinent conditions surrounding the property since the time of the original approval.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2691, § I(Exh. A), 1-21-2014)

Ord. No. 2691, § I(Exh. A), adopted Jan. 21, 2014, repealed § 18.45.050, which pertained to application requirements, and renumbered § 18.45.040 as § 18.45.050. See also the Code Comparative Table and Disposition List.

18.45.060 Prohibited variance.

Under no circumstances shall the approval authority grant a variance to permit a use not outright or conditionally permitted in the zone involved, or any use expressly or by implication prohibited by the terms of this title.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 2691, § I(Exh. A), 1-21-2014)

Chapter 18.51 COMPREHENSIVE PLAN AND ZONING AMENDMENTS[1]

18.51.010 Application for amendments to comprehensive plan.

Any interested person, including applicants, citizens, planning commission, city council, city staff, and other agencies, may submit an application in the month of January each year for a comprehensive plan amendment. The application shall specify:

A. A detailed statement of what is proposed and why;

B. A statement of the anticipated impacts of the change, including the geographic area affected, and issues presented by the proposed change;

C. An explanation of why the current comprehensive plan is deficient or should not continue in effect;

D. A statement of how the proposed amendment complies with and promotes the goals and specific requirements of the growth management act;

E. A statement of what changes, if any, would be required in functional plans (i.e., the city's water, sewer, stormwater or shoreline plans) if the proposed amendment is adopted;

F. A statement of what capital improvements, if any, would be needed to support the proposed change which will affect the capital facilities plans of the city;

G. A statement of what other changes, if any, are required in other city or county codes, plans, or regulations to implement the proposed change; and

H. The application shall include an environmental checklist in accordance with the State Environment Policy Act (SEPA).

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 17-013, § IV, 10-2-2017)

Ord. No. 17-013, § IV, adopted Oct. 2, 2017, amended the catchline of § 18.51.010 from "Application and criteria therein" to read as herein set out.

18.51.020 Application review process for comprehensive plan.

The comprehensive plan shall be reviewed once a year as a Type IV legislative process, and in accordance with RCW 35A.63.070—073, unless there is an emergency, with the following procedure:

A. In the months of November and December, city staff and applicants shall complete preapplication meetings;

B. In the month of January of each year, applicants shall submit an application form containing all of the information required by Section 18.51.010 of this chapter;

[1]Ord. No. 17-013, § IV, adopted Oct. 2, 2017, retitled Ch. 18.51 from "Comprehensive Plan Amendments" to read as herein set out.

C. The city may take as much as sixty days from the closing of the application period (January 31) to complete the initial review of proposals. Environmental determination requirements associated with an application may lengthen this period. If no amendments are received, the chairman of the planning commission shall so report to the mayor and city council, and the annual review of the comprehensive plan shall be considered completed.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 17-013, §§ I(Exh. A), IV, 10-2-2017)

Ord. No. 17-013, § IV, adopted Oct. 2, 2017, amended the catchline of § 18.51.020 from "Application review" to read as herein set out.

18.51.025 Zoning text and map amendments.

A. Amendments to the zoning code text or other development regulations shall follow procedures for a Type IV legislative process. Requests amending the zoning code text or development regulation shall include the following information with an application:

1. Narrative that addresses the following:

a. The specific code text or the development regulation and the rationale for the amendment;

b. A statement of how the amendment is warranted due to changed circumstances, error, or because of a demonstrated need for the change in the zoning text or regulation;

c. A statement of how the public safety and welfare is improved by the amendment; and

d. A statement of what the effect would be if the amendment is not granted.

B. Requests for zoning map amendments shall follow procedures for a Type III decision, and include the following information with an application:

1. An application form indicating the applicant(s), application date, property information (including address, size, zoning, and current use), specific map amendment request, and other pertinent information.

2. Narrative that addresses the following criteria:

a. The map amendment shall be consistent with the policies and provisions of the comprehensive plan including the comprehensive plan map;

b. The amendment shall be compatible with the uses and zoning of the adjacent properties and surrounding areas;

c. The amendment is warranted due to changed circumstances, error, or because of a demonstrated need for additional property in the proposed zoning district;

d. The subject property is suitable for development in conformance with zoning standards under the proposed zoning district;

e. Adequate public facilities and services are likely to be available to serve the development allowed by the proposed zone;

f. Specific information about the intended use and development of the property.

C. An applicant may propose a concomitant rezone in conjunction with a zoning map amendment and shall be subject to a Type IV legislative process. Where a concomitant rezone is proposed by an applicant, the application shall also include the materials identified in Section 18.51.040.

(Ord. No. 17-013, § I(Exh. A), 10-2-2017)

18.51.030 Evaluation criteria.

For consideration of any proposed amendment to either the comprehensive plan, zoning code text, or development regulations, the planning department shall prepare and submit to the planning commission a staff report which evaluates the following:

A. Impact upon the city of Camas comprehensive plan and zoning code;

B. Impact upon surrounding properties, if applicable;

C. Alternatives to the proposed amendment; and

D. Relevant code citations and other adopted documents that may be affected by the proposed change.

The report shall include a copy of the application for each proposed amendment, any written comments on the proposals received by the department, and shall contain the department's recommendation on adoption, rejection or deferral of each proposed change; and the SEPA checklist with the determination.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 17-013, § I(Exh. A), 10-2-2017)

Ord. No. 17-013, § IV, adopted Oct. 2, 2017, amended the catchline of § 18.51.030 from "Staff report" to read as herein set out.

18.51.040 ~~Reserved~~ Concomitant Rezone.

A concomitant rezone may be required by the City or proposed by an applicant in conjunction with a zoning map amendment. Concomitant rezones are appropriate where additional limitations or requirements are necessary to ensure consistency with the comprehensive plan; the proposed zoning could allow a range of uses or intensities not appropriate for the specific site; or the City desires to secure specific land uses, development outcomes, or public benefits.

A. The City Council may approve a zoning map amendment subject to a concomitant agreement or ordinance.

   1. The concomitant rezone shall be implemented through a development agreement, recorded covenant, or ordinance.

   2. The provisions of the concomitant rezone shall run with the land and be binding on successors and assigns.

   3. The agreement or ordinance shall be recorded prior to issuance of development permits.

B. Conditions imposed through a concomitant rezone may include, but are not limited to:

   1. Limitations on permitted or conditional uses, including the prohibition of specific uses or the requirement to include specific uses or a mix of uses (e.g., minimum percentages of residential, commercial, or mixed-use development, or required active ground floor uses);

   2. Additional development standards, including but not limited to minimum or maximum densities, floor area ratios, building height, setbacks, lot coverage, site layout, and design requirements;

3. Phasing or timing of development, including sequencing of uses or required improvements;
4. Infrastructure or public facility improvements, including transportation, utilities, open space, or other public amenities;
5. Environmental protection measures, including enhanced critical area protections, tree retention, or low impact development requirements; and
6. Other requirements necessary to ensure consistency with the Comprehensive Plan and compatibility with surrounding development.

C. In addition to the requirements for a zoning map amendment in Section 18.51.025(B), an applicant requesting a concomitant rezone shall provide:

1. A proposed concomitant agreement or a detailed description of proposed conditions;
2. A site concept plan illustrating intended development, including land use distribution, building locations, access, and open space; AND
3. Any supporting studies necessary to demonstrate feasibility and impacts.

D. Development of the property shall comply with the approved concomitant conditions. Where there is a conflict between the underlying zoning and the concomitant conditions, the concomitant conditions shall control.

E. Modification or Removal

1. A concomitant rezone may be modified or removed only through the same procedure required for a zoning map amendment, unless otherwise specified.
2. The applicant shall demonstrate that the modification remains consistent with the comprehensive plan and continues to address site-specific impacts.

F. Enforcement
Failure to comply with the terms of a concomitant rezone shall constitute a violation of this Code and may result in denial, withholding, or revocation of permits or approvals.

18.51.050 Council consideration and decision.

Subsequent to planning commission review and recommendation, the city council shall consider each request for an amendment to the comprehensive plan or zoning code at a public meeting, at which time the applicant will be allowed to make a presentation. Any person submitting a written comment on the proposed change shall also be allowed an opportunity to make a responsive oral presentation. Such opportunities for oral presentation shall be subject to reasonable time limitations established by the council.

A. At minimum, the criteria the city council shall use to make a decision on a proposed amendment are as follows:

1. The application and criteria established therein;
2. The staff report and recommendation;
3. The planning commission recommendation;
4. The public interest.

B. The city council shall make a decision by motion, resolution, or ordinance as appropriate. The city council decision on a planning commission recommendation following a public hearing shall include one of the following actions:

1. Approve as recommended;

2. Approve with additional conditions;
3. Modify, with or without the applicant's concurrence;
4. Deny (resubmittal is not allowed until the next year for comprehensive plan amendments);
5. Remand the proposal back to the planning commission for further proceedings.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

(Ord. No. 17-013, § I(Exh. A), 10-2-2017)



ourCamas 2045

~~September~~ October 2026

Comprehensive Plan

ourCamas 2045

Acknowledgements

Thank you to the members of the Camas community for sharing your time and insights in the development of Our Camas 2045.

Mayor
Steve Hogan

Camas City Council
Marilyn Boerke
Martin Elzingre
Mahsa Eshgi
Tim Hein
John Nohr
Jennifer Senescu
John Svilarich

Camas Planning Commission
Troy Hull, Chair
Geoerl Nile, Vice Chair
Paul Anderson
Hannah Burak
Shawn High
Joe Keller
Joe Walsh

Community Advisory Committee (CAC)
Samantha Horner
Betty Peng
Jason Irving
Kim Sogge
Carrie Schulstad
Brian K. Kuhta
Matthew Clarkson
Heidi Buhman-McNeley
Stephanie O'Dell
Alicia Brazington
Greg K. Anderson
Carol Collier
Rick Melching
Colin Casad
Marlo Maroon

Climate Policy Advisory Team (CPAT)
Morgan Van Fleet
Nelson Holmberg
Cassi Marshall
Amy Hyland
Kaitlin Lee
Kimberly Lottig
Robert Carter
Paul Anderson
Dan Davis
Diana Rutherford

City of Camas Staff
Doug Quinn, City Administrator
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Lauren Hollenbeck, Senior Planner
Yvette Sennewald, Senior Planner
Madeline Coulter, Planner
Margot McNeely, Planning Intern
Carey Certo, Senior Administrative Support Assistant
Scott Collins, Public Works Director
Curleigh Carothers, Engineering Manager
Rob Charles, Utilities Manager
Ken Pearrow, GIS Coordinator
Bryan Rachal, Communications Director

Consultant Team
WSP USA, Inc.
3J Consulting, Inc.
DKS Associates
ECOnorthwest
SERA Architects

ourCamas 2045

Table of Contents

01. Vision 8

Our Camas Vision Statement 8

Our Community 8

Our Environment 8

Our Neighborhoods 8

Our Downtown 8

02. Introduction 10

What is a Comprehensive Plan? 11

Why Plan? 11

How is a Comprehensive Plan Related to Other Plans? 12

Amending a Comprehensive Plan 15

Developing Our Camas 2045 15

03. Community Character 19

Vision 19

Introduction 19

Community Character Goals and Policies 21

04. Land Use 25

Vision 25

Land Use Overview 25

Population Projections 26

Land Use Designations 26

Overlays 28

Land Use Goals and Policies ..... 34~~32~~

05. Housing ..... 40~~37~~

Vision ..... 40~~37~~

Background ..... 40~~37~~

Planning Framework ..... 41~~38~~

..... 43~~40~~

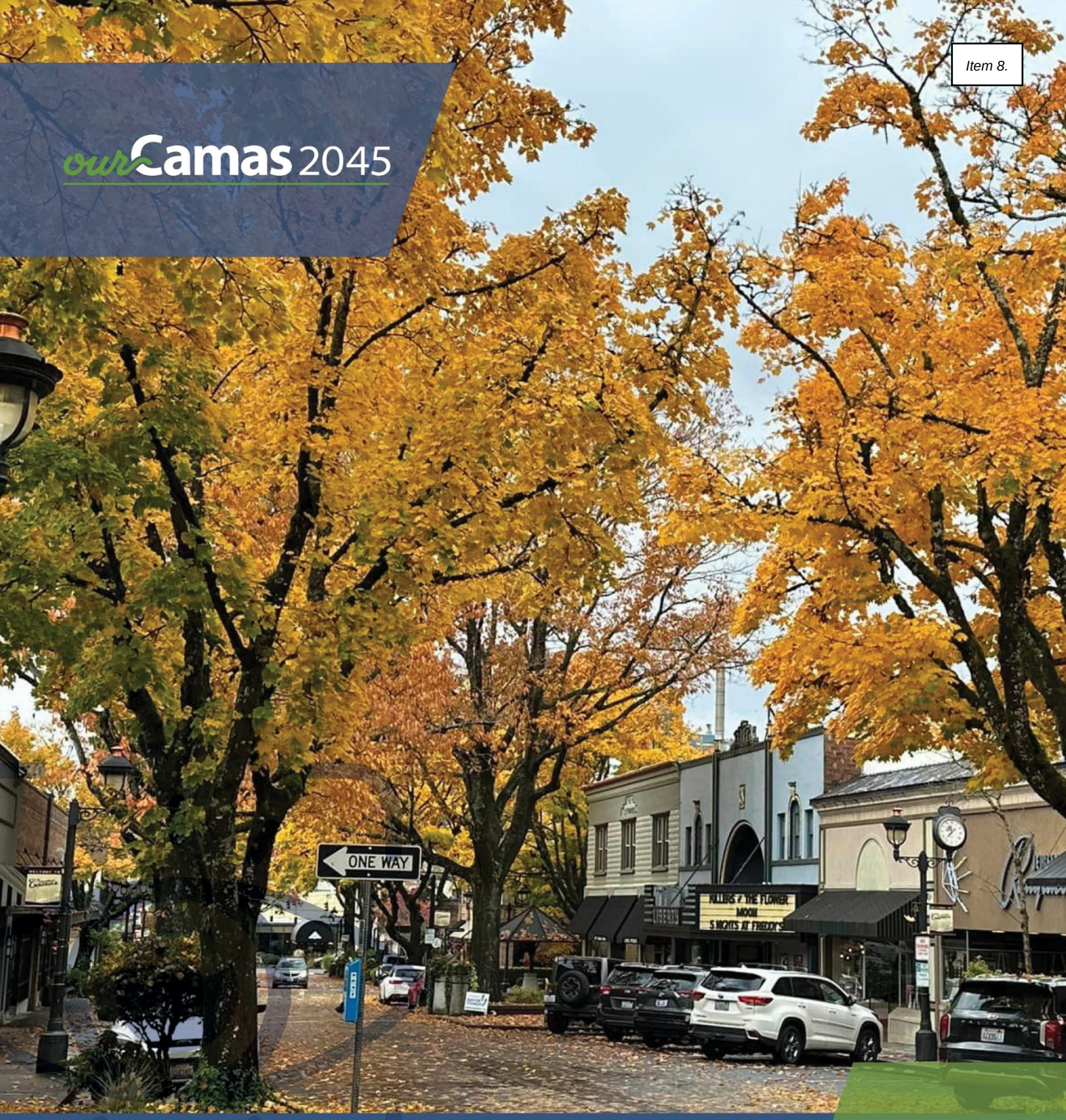
Community Engagement ..... 43~~40~~

Housing Action Plan 4440
Housing Targets 4541
Population and Housing Allocations 4541
Housing Choice and Affordability 4844
Disproportional Impacts and Displacement 5248
Residential Capacity 5349
Summary of Housing Analysis Findings 5450
Community Demographic Trends 5450
Existing Housing Inventory 5551
Future Housing Demand 5652
Housing Goals and Policies 5652
06. Natural Environment 6460
Vision 6460
Natural Setting 6460
Overview 6561
Environmental Stewardship 6662
Critical Areas 6763
Functions of Critical Areas 6763
Critical Areas Goals & Policies 7167
Shorelines 7268
Overview 7268
Shoreline Goals and Policies 7470
Landscape Enhancement and Tree Preservation 7470
07. Climate Change & Resiliency 7672
Vision 7672
Introduction 7672
Climate Overview 7773
Greenhouse Gas Emissions 7773
Climate Resiliency 7874
Vulnerability 8076
Vulnerable Communities 8076

Vulnerable Assets 8076
Vulnerability Assessment 8379
Climate Change and Resiliency Goals and Policies 8480
08. Transportation 8985
Vision 8985
Introduction 8985
Performance Standards 9086
Level of Service (LOS) 9086
Level of Traffic Stress (LTS) 9288
Travel Demands and Characteristics 9288
Active Transportation Networks 9490
Multimodal Network Design 9490
Pedestrian Network 9591
Bicycle Network 9691
Transition Plan for Transportation 9793
Transportation Projects and Priorities 9894
Transportation Facility Maps 10096
Transportation Goals and Policies 104100
09. Public Facilities & Services 109105
Vision 109105
Introduction 109105
Level of Service (LOS) Standards 110106
Public Facilities and Services 111107
Fire Protection, Emergency Medical Services, and Police Protection 111107
Parks, Trails, and Open Space 112108
City Facilities 112108
City and Franchise Utilities 113109
Water 113109
Sewer 115111
Stormwater 117113
Solid Waste 117113

Franchise Utilities 117113
Capital Improvement Plan 118114
School Districts 119114
Public Facilities and Services Goals and Policies 120115
10. Economic Development 128123
Vision 128123
Approach for Updating this Element 128123
Community Engagement Insights 128123
City of Camas Competitive Position 129124
Broad Planning Context 131126
Buildable Land Capacity and Employment Capacity 132127
City of Camas Profile 135130
Economic Development Overview 136131
Summary of Demographic and Economic Trends 139134
Implementation Tools and Strategies 141136
Programmatic Strategies 141136
Financial Strategies 142137
Regulatory Strategies 142137
Procedural Strategies 142137
Economic Development Goals and Policies 143138
11. Technical Appendices 148143

ourCamas 2045



Vision

01

01. Vision

Our Camas Vision Statement

This vision is written in the present tense, as if describing the city as it exists in 2045. Some aspects of the vision can be found in Camas today, while others represent aspirations. The vision provides a framework for the goals and policies of every element of Our Camas 2045.

Our Community



Camas is an inclusive community where residents experience a sense of belonging and connection. Community-wide events foster civic pride, strong bonds among neighbors and a welcoming atmosphere for new residents. Community amenities and recreation facilities throughout Camas promote active lifestyles and social interaction. Camas is recognized for excellent schools and its commitment to lifelong learning. The City promotes a strong culture of public safety, transparent communication, and good governance, allowing residents to thrive in their neighborhoods and engage in decision-making that shapes their community.

Our Environment



Camas embraces its connection to nature and enjoys a wealth of outdoor recreational opportunities. Access to forests, clean water, parks, and trails is foundational to Camas' quality of life. The community shares a deep reverence for Camas' beauty, scenery, and tranquility, and is committed to preserving and enhancing its natural resources and tree canopy. Through proactive planning, the City mitigates the effects of changing climate conditions and natural hazards, ensuring a resilient community for generations to come.

Our Neighborhoods



Camas embraces its small-town feel while responsibly managing growth, ensuring a prosperous and livable future for all. Camas provides a variety of housing options that meet the needs of all residents, while ensuring the town's charm and livability are sustained. Camas is home to a thriving economy and diverse businesses, affording residents ample employment opportunities and access to high wage jobs. Neighborhood commercial hubs connect residents to daily services and amenities through a network of sidewalks and bike lanes, improving access and connectivity.

Our Downtown



Charming, vibrant, and walkable, Downtown Camas is the city's living room. Downtown's history is complemented by new businesses and inclusive housing options. Expansion, resiliency and a dynamic economic landscape are critical to its success. Downtown Camas anchors the community while fostering a culture of pride, support, and connection.

ourCamas 2045



Introduction

02

02. Introduction

Our Camas 2045

Our Camas 2045 is a roadmap for the future of the city and guides land use development and public facility investment decisions between now and 2045.

Camas has a long and rich history. More than 10,000 years ago, Native Americans occupied the Columbia River Valley. The Lewis and Clark Corps of Discovery camped by the river in 1806. In the late 1800s, the La Camas Colony Company of Portland purchased 2,600 acres and began planning the construction of a paper mill to supply newsprint for The Oregonian. The construction of the mill brought the platting of the town and the City of Camas was incorporated in 1906. Today, Camas is a vibrant and diverse community that occupies approximately 16 square miles and is home to over 28,000 people.

Our Camas 2045 is an update to the prior City of Camas comprehensive plan, Camas 2035. This update incorporates new state legislation to support additional housing and climate planning and establishes a new vision for the community's future.

The history of Camas comprehensive planning dates back to 1963 when the first plan was prepared. In 1990, the state adopted the Growth Management Act (GMA) with the goal of managing the growth of cities that had previously grown in an uncoordinated fashion. GMA requires municipalities to update their comprehensive plans every 10 years to ensure future growth can be accommodated with housing and jobs, and public services and facilities are available to serve new residential, commercial, and employment areas.

The last major update to the City's comprehensive plan was in 2016. Since that time, the city has grown by over 6,500 people, added new residential areas in Grass Valley and Green Mountain, and completed the North Shore Subarea Plan, which established a new vision and zoning for the North Shore of Lacamas Lake and sets the stage for future residential, mixed use, and employment development. In conjunction with Our Camas 2045, the city prepared a downtown subarea plan. Our Downtown Camas 2045 establishes a detailed vision and action plan to catalyze public and private investment in the historic downtown. Both plans work together to guide future development and ensure Camas' future remains as vibrant as its past.

What is a Comprehensive Plan?

Our Camas 2045 guides land use development and public facility investment decisions between now and 2045. Our Camas 2045 has eight elements that work together to achieve the community's vision and ensure long-term economic vitality:



Each element sets goals that will implement the vision and expresses policies that will guide land use and infrastructure decisions for the 20-year planning horizon. The elements are supported by the comprehensive plan map, which identifies land use designations throughout the City and within its urban growth area. 1

Why Plan?

Planning is choosing what to do and how and when to do it. Planning is part of our everyday lives. We plan our vacations, our budgets, and even our trips to the grocery store. The detailed planning of our daily lives derives from a set of goals that we want to accomplish – in a day, in the next six months, or the next two years.

In the same way and for the same purpose, the City's plan is the basis of coordinated action – it enables public and private interests to undertake projects with a clear understanding of community goals and policies.

Our Camas 2045 helps the City identify deficiencies and take steps to remedy them. Planning can find desirable and reasonable solutions before the problem is beyond the community's economic capabilities. The plan is crucial to avoiding uncoordinated activities as the City adapts to changing conditions and experiences the population growth that is anticipated.

The plan is not intended as a rigid system of goals and development policies; rather, it is:

- **Long range** – looks ahead 20 years to anticipate growth and resulting community needs.
- **Comprehensive** – relates and integrates all types of uses and necessary public facilities.
- **General** – establishes general locations and areas for the elements and indicates their relationships to each other and the population they serve.
- **Responsive** – through regular updates, adjusts to changing conditions, unforeseen circumstances, and local and regional trends.

How is a Comprehensive Plan Related to Other Plans?

Our Camas 2045 is part of a family of state, regional, and local plans. Some, like statewide GMA and Clark County's Comprehensive Growth Management Plan, set the overall planning framework and guide the content of the Camas comprehensive plan.

Others, like plans that are specific to particular subareas, supply more detailed information about individual topics or smaller parts of the City.

Growth Management Act

The GMA establishes state goals, sets deadlines for compliance, and offers direction on how to prepare comprehensive plans and development regulations. GMA also establishes requirements for early and continuous public participation. GMA requires state and local governments to manage growth by identifying and protecting critical areas and natural resource lands, designating urban growth areas, and preparing comprehensive plans and implementing them through capital investments and development regulations.

The GMA legislation, which is Chapter 36.70A of the Revised Code of Washington (RCW), contains 15 goals.

For a community's plan to be valid, it must meet the requirements of the GMA through consistency with state statutory goals, countywide policies, and the plans of adjacent jurisdictions.

The fifteen statutory goals identified in the GMA (RCW 36.70A) are:

1. **Urban growth**. Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
2. **Reduce sprawl.** Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
3. **Transportation.** Encourage efficient multimodal transportation systems that will reduce greenhouse gas emissions and per capita vehicle miles traveled, and are based on regional priorities and coordinated with county and city comprehensive plans.
4. **Housing.** Plan for and accommodate housing affordable to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock.
5. **Economic development.** Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, promote

the retention and expansion of existing businesses and recruitment of new businesses, recognize regional differences impacting economic development opportunities, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.

6. **Property rights.** Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.
7. **Permits.** Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.
8. **Natural resource industries.** Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forestlands and productive agricultural lands, and discourage incompatible uses.
9. **Open space and recreation.** Retain open space and green space, enhance recreational opportunities, enhance fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities.
10. **Environment.** Protect and enhance the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.
11. **Citizen participation and coordination.** Encourage the involvement of citizens in the planning process, including the participation of vulnerable populations and overburdened communities, and ensure coordination between communities and jurisdictions to reconcile conflicts.
12. **Public facilities and services.** Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.
13. **Historic preservation.** Identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance.
14. **Climate change and resiliency.** Ensure that comprehensive plans, development regulations, and regional policies, plans, and strategies under RCW 36.70A.210 and chapter 47.80 RCW adapt to and mitigate the effects of a changing climate; support reductions in greenhouse gas emissions and per capita vehicle miles traveled; prepare for climate impact scenarios; foster resiliency to climate impacts and natural hazards; protect and enhance environmental, economic, and human health and safety; and advance environmental justice.
15. **Shorelines of the state.** For shorelines of the state, the goals and policies of the shoreline management act as set forth in RCW 90.58.020 shall be considered an element of the county's or city's comprehensive plan.

Urban Growth Areas

An urban growth area is a defined area of land adjacent to city limits within which urban growth is encouraged and beyond which growth can occur only if it is not urban in nature.

Each county that adopts a comprehensive plan under the GMA must designate urban growth areas. The City of Camas has 11,848 acres of land within the urban growth areas. This land, combined with the vacant land available within the City limits, must accommodate the City's population and employment projections as established by the state's Office of Financial Management. The population and employment projections for the City for the year 2045 are

37,080 people and 13,658 jobs. The City is proposing urban growth area expansion to accommodate increased job capacity (see the Land Use Element for additional details).

County Planning Goals and Policies

The Comprehensive Growth Management Plan, adopted by Clark County and its cities and last updated in 2016, guides local jurisdictions as they work to decide questions of regional land use and services.

Clark County is in the final stages of fully updating this plan for 2026 through 2045. As County and city plans were developed, representatives of the City of Camas met on a regular basis over the span of two years with officials of the County and its cities to coordinate efforts. This level of communication helps ensure that the plans and capital projects of these jurisdictions are consistent when adopted. Our Camas 2045 is consistent with the concepts put forward in the County's Comprehensive Growth Management Plan, and the initial drafts of its pending comprehensive plan, and the countywide planning policies as required by RCW 36.70A.100 and 210, WAC 365-196-305; 400(2)(c); 510 and 520.

Local Plans

The goals and policies included in Our Camas 2045 are implemented through development regulations established in the Camas Zoning Code (Title 18 of the Camas Municipal Codes) as well as the standards set forth in existing plans and policy documents.

Our Camas 2045 has been developed to ensure consistency with all other relevant local plans as listed below:

- Strategic Plan 2025-2030 (2025)
- Legacy Lands Master Plan (2026)
- Lake Management Plan (2024)
- North Shore Subarea Plan (October 2022)
- Camas Water System Plan (October 2019, to be updated with Our Camas 2045)
- Camas General Sewer Plan (June 2022, to be updated with Our Camas 2045)
- Camas General Sewer/Wastewater Facility Plan (November 2011)
- City of Camas Parks, Recreation, and Open Space Comprehensive Plan (March 2022)
- Camas Design Standards Manual–Engineering (adopted October 20, 2014, Res. 1308, updated annually)
- Camas Design Review Manual (May 2, 2016)
- Camas Shoreline Master Program (2021)
- Downtown Design Manual (revision in process, to be adopted with Our Downtown Camas 2045, the Downtown Subarea Plan)
- Camas Stormwater Design Standards Manual (June 2022)
- Six-Year Street Plan (Updated annually)
- 2025–2030 Capital Improvement Plan Project List (to be updated with Our Camas 2045)
- Transportation Impact Fee Update (May 2012)

Amending a Comprehensive Plan

The City is required to review its comprehensive plan at least every ten years. However, the City's comprehensive plan and development regulations are reviewed and evaluated regularly.

Our Camas 2045 is based on the best available information. As years go by, new information or changing circumstances – for instance, a revised sewer or water plan – may prompt changes to this plan. By state law, amending a comprehensive plan can occur only once a year and must follow the procedures that are set forth in RCW 36.70A.130.

Amendments to a comprehensive plan require legislative action, which entails the adoption of a resolution or ordinance following notice and public hearing indicating, at a minimum, a finding that a review and evaluation has occurred and identifying the revisions made, or that a revision was not needed and the reasons.

The review and evaluation must include the consideration of critical area ordinances, population projections, and other plans and policies in effect.

Under certain circumstances, amendments can occur more frequently:

- The initial adoption of a subarea plan. Subareas must clarify, supplement, or implement jurisdiction-wide comprehensive plan policies, and may only be adopted if the cumulative impacts of the proposed plan are addressed by appropriate environmental review under chapter 43.21C RCW.
- The development of an initial subarea plan for economic development located outside of the 100 year floodplain in a county that has completed a state-funded pilot project that is based on watershed characterization and local habitat assessment
- The adoption or amendment of a shoreline master program under the procedures set forth in Chapter 90.58 RCW.
- The amendment of the capital facilities element of a comprehensive plan that occurs concurrently with the adoption or amendment of a county or city budget.
- The adoption of comprehensive plan amendments necessary to enact a planned action under RCW 43.21C.440, provided that amendments are considered in accordance with the public participation program established by the county or city under this subsection (2)(a) and all persons who have requested notice of a comprehensive plan update are given notice of the amendments and an opportunity to comment.

Developing Our Camas 2045

Our Camas 2045 began with a citywide outreach process to better understand the community's vision and priorities related to Camas' future. The Our Camas Visioning process reached over 1,000 community members through community conversations, community events, an online survey, online mapping tools, and the project website.

The City hosted three Community Summits. The first, held in June 2024, was an open house event where members of the public could provide feedback on the draft vision statement and

goals, as well as provide ideas to achieve the vision and goals. The second Community Summit was held in October 2024 and provided a forum for community members to provide feedback on the draft land use alternatives, development scales, review development concepts for downtown, and learn about the County's climate planning efforts and greenhouse gas inventory. The third Community Summit was a three-month effort in fall 2025 to share the draft comprehensive plan and Downtown subarea plan. The summit was a mix of online engagement and in-person activities to provide community members with opportunities to review, ask questions and provide feedback on each chapter of the draft comprehensive plan and the Downtown subarea plan. Every two weeks, a new plan element was highlighted with background information, an online survey to gauge opinion on various plan policies and an opportunity to chat with a planner, where community members could speak directly with City staff.





There were several advisory committees that participated in the development of the plan.

- Project Advisory Committee (PAC) – technical stakeholders, agency partners, service providers
- Community Advisory Community (CAC) – broad cross-section of community interests
- Climate Policy Advisory Team (CPAT) – community members advising on climate goals and policies
- Downtown Advisory Committee (DAC) – representatives from the CAC and the Downtown Camas Association (DCA)
- The Planning Commission and City Council were also consulted during the development of the vision, goals, policies, and plan

COMMUNITY FEEDBACK HIGHLIGHTS

Feedback from the community is highlighted throughout the plan chapters, indicating where the community's input was incorporated into vision, goals, policies and plan.

Following preparation of the draft plan, the City hosted pop-up events throughout the summer and fall of 2025 to seek input on the preferred alternative map and draft goals and policies.

In addition to the outreach efforts described above, the City maintained a public engagement website throughout the visioning process and the development of Our Camas 2045. During spring 2024, a community survey and interactive map gathered feedback from the community on things they like about Camas, things they would change in the future, important topics to address in the plan, and areas of opportunity or concern both downtown and in the wider Camas community. A second online survey accompanied the second community summit to seek input on the draft land use alternatives and development concepts for downtown. The City prepared an online Story Map in Spring 2025 to present and obtain feedback on the preferred land use alternative and proposed zoning and comprehensive plan land use designation changes.

The City of Camas values residents' opinions and is committed to being responsive. The final comprehensive plan incorporates the contributions and comments from those who participated in the project engagement. Summaries of all engagement activities is included in Appendix A.



ourCamas 2045



Community Character

03

Community Character

This element integrates art, culture, growth and identity into the comprehensive plan, while ensuring community engagement is inclusive and open.

03. Community Character

Vision

In 2045, Camas is an inclusive community where residents experience a sense of belonging and connection. The city's unique identity is defined by its small-town feel and the incorporation of the natural landscape into walkable neighborhoods and high-quality development. Camas maintains its distinct sense of place through inclusive community engagement, sustainable development practices, and intentional placemaking that reinforces Camas' beauty, livability, and lasting connection to nature.

Introduction

The community character element establishes a framework for preserving and enhancing the physical, cultural, and social characteristics that make Camas feel like Camas. Community character is shaped not only by the built environment, but also by the natural landscape, cultural identity, historic context, and the ways in which people engage with their surroundings. As Camas plans for continued growth through the 2045 horizon, this element ensures that the qualities residents value—such as the City's small-town atmosphere, its connection to nature, and its strong civic identity—are maintained and reinforced through thoughtful development, design standards, public investment, and public engagement. Camas' natural and built environment is defined by its integration of the natural features of the land with the development of housing, commercial buildings and its connecting infrastructure. In 2026, the City of Camas is home to 16 parks, 12 miles of scenic trails, and over 1,060 acres of parks and open space. From the forested paths around Lacamas Lake to the many playgrounds throughout the city, the natural beauty of Camas is a defining part of community life.







Camas' diversifying community is comprised of approximately 28,500 people and expected to grow to over 37,000 by 2045. While most people who live in Camas commute to nearby cities for employment, in 2026, there are approximately 9,550 jobs within the city with the largest employment sectors being education and healthcare, followed by professional services. The Georgia Pacific Mill remains a significant part of the city's economic history and a symbol of Camas' working roots.

The majority of housing in Camas is low density detached homes. Most residents own their home, with renters making up 20% of residents. There are approximately 10,000 housing units in Camas in 2026. By 2045, the city needs to add 4,226 new units to support the growing population. Camas also needs a greater variety of housing types at a range of price points to meet residents' diverse needs. By 2045, new multifamily and mixed-use buildings near transit, in Downtown, North Shore, and along NW Parker Street and Pacific Rim Boulevard will expand options for existing and new residents. These future developments will complement the strong sense of place already present in Camas' established neighborhoods like Prune Hill, Crown Park, and Evergreen Terrace.

Access to public art and community events is an important priority to define and enhance the identity of Camas. Beloved local traditions like Camas Days, the Camas Farmers Market, sporting events, and seasonal festivals foster a deep sense of connection and pride. New development will include and support inclusive public gathering spaces to host events, ensuring that the community spirit thrives as the city grows.

Key community resources to preserve and enhance include the existing built infrastructure, high quality schools, access to living wage jobs, parks, open space and recreational amenities, and the distinctive Downtown area, where historic storefronts, local restaurants, and venues like the Liberty Theatre draw residents and visitors alike.

The community will connect with city government and processes through accessible engagement and neighborhood leadership. Ongoing collaboration will help ensure that Camas remains a place where people feel heard, welcomed, and at home.

COMMUNITY FEEDBACK

- **Provide amenities for children and teenagers**
- **Focus on reuniting the community and fostering diversity through inclusive initiatives**
- **Prioritize community engagement and accountability in city planning and policy implementation**
- **Preserve and expand upon Camas' cultural heritage through arts and community events**
- **Provide development incentives for projects to protect natural topographic, geologic, vegetative, and hydrologic features and provide features such as tree-lined streets, rain gardens and use of native landscaping.**
- **Develop a City education program to share information and educate the community on local government, city functions and ways to engage with staff**

Community Character Goals and Policies

Goal CC-1 Art, Culture, and Heritage

Camas is a city where history, art, and culture are celebrated and accessible to all. Camas events and activities will instill a sense of belonging among residents of all ages, making Camas an ideal place to live and work.

Policy CC-1.1 Encourage and promote a wide range of artistic and cultural activities by reducing barriers and increasing access to hosting and attending community events that define and enhance Camas' community identity.

Policy CC-1.2 Incentivize development sites to create spaces conducive to the provision of art and other cultural activities and amenities. Encourage murals, sculptures, interactive art installations, and interpretive displays that celebrate the history, culture, and creativity of Camas.

Policy CC-1.3 Develop a process to memorialize historic sites and create and maintain an official inventory of Camas' historic and cultural resources.

Policy CC-1.4 Support the formation of a local arts commission that provides funding and support for local artists and artistic events in Camas.

Policy CC-1.5 Require a percentage of capital project budgets to be allocated for public art and design enhancements.

Policy CC-1.6 Prioritize naming streets, parks, and public facilities after historically significant people, events, geographic features, or native flora and fauna. Consider allowing naming rights in recognition of significant donations.

Goal CC-2 Sustainable Growth and Distinct Identity

Camas' unique identity is enhanced by high-quality urban design that respects the natural landscape, fosters a connection to nature, and integrates sustainable development.

Policy CC-2.1 Establish and enforce clear and objective design standards to ensure that new development respects and enhances Camas' architectural, historical, and natural character.

Policy CC-2.2 Regulate land use and development to protect natural topographic, geologic, vegetative, and hydrologic features, and natural contours of undeveloped properties.

Policy CC-2.3 Promote and provide educational resources for tree-lined streets, rain gardens, and preservation and use of native landscaping to reinforce Camas' connection to nature.

Policy CC-2.4 Align development regulations and design guidelines with dark sky standards to encourage the preservation of the night sky.

Policy CC-2.5 Establish distinctive gateway features at major points of entry into Camas, including attractive signage, landscaping, and public art that reflect Camas' distinct identity.

Policy CC-2.6 Ensure that street signage, lighting, landscaping, and street furniture are designed and maintained with a cohesive aesthetic that enhances community identity.

Policy CC-2.7 Revise the City's sign standards to ensure that all permanent and temporary signage is attractive and well-maintained, with clear regulations and enforcement mechanisms.

Policy CC-2.8 Provide educational and volunteer programs related to climate science, the connections between habitat conditions and native species, and effective ways to mitigate the impacts of climate change.

Goal CC-3 Community Engagement

Camas will have a strong sense of community through open communication, inclusive and meaningful outreach efforts, and enduring partnerships throughout the community.

Policy CC-3.1 Increase access to public engagement by ensuring materials and procedures are accessible for all community members, especially vulnerable groups such

as low-income, Limited English Proficiency (LEP) individuals, youth, elderly, and differently abled.

Policy CC-3.2 Utilize outreach strategies such as focus groups and listening posts that accommodate the needs of everyone and account for the broad spectrum of community members.

Policy CC-3.3 Develop and implement strategies to support neighborhood leadership and associations to increase community involvement and provide opportunities to participate in the development processes.

Policy CC-3.4 Regularly inform the community of activities and events through a range of outreach methods including traditional and social media, partnerships with schools, and information at fairs and events.

Policy CC-3.5 Develop a City education program to inform the community on the inner workings of their local government, city functions, and an opportunity to engage with staff.

ourCamas 2045



Land Use

04

Land Use Element

The land use element is designed to support development that adheres to the City's vision to ensure Camas' future is as bright as its past.

04. Land Use

Vision

Camas embraces its small-town feel while responsibly managing growth, ensuring a prosperous and livable future for all. Camas provides a variety of housing options that meet the needs of all residents, while ensuring the town's charm and livability are sustained. Camas is home to a thriving economy and diverse businesses, affording residents ample employment opportunities and access to high wage jobs. Neighborhood commercial hubs connect residents to daily services and amenities through a network of sidewalks and bike lanes, improving access and connectivity.

Land Use Overview

The City of Camas is home to great schools, family-wage jobs, high quality neighborhoods, and an abundance of open space and recreational amenities. Camas has grown into a dynamic, vibrant city with diversified employment opportunities and services that cater to its residents' various needs. In 2026, Camas maintains its small town charm and character, and downtown remains the heart of the City with a mix of restaurants, shops, professional offices, and residential development. The Grass Valley area is home to several national and international technology and manufacturing firms. Newer residential development has occurred recently in the Green Mountain area, and planned transportation improvements in the North Shore area will improve connectivity and provide better transportation options throughout the City.

The land use element is designed to support development that adheres to the City's vision to ensure Camas' future is as bright as its past. The GMA identifies the land use element as the foundation of the comprehensive plan. GMA outlines the framework by which the plan will be implemented and establishes land use designations to accommodate the City's population and employment projections. The development of land in accordance with the goals and policies included in the land use element will ensure the achievement of an appropriate balance of public facilities, housing, employment, services, and recreational uses throughout the City.

Population Projections

GMA requires that each jurisdiction accommodate its share of the region's growth. The City of Camas is expected to have a population of 37,080 by 2045 (based on the County adopted growth rate of 1.2 percent per year), a 8,590-person increase from the 2026 population of 28,490. During the same period, Camas is expected to have 13,658 jobs in the city by 2045.

Land Use Designations

In order to ensure the City's vision and land use goals are achieved, land use designations are used to assign a variety of development uses and building densities to land throughout the City. The plan identifies areas for residential, commercial, mixed use, mixed employment and industrial development. The plan also identifies areas for parks and open space to support recreation and enhance natural areas, including habitat and wildlife corridors. Public facilities, such as stormwater, sewer and water facilities are allowed uses within these designations. See the Public Facilities & Services chapter for additional information and maps of these facilities.

Table 1 Land Use Designations

Comprehensive Plan Designation	Corresponding Zones	Total (Acres)[1]	Net residential capacity (units)	Jobs Capacity
Residential Low	Residential 15 (R-15)	443	39	0
	Residential 12 (R-12)	27	30	0
	Residential 10 (R-10)	349	363	0
	Residential 7.5 (R-7.5)	216	310	0
	Residential 6 (R-6)	113	269	0
	North Shore Lower Density (LD-NS)	168	203	0
	Downtown Residential (DT-R)	2	39	11
Residential Medium	Multi-Family 10 (MF-10)	37	503	0
Residential High	Multi-Family 18 (MF-18)	185	1,015	0
	Multi-Family 24 (MF-24)	33	282	0
	North Shore Higher Density (HD-NS)	139	848	0
Mixed Use	Mixed Use (MX)	141	1,179	1,001
	North Shore Mixed-Use (MX-NS)	89	790	598

Comprehensive Plan Designation	Corresponding Zones	Total (Acres)[1]	Net residential capacity (units)	Jobs Capacity
Mixed Employment	Downtown Mixed-Use Low Rise (DT-MXL)	1	23	9
	Downtown Mixed-Use Mid Rise (DT-MXM)	16	566	127
	Mixed Employment (ME)	361	0	2,201
	North Shore Mixed Employment (ME-NS)	99	0	590
Commercial	Neighborhood Commercial (NC)	2	0	20
	Community Commercial (CC)	91	0	1,197
	North Shore Commercial (C-NS)	66	0	894
	Regional Commercial (RC)	298	0	3,826
	Historic Main Street Core (DT-HMSC)	1	24	1
Industrial	Heavy Industrial (HI)	545	0	1,948
Parks and Open Space	Parks and Open Space (POS)	1,343	0	0

[1]Total acres within each zoning designation are gross acres and inclusive of rights-of-way and infrastructure.



COMMUNITY FEEDBACK

- **Manage growth to allow for infrastructure adjustments and maintain the small-town feel**
- **Support neighborhood hubs, residential scale businesses, and encourage community building**
- **Encourage multifamily units to support walking or taking transit to employment areas**
- **Need clear transitions between low density and higher density developments**
- **Support for design standards that are sustainable and low climate impact (native landscaping, energy and water efficiency standards, site optimization to preserve green space)**
- **Align land use plans with transportation improvements**



Overlays

In addition to the land use designations listed in Table 1, land use overlays further define appropriate uses and development standards for particular areas within the City. Overlays in Camas include an Airport Overlay, Cottage Overlay, and a Design Overlay. Development within all overlay areas must comply with the goals and policies of the underlying land use designation and the specific standards included in the overlay.

The Airport Overlay area applies to land adjacent to Grove Field, an airport owned and operated by the Port of Camas-Washougal and located northeast of Lacamas Lake. Grove Field is included in the UGA with this update. The Airport Overlay is designated to ensure land uses adjacent to the airport are compatible with air traffic and do not interfere with safe air navigation. For example, the comprehensive plan designation of lands adjacent to the airport is generally Mixed Employment, rather than residential, and the Airport Overlay area restricts uses tending to have higher concentrations of people, such as schools or hospitals.

The Cottage Overlay may be utilized within multi-family zones only and is intended to increase housing choice and supply by allowing flexibility in the development of smaller detached cottage-style dwellings.

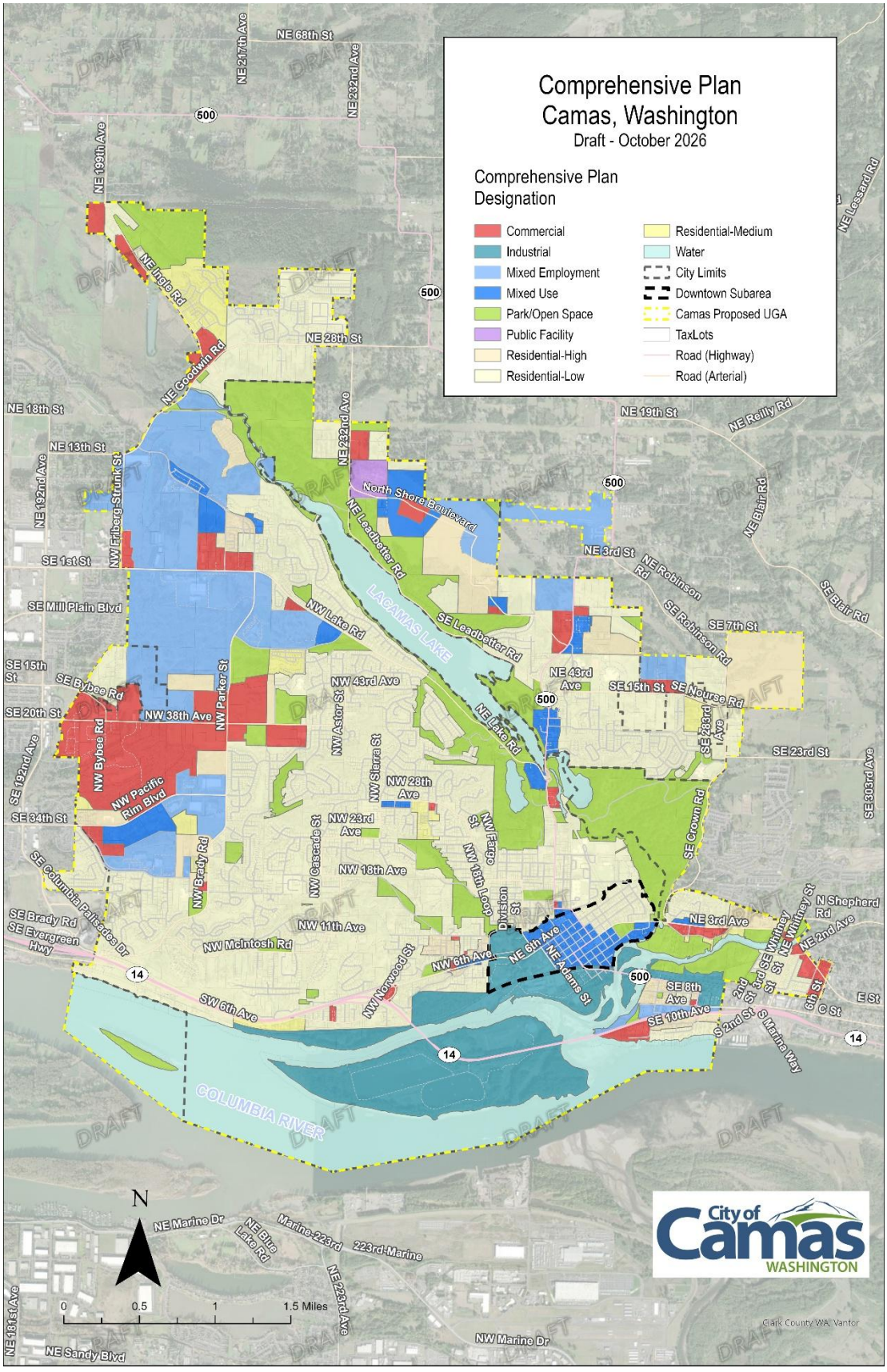
The Design Overlay is a new overlay with the 2026 update and replaces the Gateways and Corridors Overlay included in the prior plan. The Design Overlay generally applies to the following locations. The specific extents of the overlay are included on the Camas Zoning Map.



- NW 6th Avenue
- NE 3rd Avenue
- NE Everett Street
- NW 38th Avenue
- NW Lake Road
- Green Mountain – NW Goodwin Road
- NW Brady Road
- SE Union Street
- NW Parker Street

The Design Overlay is intended to enhance the walkability, pedestrian experience, and design of the corridors it covers. Development/redevelopment within a designated Design Overlay must adhere to the Design Overlay goals and policies included in this element. See Goal LU-6 and Policies LU-6.1 – 6.7.

Figure 1 Comprehensive Plan Map



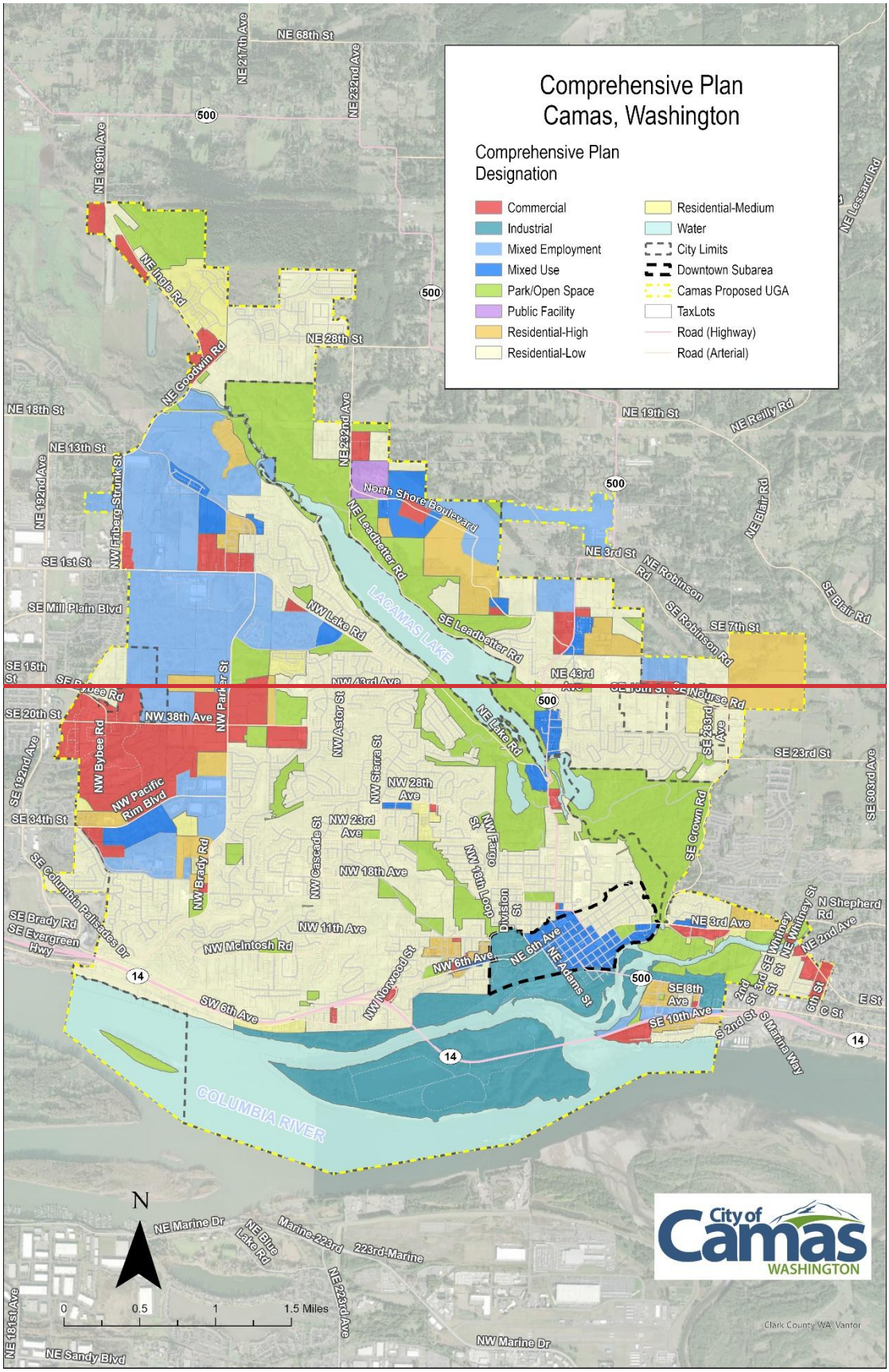
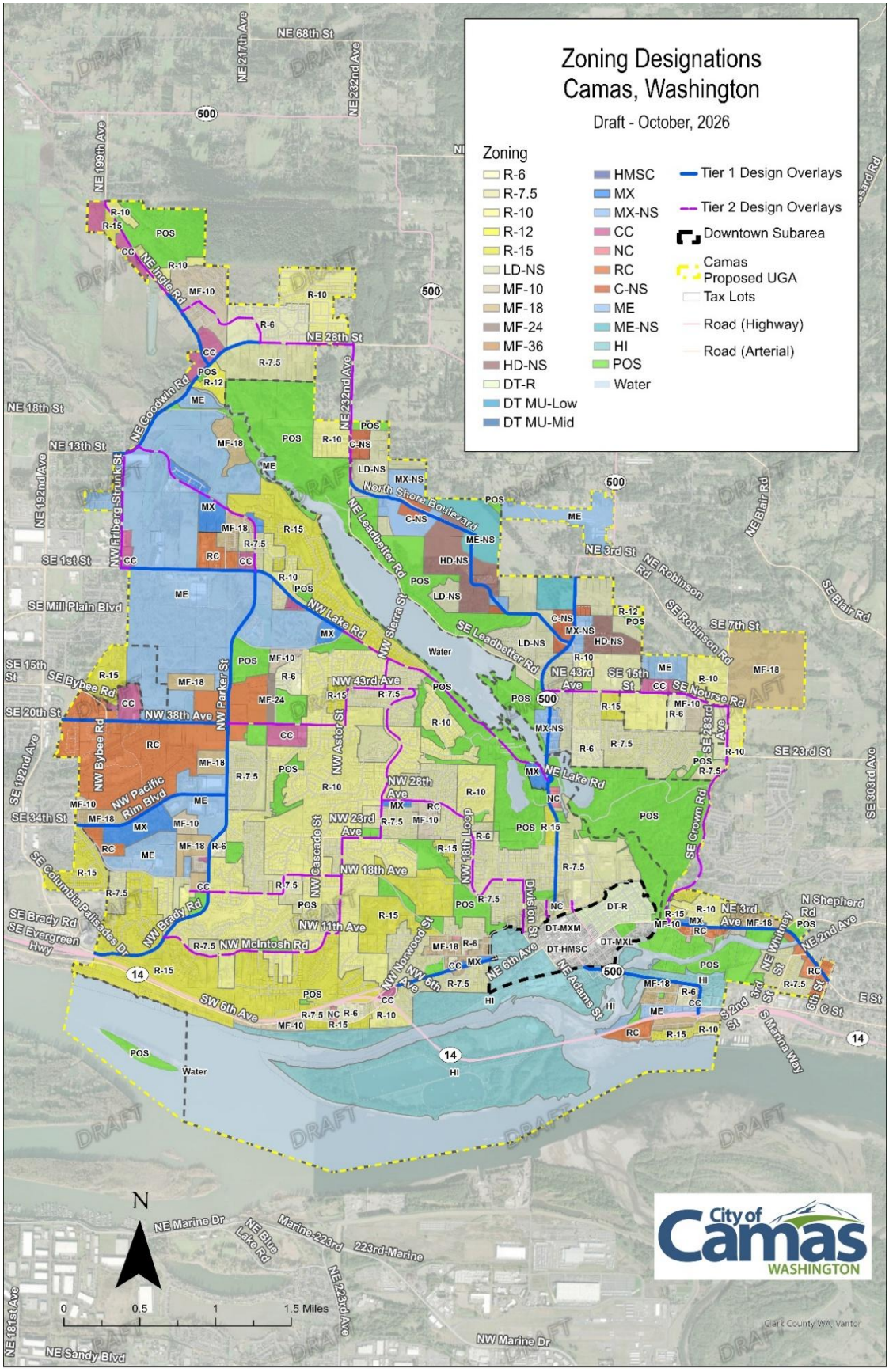
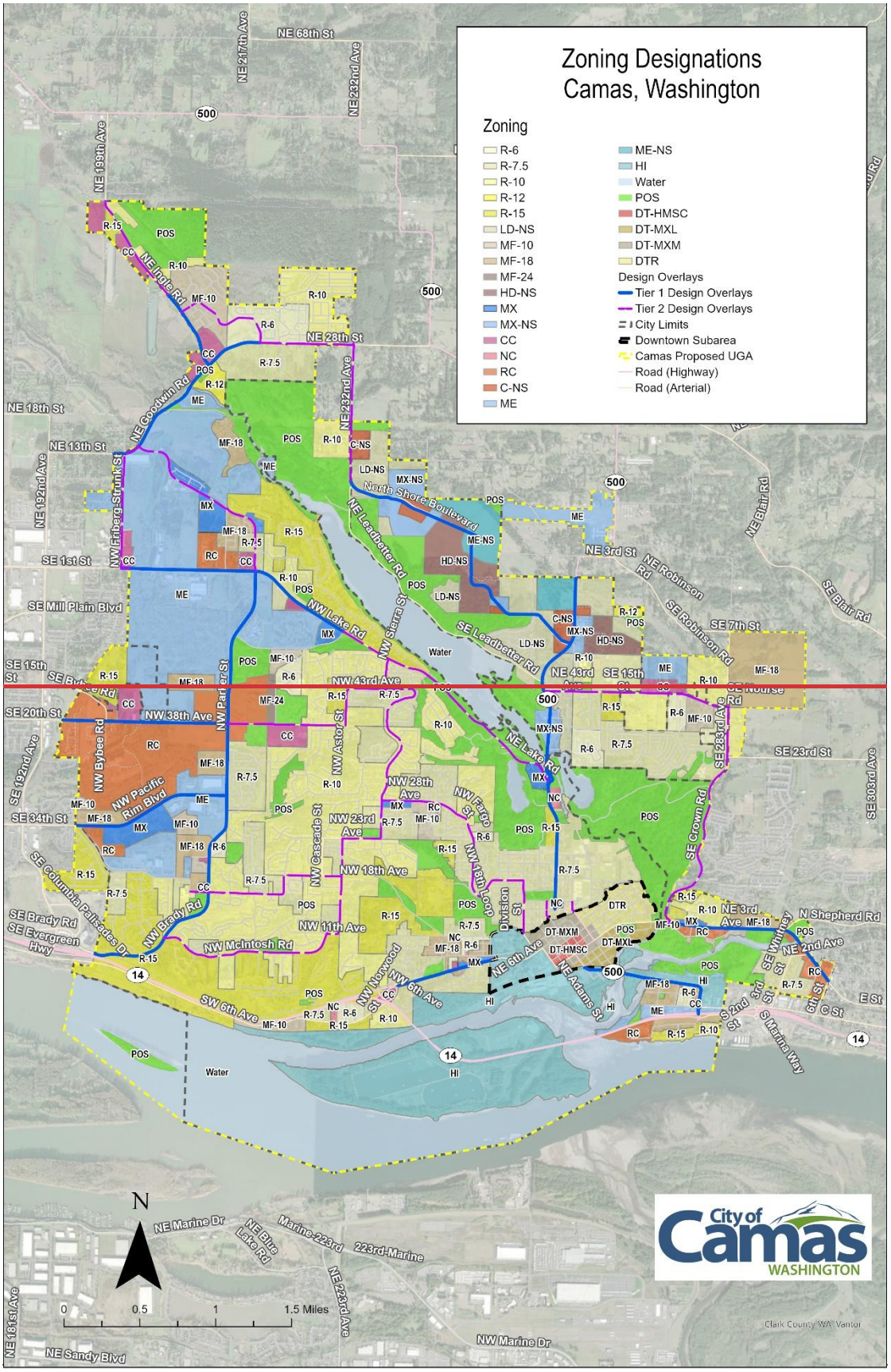

Comprehensive Plan
Camas, Washington
Comprehensive Plan Designation
Commercial
Industrial
Mixed Employment
Mixed Use
Park/Open Space
Public Facility
Residential-High
Residential-Low
Residential-Medium
Water
City Limits
Downtown Subarea
Camas Proposed UGA
TaxLots
Road (Highway)
Road (Arterial)
LACAMAS LAKE
COLUMBIA RIVER
N
0
0.5
1
1.5 Miles
City of Camas
WASHINGTON
Clark County WA Vantor

Figure 2 Zoning Map




Zoning Designations
Camas, Washington
Zoning
R-6
R-7.5
R-10
R-12
R-15
LD-NS
MF-10
MF-18
MF-24
HD-NS
MX
MX-NS
CC
NC
RC
C-NS
ME
ME-NS
HI
Water
POS
DT-HMSC
DT-MXL
DT-MXM
DTR
Design Overlays
Tier 1 Design Overlays
Tier 2 Design Overlays
City Limits
Downtown Subarea
Camas Proposed UGA
Road (Highway)
Road (Arterial)
N
0
0.5
1
1.5 Miles
City of Camas
WASHINGTON
Clark County WA Vantor

Land Use Goals and Policies

Goal LU-1 Citywide Land Use

Maintain a land use pattern that respects the natural environment and existing uses while accommodating a mix of housing and employment opportunities to meet the City's growth projections in coordination with the capital improvement plan.

Policy LU-1.1 Ensure the appropriate mix of commercial, residential, and industrial zoned land accommodates the City's share of the regional population and employment projections for the 20-year planning horizon.

Policy LU-1.2 Coordinate with Clark County, the state, and special districts to identify future needs and site planning for essential public facilities such as airports, state education facilities, state and regional transportation facilities, state and local correctional facilities, solid waste handling facilities, regional parks and others as identified in RCW 36.70A.200. (See policies ED-3.1, 3.2, and 3.3 regarding Grove Field airport, policy TR-2.1 regarding transportation, and policy PFS-4.27 regarding solid waste.)

Policy LU-1.3 Implement design standards for new development, redevelopment, and infill that consider the surrounding built and natural environments and support a natural transition between uses.

Policy LU-1.4 Ensure that park and recreation land is distributed equitably throughout the City and work to achieve park and continuous trail corridors from Green Mountain to the Columbia River. (See policies PFS-2.1 and 2.4 regarding increasing connectivity to natural areas and continuous trail around Lacamas Lake.)

Policy LU-1.5 Ensure adequate public facilities, including roads, emergency services, utilities, and schools, exist to serve new development, and mitigate potential impacts to current residents. Establish and maintain policies for impact fees for new development.

Policy LU-1.6 Ensure consistency with County-wide planning policies.

Policy LU-1.7 Evaluate and improve design and building standards for new and redeveloped sites in high-risk natural hazard areas.

Policy LU-1.8 Incorporate sustainable and low climate impact design into development codes and standards.

Policy LU-1.9 Encourage high density concentrations of housing, commercial, and other uses needed in daily life along major transportation corridors to support the reduction in vehicle miles traveled, increase ~~and~~ opportunities ~~to increase~~for

physical activity and limit development in areas vulnerable to wildfire, flood, and landslides.

Policy LU-1.10 Protect the viability of the airport as a significant economic resource to the community by encouraging compatible land uses and densities, and reducing hazards that may endanger the lives and property of the public and aviation users consistent with state laws RCW 36.701A.510 and RCW 36.70547.

Goal LU-2 Employment Land

Create a diversified economy and serve Camas residents, businesses, and tourists by providing sufficient land throughout the City to support a variety of business types and employment opportunities.

Policy LU-2.1 Protect employment land to ensure an adequate supply of commercial and industrial land to meet 20-year employment projections. Encourage a balance of new and existing commercial, light industrial, knowledge-based business, medical, and high-tech uses.



Policy LU-2.2 Encourage mixed-use developments (residential and commercial) that support adjacent uses, reduce vehicle miles traveled, and balance job creation.

Policy LU-2.3 Implement development and landscaping standards to ensure industrial development and other employment lands integrate with the surrounding neighborhoods.

Policy LU-2.4 Support the transition of industrial brownfield sites to mixed-use development. Ensure that residential components are designed and located to not interfere with continuing industrial operations.

Goal LU-3 Neighborhoods



Create vibrant, stable, and livable neighborhoods with a variety of housing choices that meet all stages in the life cycle and the range of affordability.

Policy LU-3.1 Encourage connectivity between neighborhoods and adjoining natural areas and trails to increase access to recreation amenities. (See policies PFS-2.1 and 2.2)

Policy LU-3.2 Discourage exclusive neighborhoods, privacy walls, and gated communities.

Policy LU-3.3 Provide commercial zoning within a half mile of residential areas for the development of food retailers (grocery stores and farmers' markets) to improve food access.

Goal LU-4 Natural Environment

Develop an interconnected network of parks, trails, and open space to enhance the quality of life for Camas residents and visitors and support and preserve wildlife corridors and natural resources.

Policy LU-4.1 Maintain development regulations that encourage the preservation of trees and natural areas, including the use of density bonuses and other tools to protect sensitive areas and encourage tree replacement. (See policy NE-4.1)

Policy LU-4.2 Support the purchase and preservation of open space by the City and private owners. Encourage careful consideration and integration of the natural environment in planning activities to maintain the park-like setting of Camas.

Policy LU-4.3 Encourage connectivity and increase access to regional trails throughout the City to support multi-modal transportation and physical activity. (See policies PFS-2.1)

Policy LU-4.4 Protect the quality and quantity of groundwater used for public water supplies through conservation of water usage and treatment of runoff.

Goal LU-5 Mixed-Use Areas

Foster economically and socially diverse mixed-use neighborhoods that meet the multi-modal transportation, housing, employment, education, recreation, and health needs of the community.

Policy LU-5.1 Mixed-use developments should be unique to the area in which they are located, encourage small business development, provide a mix of housing

types to ensure affordability, increase pedestrian and transit connections, and include design that is sensitive to the natural environment.

Policy LU-5.2 Develop mixed-use areas that are oriented to the public street and scaled and designed to integrate with surrounding land uses.

Policy LU-5.3 Create a mixed-use zone that requires developments to include a minimum percentage of commercial space in both vertical and horizontal mixed-use settings.



Goal LU-6 Design Overlay Areas

Create attractive and welcoming areas in the City and distinguish Camas from adjacent jurisdictions through the development of design overlays.

Policy LU-6.1 Encourage development and redevelopment along the design overlay corridors that respects the historic character of the areas, improves pedestrian mobility/safety, and supports small-scale retail and commercial services.

Policy LU-6.2 Encourage development of commercial uses and multi-family residential within the NE 6th Avenue and NE 3rd Avenue design overlay corridors to support downtown businesses (such as through the Downtown subarea plan). Consider rezoning low-density residential land to support the downtown area.

Policy LU-6.3 Orient building entrances toward the street and provide pedestrian connections from building entrances to the sidewalk. Encourage landscaping, rather than parking, between the building and the street to create a welcoming streetscape.

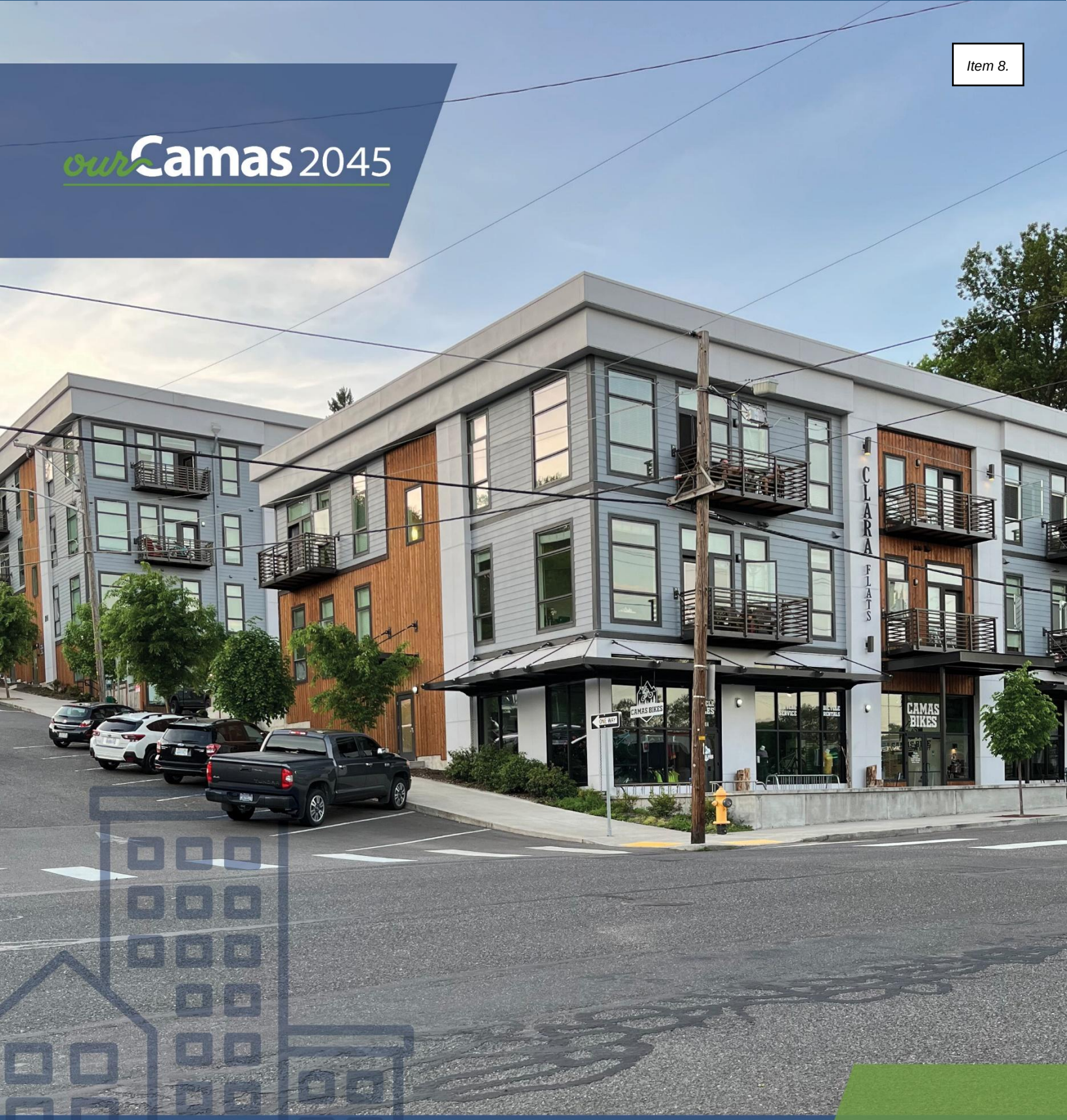
Policy LU-6.4 Collaborate with partners to support community events, public art, and infrastructure investments that celebrate cultural heritage, provide community amenities, and strengthen community branding. Develop area identities through events, festivals, signage, and other improvements that help establish or enhance existing character within the overlay areas.

Policy LU-6.5 Encourage the designation and development of design overlay features in strategic areas to create a distinct pedestrian scale identity and attract visitors.

Policy LU-6.6 Identify streets in the design overlay areas as public places to encourage pedestrian and bicycle mobility and to reinforce the connection between the corridors and the surrounding neighborhoods.

Policy LU-6.7 Improve and increase wayfinding signage in design overlay areas to nearby recreational and other amenities.

ourCamas 2045



Housing

05

05. Housing

Vision

In the year 2045, residents of Camas continue to appreciate their safe, diverse, and welcoming community. Those raised in Camas will return for living-wage jobs and to ultimately retire here. Camas is a well-planned and connected city where residents enjoy pedestrian and bicycle paths between neighborhoods and to downtown. Camas provides a wide variety of housing options that meets the needs of all residents and provides a range of housing for all ages, abilities, needs, preferences, and income levels.

Background

This element of the comprehensive plan sets out the vision, goals, and policies to address current and projected housing needs for the next 20 years (to 2045), inclusive of the diverse needs of the whole community across the income spectrum. Camas is facing housing challenges that could benefit from improved access to more housing options including more housing for seniors and young adults, smaller housing, more rental units, and affordable homeownership opportunities, all of which the City can have a role in supporting.

The housing element is supported by a housing needs assessment (provided below) that quantifies existing housing stock and projected housing needed to accommodate projected growth. Housing analysis is an important exercise as the housing needs in Camas tend to continually evolve based on changes in the broader economy, local demographics, and the regulatory environment. In addition to an assessment of housing needs based on the best available existing data, the housing element goals and policies reflect community input, state legislative requirements, and City of Camas' priorities.

The following section provides background on the planning framework and highlights the analytical findings associated with current and projected housing including details on Camas' community demographics, housing stock, housing market dynamics, expected housing demand, and special housing needs. The insights from this analysis help to build a factual basis for the housing policy updates.

Housing Challenges

Camas is facing housing challenges that could benefit from improved access to more housing options including more housing for seniors and young adults, smaller housing, more rental units, and affordable homeownership opportunities, all of which the City can have a role in supporting.

Planning Framework

In Clark County, RCW 36.70A.040 requires all cities to "fully plan" for the Elements of a Comprehensive Plan, including land use, housing, capital facilities, utilities, transportation, and climate change.[1] The current update process is part of a periodic update also required by the Growth Management Act (GMA), as part of an established schedule by the County.

At the state level, the GMA requires local jurisdictions to adopt Housing Elements that are consistent with statewide goals and objectives. The Housing Element must include an inventory and analysis of existing and projected housing needs that identifies the number of housing units by income level necessary to manage projected growth including permanent supportive and emergency housing.

Recent state legislation calls for cities to expand middle housing allowances in single family residential zones (HB 1110) and support Accessory Dwelling Unit development (HB 1337). These changes require cities to allow up to two Accessory Dwelling Units (ADUs) on all lots zoned to allow single-family homes. In addition, via HB 1220, the Washington State Department of Commerce instructed local governments to "plan for and accommodate" housing affordable to all income levels. Additionally, HB 1220 requires cities to examine racially disparate impacts, displacement, exclusion and displacement risk in housing policies and regulations as well as adopt policies that will begin to undo those impacts.

Middle housing policy in WA

'Middle housing' refers to moderate-density housing types between single-family detached homes and larger multifamily housing. HB 1110 became effective in July 2023 and requires that designated Growth Management Act (GMA) planning cities in Washington must allow certain minimum densities for middle housing within 6 months after their periodic update due date.

Camas is counted as a Tier 2 city under this policy, which must allow for 2 dwelling units per lot or higher in predominantly residential zones, as well as 4 dwelling units per lot within a quarter mile of major transit stops and for affordable housing (ESHB 1110, Sec. 3(1)(c)).

The Housing Accountability Act (HAA, also referred to as HB 2266, passed in 2025) promotes accountability in local housing planning by creating an approval process for local government Housing Elements and housing regulations. In 2026, HB 2266 clarified local regulation governing emergency shelters, transitional housing, emergency housing, and permanent supportive housing (or STEP housing). The new state law specifies that jurisdictions may not impose conditions on STEP uses that are more restrictive than those

[1] The GMA includes other optional Elements for economic development, parks and recreation, conservation, energy, sub areas, and ports.

applied to comparable residential development or lodging uses. These changes reinforce the state's expectation that local governments support a full range of housing opportunities.

HB1998 requires cities to allow co-living housing as a permitted use on any lot located within an urban growth area that allows at least six multifamily residential units, including on a lot zoned for mixed-use development. In 2026, HB1859 updated the density bonus law for religious properties. Cities must allow an increased density bonus consistent with local needs for any affordable housing development of any single-family or multifamily residence located on property owned or controlled by a religious organization.

The Parking Reform and Modernization Act (SB5184) established conditions to maximum parking caps as well as elimination of parking minimums in specific circumstances.





The Clark County Countywide Planning Policies provide helpful guidance on the Comprehensive Plan update. Clark County updated its Comprehensive Plan and Countywide Planning Policies in 2026. See Clark County's Comprehensive Growth Management Plan website for the draft Clark County Countywide Planning Policies.

Lastly, the City of Camas completed its Housing Action Plan (HAP) in 2021 (Appendix B), including a housing needs assessment and a thorough community engagement process focused on learning about housing experiences and identifying ways to meet housing needs and overcome core challenges. The engagement included two virtual public meetings, seven focus groups and interviews, a housing survey with over 300 responses, a project website, and written public comments. Key findings helped to shape the updates to the Camas Housing Element.

Community Engagement

The project team held interactive open houses and interviewed stakeholders to learn about housing challenges, opportunities, and actions. Engagement activities identified the following themes that could contribute to future decision-making related to housing in Camas.

COMMUNITY FEEDBACK

- **Need diverse residential options that cater to different life stages.**
- **Maintain Camas' character by integrating small-town charm in mixed use developments.**
- **Ensure workforce housing is available for current and future workers.**
- **Incentivize housing development through zoning, taxes and fees, and partnerships.**
- **Partner with affordable housing developers to build affordable housing.**
- **Desire for more dense housing options, especially Downtown.**
- **Require large developments to dedicate a portion of lots or units for middle housing or ADUs as part of subdivision approval.**
- **Offer financial assistance or programs to rehabilitate and repair existing housing stock.**
- **Invest in existing neighborhoods to improve safety, accessibility, and livability while preserving neighborhood character.**

Housing Action Plan

The City of Camas completed its Housing Action Plan (HAP) in 2021 (Appendix B), including a housing needs assessment and a thorough community engagement process focused on learning about housing experiences and identifying ways to meet housing needs and overcome core challenges. The engagement included two virtual public meetings, seven focus groups and interviews, a housing survey with over 300 responses, a project website, and written public comments. Key findings about community priorities and HAP goals and strategies are summarized below.

HAP Goals

- **Develop Housing to Accommodate Growth.** Thoughtful changes to Camas' zoning and development regulations can allow the City to better accommodate projected growth.
- **Diversify the Mix.** A greater variety of housing types can better serve young families, small households, seniors, people with disabilities, and people with diverse incomes.
- **Increase Housing Affordability.** Young families, seniors, and people who work in Camas may have difficulty finding affordable housing in Camas.
- **Preserve Existing Affordable Housing.** Camas should adopt strategies to preserve its existing affordable housing and prevent the displacement of residents. Community members noted concern for preserving existing affordable housing, particularly smaller single-family properties, in older neighborhoods near Downtown.

Table 2 Housing Action Plan Goals and Strategies

	Develop Housing	Diversify Housing Mix	Increase Housing Affordability	Preserve Affordable Housing
Strategy 1: Expand housing opportunities in mixed use and downtown commercial districts.	X	X		
Strategy 2: Consider making targeted rezones during Comprehensive Plan updates.	X			
Strategy 3: Diversity allowed housing types and update related lot and dimensional standards.	X	X	X	
Strategy 4: Focus on key areas with residential development or redevelopment potential. Expand more mixed-use areas throughout the city.	X	X		
Strategy 5: Continue community conversations around housing and housing for all.	X	X	X	X

Strategy 6: Communicate available affordable housing resources.			X	
Strategy 7: Build partnership to develop and preserve affordable housing for individuals, families and seniors. Explore expansion of the MFTE program.			X	X
Strategy 8: Explore funding source and cost reduction options for affordable housing.	X	X	X	X

Housing Targets

Planning for future housing demand is critical to ensure that the City can meet demand driven by population growth. This section summarizes projected future housing demand for Camas to provide context for the City's housing policies.

Population and Housing Allocations

Table 3 below demonstrates the City of Camas and Clark County's anticipated population forecast between 2023 and 2045. Since 2000, Camas has grown at a faster rate than the County overall with an Average Annual Growth Rate (AAGR) of 5.2% in the City (including annexations), compared to the County's AAGR of 2.4% (Appendix C, Housing Analysis). However, the County's estimates assume a slower growth scenario for the City in the next 22 years. With this assumption, new population growth in Camas is estimated to comprise 4.05% of growth in Clark County overall.

The population growth forecast indicates that the City of Camas will make up 4.05 percent of new growth population in Clark County between 2023 and 2045 with an AAGR of 1.2% in the City. The County's methodology also acknowledges Washington State Department of Commerce's HAPT estimates for current housing supply in Camas and allocates a number of net new units for the Urban Growth Area(s).

Housing Allocations

In 2021, HB 1220 created a new way that communities in the state are required to plan for housing needs. This legislation requires that jurisdictions plan for sufficient land capacity for housing needs, including all economic segments of the population (moderate, low, very low and extremely low income, as well as emergency housing and permanent supportive housing).

- Since 2000, the City of Camas had an average annual growth rate of 221 new housing units per year.
- Comparatively, the City will need to add an average of 195 new housing units per year between 2024 and 2045 to reach its allocation of net new units.
-

Table 3 Population Growth Forecast, Camas and Clark County, 2023 to 2045

Source: Clark County Interim Population Allocations and Clark County Comprehensive Plan 2025 Update, 2025 Population, Housing, and Employment Allocation – Issue Paper 5.

Jurisdiction	2023 Est. Population	Vacant Buildable Land Model Percent Capacity	2023-2045 Growth	2045 Estimate	Change (percent)	AAGR
City of Camas	**29,352**	**4.26%**	**7,729** ***(4.05% of total growth)***	**37,080**	**26%**	**1.2%**
Clark County	527,400	100%	190,754 *(100% of total growth)*	718,154	36%	1.6%

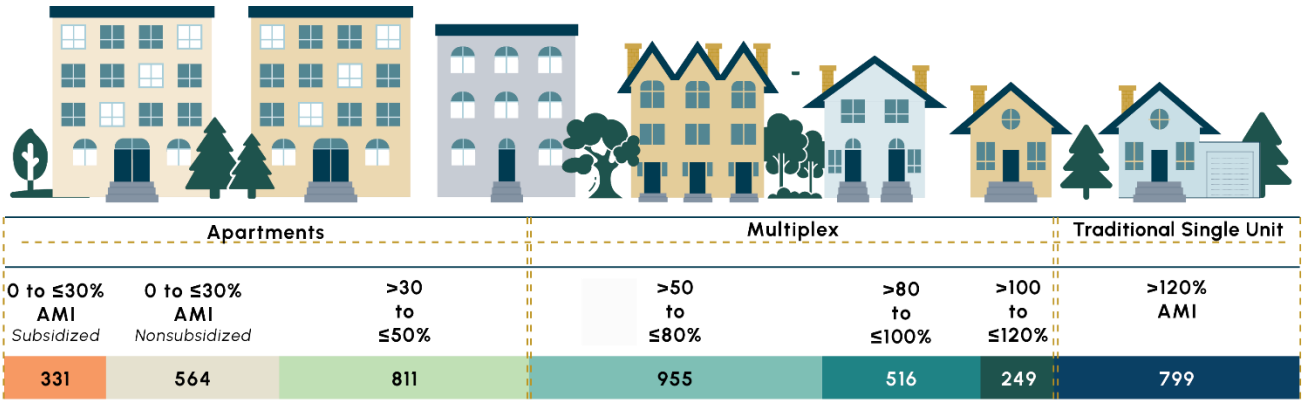
In May 2024, Clark County adopted housing allocations for jurisdictions located within county boundaries. In total, this shows an estimated 4,226 housing units needed by 2045 in the City of Camas and UGA(s).[2] The City would add about 311 new units to meet the new permanent

[2] The Washington State Department of Commerce Housing for All Planning Tool (HAPT) provides two allocation methods for determining the share of a County's housing supply to be met by jurisdictions. Method A assumes all housing needs will be accommodated through new housing

supportive housing target and 1,766 units affordable to low-income households below 80% of AMI by 2045. Camas currently has 143 units of housing affordable for households at or below 30% of AMI that are not Permanently Supportive Housing (PSH)[3] and 14 emergency units[4] according to the HAPT estimate. With this allocation, the City will need to accommodate 172 new units of temporary emergency housing by 2045.[5]

Figure 3 Housing Unit Allocations by Income, Camas and its UGA, 2024-2045

Source: Washington State Department of Commerce HAPT, Clark County Interim Housing Allocations, City of Camas
Note: Current supply includes both the estimate from the HAPT with the addition of 599 additional units since its calibration in 2020.



4,226 new homes will be needed over the next 20 years in the City of Camas

In addition, there will also need to be:
172 Emergency housing beds (temporary housing)

production. Method B assumes all jurisdictions will accommodate equivalent shares of the total countywide housing need at each income level, proportional to their size, in the projection year. Clark County elected to use a hybrid method of 75/25 for Camas.

[3] Permanent Supportive Housing is defined as: "subsidized, leased housing with no limit on length of stay that prioritizes people who need comprehensive support services to retain tenancy and utilizes admissions practices designed to use lower barriers to entry than would be typical for other subsidized or unsubsidized rental housing, especially related to rental history, criminal history, and personal behaviors" Washington RCW 36.70A.030(31).

[4] Temporary emergency housing is defined as: "temporary indoor accommodations for individuals or families who are homeless or at imminent risk of becoming homeless that is intended to address the basic health, food, clothing, and personal hygiene needs of individuals or families. Emergency housing may or may not require occupants to enter into a lease or an occupancy agreement." – Washington RCW 36.70A.030(14).

[5] Clark County's interim allocations do not include designated temporary emergency housing units at the City level. Estimates in this section for the City of Camas are derived directly from the Department of Commerce HAPT tool.

Table 4 Housing Units Needed

	0-30% AMI		>30-50% AMI	>50-80% AMI	>80-100% AMI	>100-120% AMI	>120% AMI	Total	Emergency housing beds
	Non-PSH	PSH							
2024: Current Housing Supply Estimate	143	0	458	1,874	1,182	1,965	4,201	**9,832**	14
2024-2045: New Housing Unit Needed for the Allocation	**564**	**331**	**811**	**955**	**516**	**249**	**799**	**4,226**	172
2045: Total Target Supply	707	331	1,269	2,829	1,698	2,214	5,000	**14,058**	186

Housing Choice and Affordability

Housing affordability and a diversity of housing options were a consistent theme in community engagement. There are a variety of barriers to meeting the housing needs of the whole community. These barriers include:

- Lack of variety of housing types to serve young families, small households, seniors, people with disabilities, and people with diverse incomes. Since 2015, 70% of housing permits were for single detached housing.
- Rising housing costs. The median home sale price in 2023 was $704,000, an increase of 119% since 2013.
- Lack of strategies to preserve existing affordable housing and prevent displacement of residents.
- Strict, inflexible code provisions can prevent the development of affordable housing. Building height restrictions and fees prevent economic feasibility of apartment buildings.
- Lack of incentives through zoning, taxes, and fees to build affordable housing and mixed use buildings.
- Permitting of affordable housing can involve long and uncertain timelines that add risk and costly delays.
- Lack of funding to help build low income housing.

In order to develop housing that is affordable to a wider range of incomes, the City will pursue several pathways to meet this goal. One way to develop more housing that is affordable to households earning 50-100% AMI is to increase the density of housing in neighborhoods with access to schools, jobs and other amenities. The updated land use map and zoning map

incorporate more medium and high density residential and mixed uses throughout the city to address this issue. Despite these changes to the land use map, s~~S~~ingle-family zoning largely ~~, which~~ dominates most residential areas throughout the City and~~y,~~ can contribute to housing unaffordability by limiting most residential land to detached homes on individual lots and prohibiting more space-efficient housing types such as duplexes, triplexes, townhomes, and apartment buildings. By restricting the number of homes that can be built in desirable neighborhoods, these regulations constrain housing supply even as population and demand grow. The limited supply of homes increases competition for available housing, driving up land values, home prices, and rents. Single-family zoning can also encourage larger lot sizes and lower-density development, which increases infrastructure and land costs per household. As a result, many households, including first-time homebuyers, renters, and lower- and middle-income residents face fewer affordable housing options and may be priced out of neighborhoods with access to jobs, schools, and services. By allowing medium and higher density residential development in Camas, more lower cost housing options may be available.

~~Past housing policies were analyzed to consider potential disproportionate impacts that limited the development of housing affordable to lower- and middle-income families. The policies of this plan aim to provide a greater diversity of housing choices throughout Camas.~~

Approximately 40% of new housing units needed will need to be affordable to households at or below 50% AMI. This type of housing typically requires public subsidy in order to make development feasible. The State has not allocated funding to cities to support development of units affordable at this level. This plan includes policies to facilitate the permitting process for developing housing that is affordable to a wider range of incomes as well as to pursue funding that directly supports development of affordable housing. Potential sources of funding include Federal grants from the Department of Housing and Urban Development, state funding opportunities through tax exemption programs like the Multifamily Tax Exemption incentive, and local options such as waiving impact fees and deferral of construction sales tax.

The Comprehensive Plan includes policies to facilitate the permitting process for developing housing that is affordable to a wider range of incomes as well as to pursue funding that directly supports development of affordable housing.

Analysis of housing price data and land capacity below demonstrates the availability of land to meet housing needs. Table 5 lists the level of affordability anticipated to be achieved within each zone based on an analysis of housing prices.

Table 5 Affordability Level and Housing Type by Zoning Designation

Zoning Designation	Typical Housing Types Allowed	Assumed Affordability Level of Capacity Analysis
North Shore Higher Density (HD-NS)	Duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts, small-scale apartments (wood frame), garden-style apartments, and apartments (podium)	High income (100% AMI - >120% AMI)
North Shore Lower Density (LD-NS)	Single-family (attached/detached), duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts	High income (100% AMI - >120% AMI)
Residential 6 (R-6)	Single-family (attached/detached), duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts	High income (100% AMI - >120% AMI)
Residential 7.5 (R-7.5)	Single-family (attached/detached), duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts	High income (100% AMI - >120% AMI)
Residential 10 (R-10)	Duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts	High income (100% AMI - >120% AMI)
Residential 12 (R-12)	Duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts and small-scale apartments (wood frame)	High income (100% AMI - >120% AMI)
Residential 15 (R-15)	Duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts and small-scale apartments (wood frame)	High income (100% AMI - >120% AMI)
Downtown Residential (R-DT)	Duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts and small-scale apartments (wood frame)	Moderate income (>80% AMI - >120% AMI)
Multi-Family 18 (MF-18)	Duplexes, triplexes, quadplexes, 5-6 unit buildings, townhouses and cottage courts and small-scale apartments (wood frame), garden-style apartments	Low to moderate income (<50% AMI – 80% AMI)
Multi-Family 24 (MF-24)	Garden-style apartments and apartments (podium)	Low to moderate income (<50% AMI – 80% AMI)

Zoning Designation	Typical Housing Types Allowed	Assumed Affordability Level of Capacity Analysis
ADUs (All zone categories)	Accessory dwelling units (ADUs) on developed residential lots	Low to moderate income (<50% AMI – 80% AMI)
Downtown Mixed-Use Low Rise (MX-LR)	Mixed-use (wood frame)	Moderate income (>80% AMI - >120% AMI)
Downtown Mixed-Use Mid Rise (MX-MR)	Mixed-use (podium)	Moderate income (>80% AMI - >120% AMI)
Downtown Historic Main Street Core (HMSC)	Mixed-use (podium)	Moderate income (>80% AMI - >120% AMI)
Mixed Use (MX)	Mixed-use (wood frame), mixed-use (podium)	Moderate income (>80% AMI - >120% AMI)
North Shore Mixed-Use (MX-NS)	Mixed-use (podium)	High income (100% AMI - >120% AMI)

While the land use and zoning updates meet the City's need for housing, financial subsidies will be necessary to meet housing needs for 0-80% AMI levels. In order to build below market rate housing, annual subsidies from various sources are necessary. The goals and policies in this chapter look to pursue partnerships and funding to support development of more affordable housing in a coordinated way in Camas.

Emergency housing, emergency shelters, and transitional housing are allowed uses by right in all zones across the city that allow residential and lodging uses. There is a need for an additional 172 emergency shelter beds by 2045. The goals and policies of this chapter support coordinated efforts and development of an affordable housing strategy to build these housing types in Camas. Table 6 summarizes the total unit capacity by zoning designation where emergency housing, emergency shelters, and transitional housing are allowed. The City currently has no permanently supportive housing (PSH) and a goal to add 331 PSH units by 2045. PSH should be in central areas with access to community and transit services. Addressing this gap should be a key priority for the affordable housing strategy.

Table 6 Zoned Capacity for Emergency Housing and Shelters by Zoning Designation

Zoning Designation	Unit Capacity
North Shore Higher Density (HD-NS)	848
North Shore Lower Density (LD-NS)	203
Residential 6 (R-6)	269
Residential 7.5 (R-7.5)	310
Residential 10 (R-10)	363
Residential 12 (R-12)	30
Residential 15 (R-15)	39
Downtown Residential (R-DT)	39
Multi-Family 10 (MF-10)	503
Multi-Family 18 (MF-18)	1,015
Multi-Family 24 (MF-24)	282
Downtown Mixed-Use Low Rise (MX-LR)	23
Downtown Mixed-Use Mid Rise (MX-MR)	566
Historic Main Street Core (HMSC)	24
Mixed Use (MX)	1,179
North Shore Mixed-Use (MX-NS)	790
Total Housing Unit Capacity	**6,480**

Disproportional Impacts and Displacement

Past housing policies were analyzed to consider potential disproportionate impacts that limited the development of housing affordable to lower- and middle-income families. The goals and policies of this plan aim to provide a greater diversity of housing choices throughout Camas. Additional analysis of previous housing programs and policies that had racially disparate impacts, impacted displacement and resulted in exclusion in housing access is provided in Appendix D, Racially Disparate Impacts Memo. The goals and policies of this chapter and throughout this plan aim to remove barriers to accessing housing as well as mitigate the risk of displacement.

Camas has an overall relatively low risk for residential displacement, as demonstrated in the Displacement Risk Map developed by the Department of Commerce. One area at high risk for displacement is downtown and the neighborhoods directly south and east of downtown. Additionally, a section on the west side of the City is at moderate risk for displacement. Goals and policies within this plan aim to reduce the risk of displacement citywide.

Residential Capacity

Residential capacity is generally defined as the amount of existing housing units plus new housing a city can accommodate based on city zoning regulations (e.g., residential density requirements in the zoning code) and land available for new development. Residential capacity relates to residential growth allocations in a number of ways. Evaluating residential growth capacity is necessary to determine whether the housing growth allocation (determined by the county) can be accommodated within the City of Camas and its UGA. Sufficient capacity is available if residential growth capacity is equal to or greater than the City's allocation. If sufficient capacity is not available, the shortfall must be addressed by rezoning, or revising allowable density, or by modifying or creating a new UGA or annexed area to provide additional area for residential growth capacity. The Vacant Buildable Lands Model (VBLM) for Clark County provided a basis for the available housing capacity in the City of Camas based on available buildable land (including both vacant and underutilized land) and current zoning. The existing zoning and UGA showed insufficient housing capacity.

The City of Camas is proposing zoning modifications that would allow for more residential capacity. According to the housing capacity estimates as detailed in Appendix ~~D~~E, Housing Needs and Land Capacity Analysis, Camas would have capacity for 6,480 housing units. This would result in a surplus over the 2045 housing target of 4,226 housing units (2,254 capacity surplus). Results (summarized below and in Table 7) from the updated capacity analysis show sufficient residential growth capacity to meet the 2045 housing target.

Table 7 Housing Capacity by Income Level

Income Level (% AMI)	Allocated Housing Need	Comp Plan Designation Serving These Needs	Aggregated Housing Need	Total Capacity	Capacity Surplus
0-30% AMI (PSH)	331	MF-10, MF-18 and MF-24	2,661	3,402	741
0-30% AMI (Other)	564				
>30-50% AMI	811				
>50-80% AMI	955				
>80-100% AMI	516	HD-NS, R-6, R-DT, DTMU-L, DTMU- Mid, HMSC, and MX	765	2,134	1,369
>100-120% AMI	249				
>120% AMI	799	HD-NS, LD-NS, R-6, R-7.5, R-10, R-12, R-15, and MX-NS	799	944	145
Total	**4,226**		**4,226**	**6,480**	**2,254**

Summary of Housing Analysis Findings

A summary of key findings from the housing data analysis is provided below to help describe key insights to inform Comprehensive Plan policy updates (Appendix C provides the full findings).

Community Demographic Trends

- **Since 2000, Camas has grown at a faster rate than Clark County or Washington State overall, more than doubling in size by 2023 from 12,462 to 27,420 persons.** As population increases, the demand for housing also rises and affects planning.
- **In terms of land, Camas has expanded incrementally over time through annexations.** In the 2000's and early 2010's, the City added large new areas on the north side of Lacamas Lake, with a large portion of this area zoned for multifamily housing alongside employment and commercial areas.
- **Camas is becoming a more diverse community.** The share of people of color increased from 13% in 2012 to 24% in 2022 and is slightly more diverse than the county (21% were people of color in 2022). This may indicate that displacement in Camas is at a lower risk.
- **Camas is seeing a larger share of couples and families with children (39%) and has a higher share of both groups than the County or State (24%, 22%, respectively).** The City also had a larger median household size (almost 3 persons) compared to the county (2.65 persons).
- **Median household income in Camas is higher than both Clark County and the state at $133,000 in 2022.** Adjusting for inflation, median income in the City still increased by 31 percentage points since 2012 which is primarily due to growth in high-income households earning over $100,000 per year.[6]
- **Four out of five households in Camas owned their homes in 2018-2022, at a higher rate than either Clark County or Washington.** The share of renter households stayed the same in Camas since 2012, showing less than a 1% increase over this time period.

» **County-level trends indicate that homeownership disparities exist for some groups by race and ethnicity in Clark County,** with households who are Black or African American, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, Hispanic or Latino, or mixed/other races having lower rates of homeownership. This may be indicative of past policies that had a racially disparate impact on homeownership.

[6] The median income in Camas is above the area median income (AMI) for 2023. HUD determined the AMI to be $114,400 for a family of four in the Portland-Vancouver-Hillsboro, OR-WA MSA (including Camas). This is lower than median income in Camas itself which was $133,000 in 2022 (Exhibit 14) and has been consistently lower than the City over time.

- **At the County level, income levels also vary by race and ethnicity.** Households who were Black or African American, Native Hawaiian or Pacific Islander, Hispanic or Latino, two or more races, or another race had lower median household incomes than the overall average.

» **Overall levels of housing cost burden are decreasing, but more renters and low-income households experience higher rates.** Around 24% of all Camas households experienced cost burden (2022) with a higher share of renter households experienced cost burden compared to homeowners and with 100% of households earning less than $20,000 experienced severe cost burden (paying at least half of their monthly income towards housing). Although cost burden is generally lower for homeowners, more people of color in Camas who own their homes experience cost burden compared to white, non-Hispanic homeowners, another indicator or potential racially disparate impacts from prior policies.

Existing Housing Inventory

- **Camas has seen growth in their number of housing units in the past two decades,** with a 108% change between 2000 and 2023 (annually this equates with an average of 221 new homes). The City of Camas' growth in housing units was lower than its population change (120%), indicating that the City has not been keeping pace by adding to its supply to meet the rising demand.
- **Camas has steadily low vacancy rates for all housing units in total** (4% in 2022 with little change over the last decade). This level of vacancy is indicative of a healthy housing market with natural rates of turnover; however, the slight decrease could begin to indicate constrained supply of housing.
- **For two-bedroom multifamily units, Camas has seen spikes in vacancy, but these align with new construction trends** which can temporarily raise vacancy rates for newly delivered units but do not indicate long-term vacancy. In 2023, the City saw over 200 new housing units delivered, likely accounting for the fluctuation in vacancies, as well as deliveries in 2017 and 2020.
- **Since 2015, the City has permitted 2,763 new housing units.** Single detached homes have accounted for the largest share (70%) of new permits in the City of Camas, and another 8 percent were made up of attached townhomes. While apartments, condos, and units in mixed-use buildings made up 20 percent of new permits between 2015-2024, middle housing types like duplexes, triplexes, quadplexes, and accessory dwelling units (ADUs) were only 2 percent of all permits.
- **Median home sale prices in Camas has increased over the last ten years,** with Camas' average prices generally remaining higher than the County. In 2023, the average home sale price in the City was **$704,000,** increasing by 119% since 2013 which is more expensive than the average home in the City of Portland (by $196,000) or Clark County (by $173,000).
- **Prices are also increasing quickly in Camas and Clark County for the average 2-bedroom multifamily rental.** The average 2-bedroom apartment rent was over $1,800 in the City and over $1,700 in Clark County (2024 year-to-date), indicating a 35% increase since 2010. Average 2-bedroom multifamily rents in Portland tracked closely with Camas in the 2010's, while rents in Vancouver remained lower (generally following countywide trends).

- **Compared with home sale price and rent increases in Camas, only households earning over 150% or more of AMI would be able to afford the average home in the City as of 2023.** However, the average 2-bedroom apartment is still affordable to households between 50 and 80% AMI in Camas.
- **The City of Camas had 98 units of regulated affordable housing in 6 buildings** according to data from Oregon Metro and the City. Approximately half of these units are affordable respectively for residents between 30-50% of AMI and 50-80% of AMI. The City also has several long-term care residential facilities for older adults providing 135 units.

Future Housing Demand

- **Since 2000, Camas has grown at a faster rate than Clark County overall but is expected to slow based on County estimates for 2045.** The County's projections assume that new population growth in Camas is estimated to grow at an annual rate of 1.2% to account for 4.05% of county growth.
- **County allocations show the need for 4,226 new housing units in Camas by 2045, adding around 211 new housing units per year.**
- **The City would add about 331 new units to meet the new permanent supportive housing target and 1,766 units affordable to low-income households below 80% of AMI by 2045.**
- **Camas residents with disabilities may require additional housing features for accessibility.** Around 8% of residents in Camas had at least one disability (2022), with the most common being cognitive difficulties, followed by ambulatory and vision difficulties. These disabilities can require housing accommodations such as zero-step entryways, ramps, lifts, or other accessibility features.

Housing Goals and Policies

Goal H-1 Citywide Housing

Promote safe, attractive, and vibrant neighborhoods with access to housing, jobs, services, schools, amenities, and healthy active living that meet the needs of all members of the community.

Policy H-1.1 Provide a range of housing choices and options to support all ages and income levels. Provide an adequate supply of land to accommodate the City's housing growth target.

Policy H-1.2 Support low impact development (LID) in residential development that minimizes both impervious areas and site grading to retain the natural contours of the land. LID strategies include conserving native vegetation, narrower streets, stormwater gardens, and other landscape practices that store and filter runoff.

Policy H-1.3 Promote the use of flexible development options (e.g., planned residential developments and development agreements) to create a variety of accessible housing types within new developments.

Policy H-1.4 Require new residential developments to demonstrate how proposed lot, street, and utility layouts can accommodate development of single-story dwellings, duplexes, and attached or detached accessory dwelling units.

Policy H-1.5 Ensure housing in mixed-use buildings (or developments) will complement the commercial and retail portion of the development and increase local living-wage jobs. Amend the municipal code to support mixed-use and middle housing development in the Downtown Subarea and nearby Heavy Industrial areas and near other community hubs.

Policy H-1.6 Support in-fill housing development on vacant or underutilized sites, subject to design review guidelines, that have adequate urban services. Ensure development compatibility with the surrounding neighborhood.

Policy H-1.7 Require all new housing developments to provide a range of housing types and sizes that are evaluated through the land use approval process and stipulated on the final plat.

Policy H-1.8 Support the maintenance, repair, and rehabilitation of Camas' existing housing stock by promoting resources that provide financial and other assistance to community members to maintain or repair health and safety features of their home and avoid displacement.

~~Policy H-1.8~~Policy H-1.9 Develop partnerships with housing agencies such as the Vancouver Housing Authority to establish a home repair program targeted to low and moderate income households and those with disabilities.

~~Policy H-1.9~~Policy H-1.10 Support investment in existing neighborhoods to enhance livability, safety, and accessibility in a way that preserves unique physical character while mitigating displacement.

~~Policy H-1.10~~Policy H-1.11 Develop objective design standards to ensure new development is compatible in scale, architectural style, and landscape composition with existing and planned neighborhoods.

~~Policy H-1.11~~Policy H-1.12 Provide ongoing education and community engagement regarding Camas' housing needs, including available programs and incentives. Provide permit process support to affordable housing developers.

~~Policy H-1.12~~Policy H-1.13 Achieve and sustain the housing targets by income group allocation for Camas as adopted by the Clark County Council. Monitor and assess the City's progress in meeting housing needs at least every five years.

~~Policy H-1.13~~Policy H-1.14 Support and encourage housing legislation at the county, state, and federal levels that promotes and supports the City's housing goals and policies.

Goal H-2 Housing Choice and Affordability

Create a diversified housing stock that meets the needs of all lifestyles and economic segments of the community through new developments, preservation, and collaborative partnerships.

Policy H-2.1 Support and encourage a wide variety of housing types throughout the City to provide choice, diversity, affordability, promote homeownership and mitigate displacement.

Policy H-2.2 Allow emergency shelters, transitional housing, emergency housing, and permanent supportive housing (STEP housing) where comparable residential development or lodging uses are allowed.

Policy H-2.3 Develop an affordable housing strategy to work with partners to secure grants and loans by agencies, private developers, and nonprofit organizations that are tied to the provision of permanent supportive housing, emergency shelter beds, transitional housing, and other housing serving at-risk populations.

Policy H-2.4 Develop partnership with organizations such as Clark County Ending Community Homelessness, Camas-Washougal Community Chest, and St. Vincent de Paul to expand access to transitional housing and shelters.

~~Develop and implement a strategy or action plan to work with partners to secure grants and loans by agencies, private developers, and nonprofit organizations that are tied to the provision of permanent supportive housing, emergency shelter beds, transitional housing, and other housing serving at-risk populations.~~

~~Policy H-2.1~~

~~Policy H-2.2~~Policy H-2.5 Promote the preservation and rehabilitation of the City's existing affordable housing stock of all types, including low-cost rentals and affordable owner-occupied single-family homes, and protection of existing households. Support measures that preserve affordable housing, such as home repair programs with partners to rehabilitate existing housing that serve low to moderate-income households.

Policy H-2.6 Create opportunities for ownership housing in a variety of settings, styles, sizes, and affordability levels throughout Camas.

~~Policy H-2.3~~Policy H-2.7 Establish programs that support access to affordable housing such as down-payment assistance, home buyer education, a community land trust pilot

for low to moderate income units and partnership efforts to create smaller affordable units.

Policy H-2.8 Provide incentives and bonuses for the development of affordable housing, middle housing, and accessory dwelling units. Ensure that any affordable housing built with the support of city incentives or bonuses (including, but not limited to, public funds, through development agreements, incentives, or by regulation) remains affordable for the longest possible term.

~~Policy H-2.4~~Policy H-2.9 Develop pre-approved building plans for middle housing and ADUs in Camas.

~~Policy H-2.5~~Policy H-2.10 ~~Participate in~~Establish a regional housing committee to improve affordable housing planning coordination and acquire funding to provide affordable housing. Develop collaborative partnerships with organizations such as the Vancouver Housing Authority, Evergreen Habitat for Humanity, Columbia Non-Profit Housing, and faith-based organizations~~local and regional public and non-profit housing groups~~ to ensure that affordable housing and supportive services are provided throughout the City.

~~Policy H-2.6~~Policy H-2.11 Encourage and support collaborations between for-profit and non-profit developers to expand affordable housing options.

~~Policy H-2.7~~Policy H-2.12 Evaluate the existing Multifamily Tax Exemption (MFTE) program provisions and participation. Consider changes and expansions to program options and associated costs and benefits that support housing production and affordable housing targets.

Policy H-2.13 Review and update the Camas Municipal Code to be consistent with State guidelines for housing, ~~and~~ residential use, co-living, density bonuses, and parking.

~~Policy H-2.8~~Policy H-2.14 Examine opportunities to reduce or eliminate minimum requirements for off-street automobile parking spaces for residential uses and mixed-use development particularly in areas with regular public transit service, consistent with state law and considering the implementation of a local transportation demand management programs, while maintaining accessibility and temporary and loading zone parking for businesses.

Policy H-2.15 Plan for and accommodate Camas' allocated share of countywide future housing needs for moderate-, low-, very low-, and extremely low-income households as well as manufactured housing, multifamily housing, group homes, foster care facilities, emergency housing, emergency shelters, and permanent supportive housing.

Policy H-2.16 Protect tenant homeowners living in a manufactured community, including but not limited to, implementing specific requirements if a community ownership

is transferred or if a community is closed, including early noticing, options to purchase, and relocation assistance consistent with Washington State law.

Policy H-2.17 Implement anti-displacement strategies in areas with higher risk of displacement of low-to-moderate income housing (such as the areas near Downtown Camas), including but not limited to, acquisition and financing of existing affordable housing and multi-unit housing, landlord education and resource hub for renters, fair access policies, supporting community land trusts (or other alternative ownership models), notice of intent to sell ordinance, tenant relocation assistance, tenant opportunity to purchase, and right to return policies for promoting home ownership.

~~Policy H-2.9~~Policy H-2.18 Evaluate potential surplus public property that could be transferred, leased, or disposed of for affordable housing, transitional housing, or emergency housing consistent with state law. Survey public land holdings to identify potential affordable housing development opportunities and monitor regulated and naturally occurring affordable housing units that could be at risk of redevelopment and displacing low to moderate income households.

Goal H-3 Housing Accessibility and Livability

Encourage and support a variety of housing opportunities for those with special needs, particularly those with challenges relating to age, health, or disability.

Policy H-3.1 Encourage and incentivize special needs and senior housing to be dispersed throughout the community and close to public transportation, shopping, medical clinics, and other essential services.

Policy H-3.2 Encourage, support, and work with partners, such as the Clark County Health District, that support social and health service organizations and offer programs and facilities to help persons with special needs remain in the community.

Policy H-3.3 Treat residential structures occupied by persons with disabilities the same as residential structures occupied by a family or by non-disabled unrelated individuals.

Policy H-3.4 Encourage the creation and retrofitting of senior housing and accessible housing types that allow residents to “age in place” to support aging populations and allow residents to continue living in Camas.

~~Policy H-3.5 Develop and implement a strategy or action plan to work with partners to secure grants and loans by agencies, private developers, and nonprofit organizations that are tied to the provision of permanent supportive housing, emergency shelter beds, transitional housing, and other housing serving at-risk populations.~~

~~Policy H-3.6~~Policy H-3.5 Work with other jurisdictions and health and social service organizations to develop a coordinated, regional approach to address the impacts of displacement and people at risk of becoming homeless.

~~Policy H-3.7~~Policy H-3.6 Promote the design of accessible accommodations for those with disabilities such as through~~use of~~ universal design[7] ~~principles~~, visitability and home retrofitting ~~-~~for new development or redevelopment housing projects to ensure housing is designed for all people and abilities.

Goal H-4 Streamlining Permitting for Housing

Support the development of quality and sustainable housing in Camas with streamlined regulations and permitting processes.

Policy H-4.1 Periodically review and update the City's residential zoning regulations, design standards, and permitting procedures to promote quality development with timely and predictable outcomes and consistency with state law. Consider input from permitting stakeholders during the periodic review and update.

Policy H-4.2 Create regulations and procedures that balance clarity and objectivity with flexibility for design innovation.

Policy H-4.3 Study the impacts of land use policy decisions and zoning code amendments and minimize the negative impacts to housing supply and affordability.

Policy H-4.4 Classify the development of middle housing and accessory dwelling units as permitted uses in lower density residential zones, consistent with the ~~Growth Management Act~~state law requirements associated with housing planning.[8]

[7] Universal design is the principle that people of all ages and ability levels can use buildings, products, and the built environment without adaptation. Examples of universal design in housing include wide doorways, adequate maneuvering space in kitchens and bathrooms, switches and handles that are easy to reach and operate, and slide-out shelves. These and other relatively simple features enable people to remain in their homes even as their needs change over time. Visitability features are a subset of universal design that addresses access to the main part of the house to ensure that visitors with mobility limitations are able to go to the homes of friends and relatives. Being able to do this supports important, life-enriching interactions. Visitability features include wide doorways, a zero-step entrance, and no-stair access to a toilet facility with adequate space for maneuverability. (AARP, https://www.aarp.org/livable-communities/housing/info-2020/homefit-guide.html).

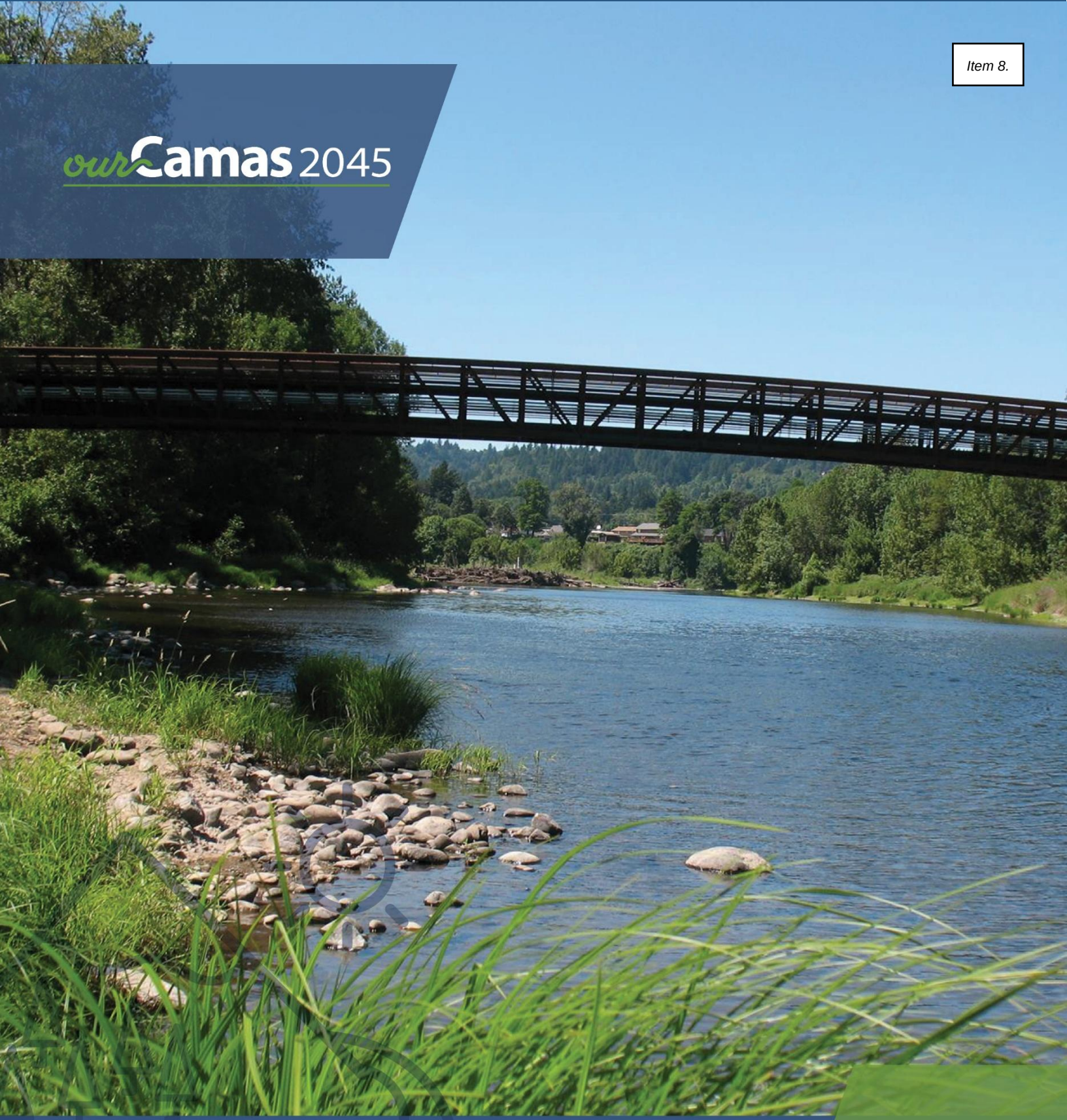
[8] The City of Camas has amended code to be consistent with middle housing requirements in RCW 36.70A.635–638 and ADU requirements in RCW 36.70A.680-682 and RCW 36.70A.696-69. Camas will continue to monitor possible code and fee structure amendments consistent with state law and in support of meeting housing targets.

Policy H-4.5 Review and update policies, codes, and ordinances to allow for a mix of housing types and variable lot and unit sizes in new subdivisions and development projects to promote housing choice diversity and affordability.

Policy H-4.6 Annually review the number and type of housing units built in Camas and permit timelines associated with new housing developments to inform additional changes to permitting, incentives, and housing programs.



ourCamas 2045



Natural Environment

06

06. Natural Environment

Nature in Camas

Camas has an abundance of natural areas that make it an ideal place to live. This element balances Camas' natural environment with the demands of a growing city.

Vision

Camas embraces its connection to nature and enjoys a wealth of outdoor recreational opportunities. Access to forests, clean water, parks, and trails is foundational to Camas' quality of life. The community shares a deep reverence for Camas' beauty, scenery, and tranquility, and is committed to preserving and enhancing its natural resources and tree canopy. Through proactive planning, the City mitigates the effects of changing climate conditions and natural hazards, ensuring a resilient community for generations to come.

Natural Setting

Camas is blessed with an abundance of natural areas and physical features, making it a highly attractive place for people to call home. Residents and businesses who seek an exceptional quality of life are buoyed by the natural surroundings of Camas and enjoy such amenities as Lacamas, Round and Fallen Leaf Lakes, Lacamas Creek, and the Washougal River greenway. Residents also enjoy the beauty and quiet of the open space and greenbelt network throughout the community, stitched together by the City through many decades of planning and implementation.

As envisioned decades ago and to be held in perpetuity as natural, legacy lands along Lacamas Lake, Fallen Leaf Lake, and near Green Mountain are treasured for their mature stands of evergreen and deciduous trees and offer a respite for many in the community. When people think of Camas, they think of a place that values the natural environment on par with other facets of the community. Camas is a place where stewardship of greenbelts, natural areas, and open space is an essential fiber in the fabric of the community.

Overview

The natural environment element of the comprehensive plan provides a policy framework for the identification, protection, and improvement of Camas' natural environment. Goals and policies include those for environmental stewardship, the protection of environmentally sensitive lands (critical areas), natural areas and open space, shorelines, and landscaping and tree enhancement.

Stewardship has three prongs for the benefit of all community members. The first prong relates to compliance with the Growth Management Act (GMA) and the identification, designation, and protection of certain environmentally sensitive lands, which, in GMA, are known as critical areas. The second prong relates to the community and its steadfast approach to keeping Camas a place that balances growth with preservation of a natural areas and open space network. Camas has longed placed a premium on its open space network of environmentally sensitive lands, with or without GMA requirements. The third prong is an ethic of volunteerism and stewardship from the community's citizenry, which manifests in many ways including active volunteer groups, active boards and committees, and public involvement on issues related to the environment.

Environmental stewardship refers to the City's role as chief steward of the environment for the Camas community. A chief steward in this context means how the City, on behalf of the residents, establishes a responsible relationship between the people and the land they inhabit.

The City of Camas has preserved over 700 acres of open space across 31 sites, including forests, wetlands, riparian corridors, and steep slopes, with nearly half of this land concentrated around Lacamas Lake. These natural areas, distinct from developed parks, are managed to protect ecosystem functions, water quality, native vegetation, and wildlife habitats, while allowing for limited public access through trails and modest amenities. The City prioritizes conservation and restoration of high-value landscapes such as waterfronts, forested hillsides, and sensitive wetlands, balancing environmental stewardship with recreational use. Key efforts include protecting watercourses within three major watersheds, regulating development on steep slopes and wetlands, and maintaining resilient forest lands to support biodiversity and ecological health.



COMMUNITY FEEDBACK

- **Preserve land for wildlife and promote denser development in already developed areas to conserve green spaces**
- **Preserve mature landscaping and save parks and green space**
- **Support cleanup efforts at the Camas Mill and other contaminated sites to protect natural resources and local water supply**
- **Implement targeted lake management actions to protect water quality and reduce harmful algae blooms in local waterways**

Environmental Stewardship

One of the most demanding roles the City of Camas must fulfill is that of chief steward of the community's environment while also accommodating growth. The City has the duty to implement land use policies via development regulations and the responsibility to comply with federal and state statutes related to the environment.

Facing federal and state mandates, the City strives to ensure that its environment is managed in compliance with applicable laws and does so in a wise manner. While simultaneously accommodating growth, the City encourages the preservation, restoration, and improvement of the natural environment in all development.

Goal NE-1 Environmental Stewardship

Preserve Camas' natural environment citywide by developing a sustainable urban environment and protecting natural areas and open space, including critical areas.

Policy NE-1.1 Support a cleanup of the Camas Mill and other contaminated sites to protect natural resources and the city's water supply.

Policy NE-1.2 Support programs and regulations that monitor, maintain, conserve and protect water quality in Camas, including watersheds, Lacamas Lake Basin, Columbia River Basin, and Washougal River Basin.

Policy NE-1.3 Encourage restoration and protection of natural areas through the removal of invasive species.

Policy NE-1.4 Support and implement actions identified in adopted plans, including adaptive management of natural resources that is consistent with best available science and climate guidance to improve climate resiliency.

Policy NE-1.5 Protect and restore natural resources, valuable historic and cultural areas, climate refugia, habitat areas and corridors to provide biological and hydrological connectivity that fosters resilience to climate impacts.

Policy NE-1.6 Create and support natural resource management plans that consider climate change impacts and guide adaptive management.

Policy NE-1.7	Include immediate and long-term environmental impacts in the policy and regulatory decision-making process. Identify and quantify the ecosystem services benefits of natural systems and include these natural capital assets in cost-benefit assessments for community and development planning.
Policy NE-1.8	Promote and incentivize public and private landowners to restore and create local habitats and corridors to increase the availability throughout the city.
Policy NE-1.9	Regulate land use and development to protect natural topographic, geologic, vegetative, and hydrologic features of undeveloped properties.
Policy NE-1.10	Promote soil stability and minimize and control soil erosion using best management practices, best available science, ecologically sustainable site design, natural drainage systems and protection of existing native vegetation.

Critical Areas

The natural environment includes specific environmentally sensitive areas that the GMA requires the City to identify, designate, and protect. Referred to in statute (RCW 36.70A) as *critical areas.* Under GMA, critical areas include wetlands, critical aquifer recharge areas, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas. Each of these critical areas is present in the City. The law further requires that the City use best available science (BAS) when developing policies and regulations to designate and protect critical areas. GMA also recognizes that salmonids (salmon and trout) play an important role in the ecosystem and are vital cultural and economic resources, which require jurisdictions to give 'special consideration to conservation and protection measures necessary to preserve or enhance anadromous fisheries'.

Functions of Critical Areas

Critical areas perform key functions that enhance the environment and protect us from natural hazards. The beneficial functions and values that critical areas provide include, but are not limited to, water quality protection and enhancement; fish and wildlife habitat; food chain support; flood storage, conveyance, and attenuation of flood waters; groundwater recharge and discharge; drinking water quality and quantity; erosion control; protection from natural hazards; historical, cultural, archaeological, and aesthetic value; and recreation. Identifying the functions and values of local critical areas is essential to defining the purpose of a critical areas protection program.

Each type of critical area performs different functions and each community assesses the values of the critical areas in its environment differently. Therefore, the purpose of protecting critical areas is unique for each community. Critical areas protection is necessary to protect the public's health and safety and is essential to comply with state laws in Washington. It may also provide compliance with federal laws for such things as water quality and endangered species.

There are also economic reasons to protect critical areas. For example, protection of drinking water quality and quantity supports sustainable growth, and critical areas support resource industries, such as salmon and other fisheries.

Critical areas are environmentally sensitive and hazardous areas that the State and City have identified for certain development considerations or restrictions to protect their functions and values, while allowing for reasonable use of property. Critical areas protection is regulated through the Camas Municipal Code (CMC) Title 16, which identifies five types of critical areas: wetlands, fish and wildlife habitat conservation areas, geologically hazardous areas (steep slopes, erosion hazard areas, and seismic hazard areas), critical aquifer recharge areas (CARAs), and frequently flooded areas.



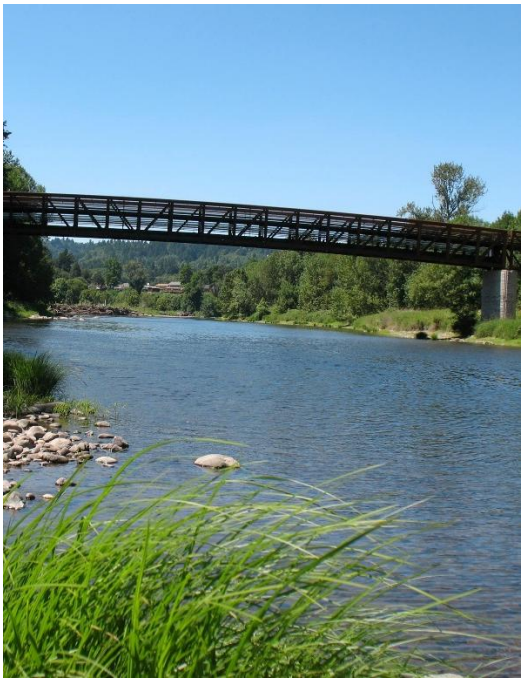
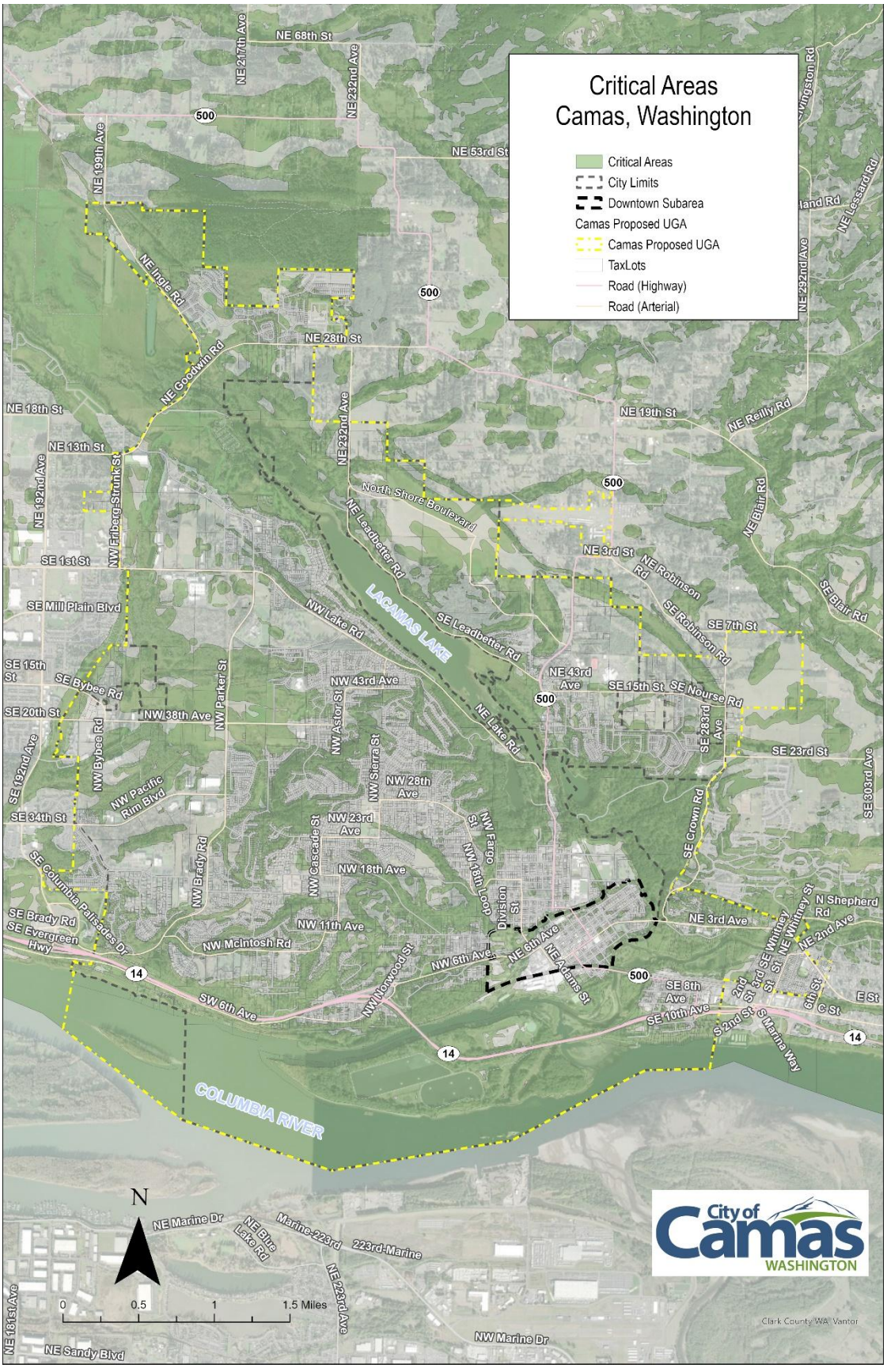


Figure 4 Critical Areas



Wetlands

Wetlands are defined as those areas, designated in accordance with the approved federal wetland delineation manual and applicable regional supplements, which are inundated or saturated by surface or ground water at a frequency and duration, and under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands in the community are generally located in and around the Grass Valley area in west Camas, Lacamas Lake, Lacamas Creek, and the Washougal River greenway. The largest mapped wetland is located around the south end of Lacamas Lake, identified as lake habitat. The National Wetlands Inventory (NWI) does not identify mapped wetlands in downtown Camas.

Critical Aquifer Recharge Areas

Critical aquifer recharge areas (CARAs) are those areas with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge. The quality and quantity of groundwater in an aquifer is inextricably linked to its recharge area. To determine the threat to groundwater quality, existing land use activities and their potential to lead to contamination should be evaluated.

The goal of establishing CARAs is to protect the functions and values of the community's drinking water supply by preventing pollution and/or contamination of the supply directly or recharge areas indirectly.

Frequently Flooded Areas

Floodplains and other areas subject to flooding perform important hydrologic functions and may present a risk to persons and property. Classifications of frequently flooded areas should include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency (FEMA) and the National Flood Insurance Program (NFIP), known as the 'special flood hazard area', which is defined further as having a special flood, mudflow, or flood-related erosion hazards and shown on Flood Insurance Rate Maps (FIRM), which also includes the regulatory floodway.

Geologically Hazardous Areas

In the physical context of Camas, geologically hazardous areas include areas susceptible to erosion hazard, seismic hazard, mine hazard, and other geological events. Geologically hazardous areas in Camas include severe erosion hazard areas adjacent to Lacamas Lake, north of the Columbia River, and to the east along the Washougal River.

Fish and Wildlife Habitat Conservation Areas

Fish and Wildlife Habitat Conservation Areas (FWHCAs) are critical ecological zones that support essential habitats and species necessary for maintaining ecosystem integrity and biodiversity. These areas may include rare ecosystems, high-density wildlife zones, breeding and migration

corridors, and habitats for endangered or sensitive species. Their designation plays a key role in guiding land use planning, urban growth boundaries, and conservation strategies. FWHCAs must be identified using the best available science, considering factors such as habitat connectivity, human activity levels, riparian and salmonid protection, and the impact of surrounding land uses. Buffer zones are also recommended to minimize conflicts between development and habitat preservation.

Aquatic and Riparian Habitat

Fish and wildlife habitat conservation areas in Camas include habitats for state or federally listed endangered, threatened, or sensitive species, as well as areas associated with state priority species identified by the Washington Department of Fish and Wildlife. These areas encompass naturally occurring ponds under twenty acres, classified state waters, and water bodies stocked with game fish by governmental or tribal entities. Key aquatic habitats in Camas include the Columbia and Washougal Rivers, Lacamas Creek, Camas Slough, Lacamas Lake, and various streams, ponds, and wetlands, all often bordered by riparian zones. Lacamas Lake is the largest aquatic habitat in the city aside from the Columbia River system.

Terrestrial Habitat

Terrestrial habitats in Camas, like aquatic ones, include areas supporting state or federally listed endangered, threatened, or sensitive species, as well as state priority species identified by the Washington Department of Fish and Wildlife (WDFW), State Natural Area Preserves, and locally important habitats. Locally designated habitats include Oregon white oak trees and stands, and Camas lily fields of specific sizes. While much of the city is mapped as “cave rich” by WDFW, actual cave presence is limited, though caves are considered a priority habitat feature. The Camas biodiversity corridor, which includes mature timber and sightings of Vaux swifts, runs through parts of the city. Oak woodland habitat is primarily found near Lacamas Lake, and the northern part of Camas including the Lacamas Prairie Natural Area Preserve, which protects rare Willamette Valley wet prairie habitat and several endangered plant species, including Bradshaw’s lomatium.

Critical Areas Goals & Policies

Preserve, maintain, and restore the City’s critical areas to protect their function and value.

Policy NE-2.1 Use best management practices and best available science to preserve, protect, and restore the biological health and diversity of Camas’ critical areas.

Policy NE-2.2 Preserve and restore aquatic and riparian habitats consistent with applicable regulations.

Policy NE-2.3 Preserve and avoid development of areas with endangered, threatened, and sensitive species and species of local importance as required by local, state, and federal laws.

Policy NE-2.4 Ensure that development throughout the City meets or exceeds standards and practices for long-term wetland protection and mitigation.

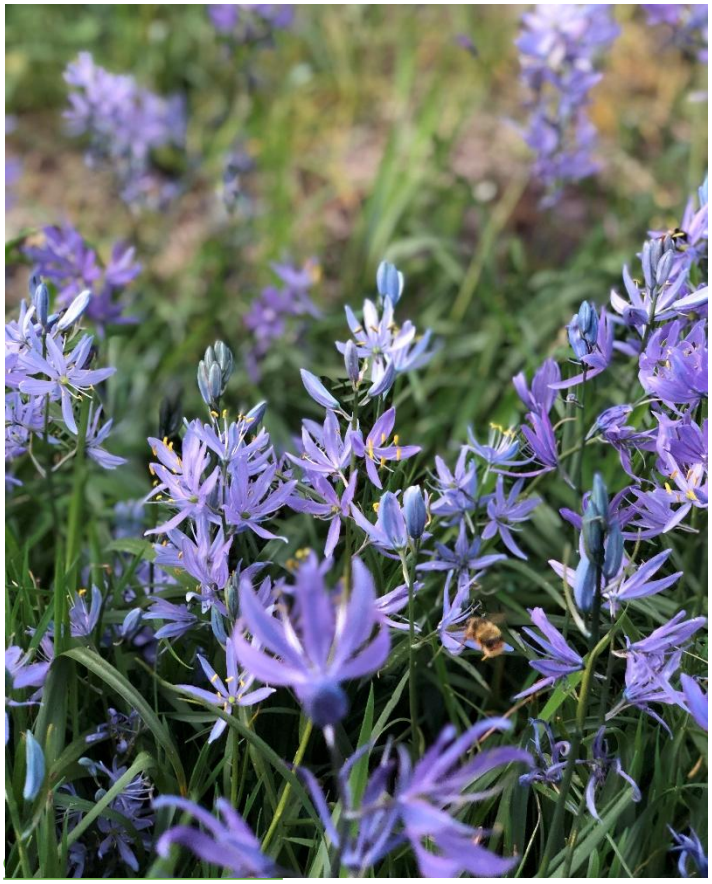
Shorelines

Overview

The Shoreline Management Act, enacted in 1972, created a collaborative framework between Washington State and local governments to manage and protect shorelines. Under this law, local jurisdictions are required to develop Shoreline Master Programs (SMPs) tailored to their specific needs.

Camas encompasses 946 acres of shoreline across 26 miles, including areas along Lacamas Creek, several lakes, and the Columbia and Washougal Rivers. The SMP outlines strategies to minimize flood risks, enhance recreational opportunities, and ensure sustainable shoreline use through voluntary programs and regulatory measures.

To guide development and conservation, Camas assigns specific shoreline designations based on land use, ecological characteristics, and community vision. These designations—Aquatic, Natural, Urban Conservancy, Medium Intensity, and High Intensity—are aligned with state guidelines and the city's comprehensive plan. Each designation comes with tailored policies and development regulations, such as height and setback limits. For example, High Intensity areas support industrial use, while Natural areas prioritize ecological preservation. These designations help ensure that shoreline development aligns with environmental protection and long-term community goals.



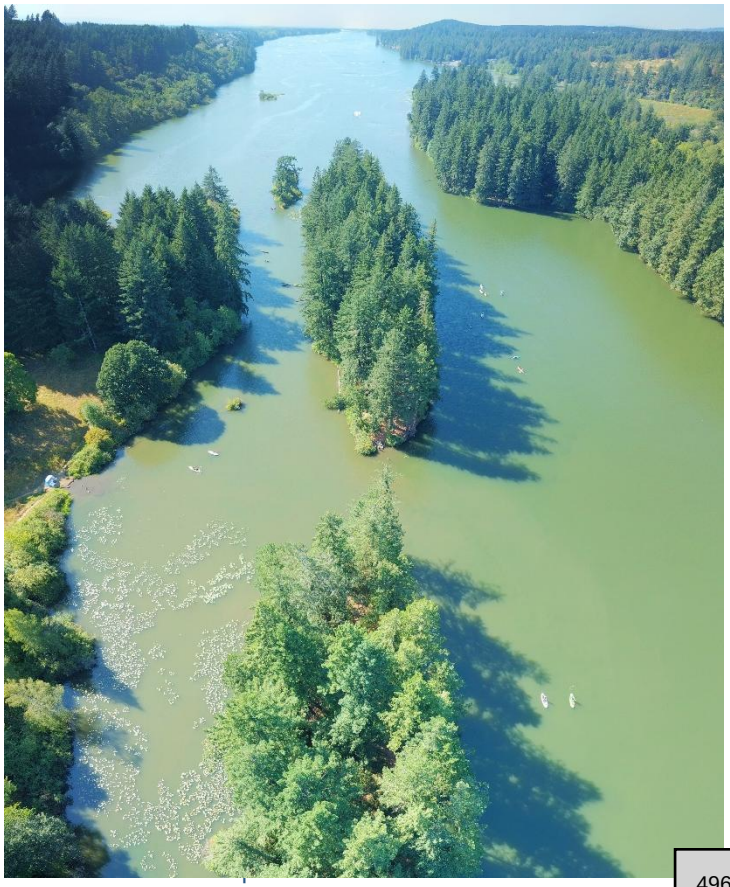
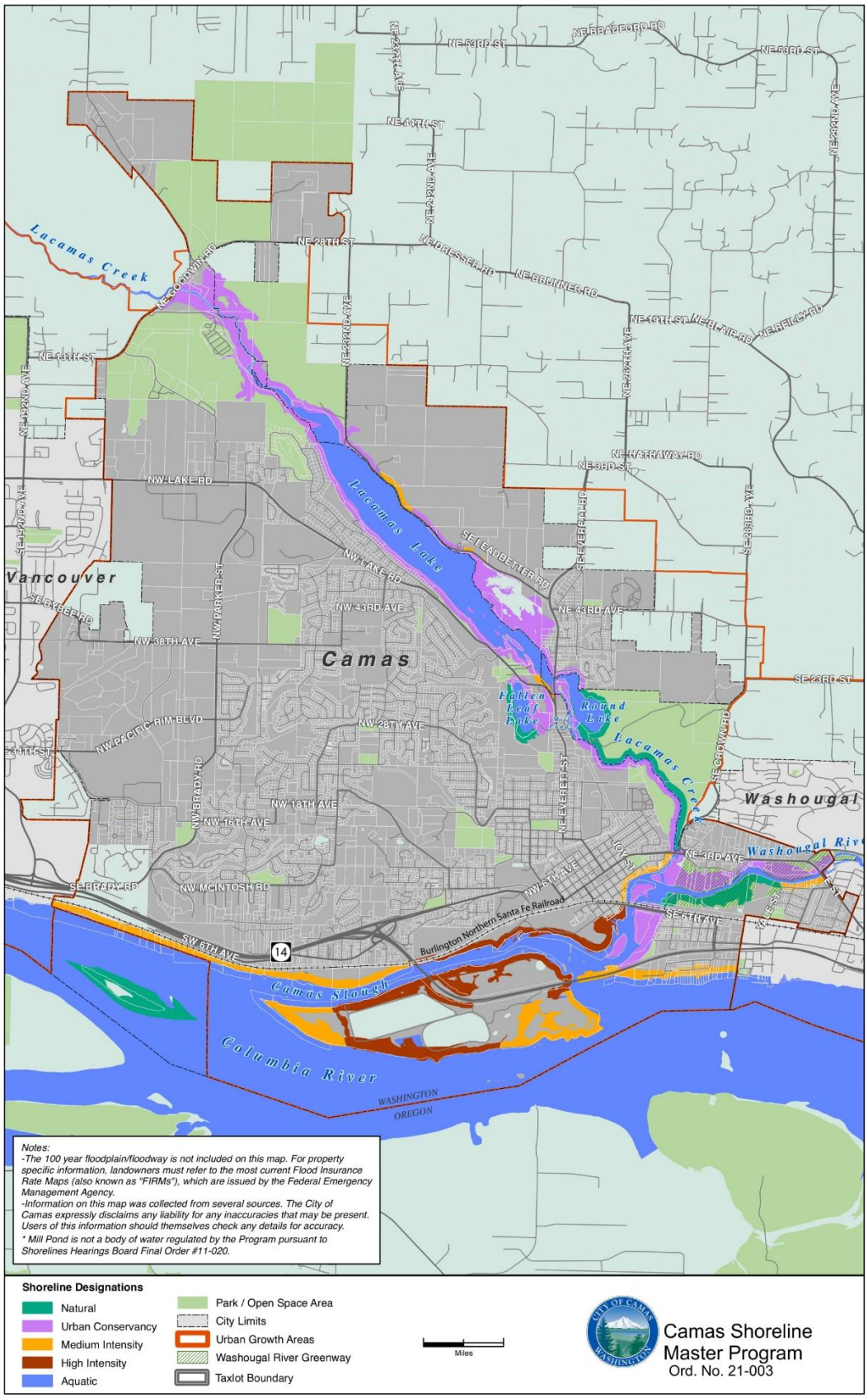


Figure 5 Shoreline Map



Shoreline Goals and Policies

Goal NE-3 Shorelines

Use the full potential of shoreline in accordance with the opportunities presented by their relationship to the surrounding area, their natural resource values, and their unique aesthetic qualities offered by water, topography, and views. Develop a physical environment that is both ordered and diversified, and which integrates water and shoreline uses while achieving a net gain of ecological function.

Policy NE-3.1 Adopt the goals and policies as outlined in the current Camas Shoreline Master Program.

Landscape Enhancement and Tree Preservation

The natural landscape and existing tree cover are important aspects of Camas' natural environment. Native, mature landscaping and trees contribute to the City's ecological health, supply valuable animal habitat, and enhance the community's natural beauty.

Goal NE-4 Landscape Enhancement and Tree Preservation

Preserve existing natural landscapes and tree canopy. Support opportunities for increasing native and climate resilient landscaping and tree canopy.

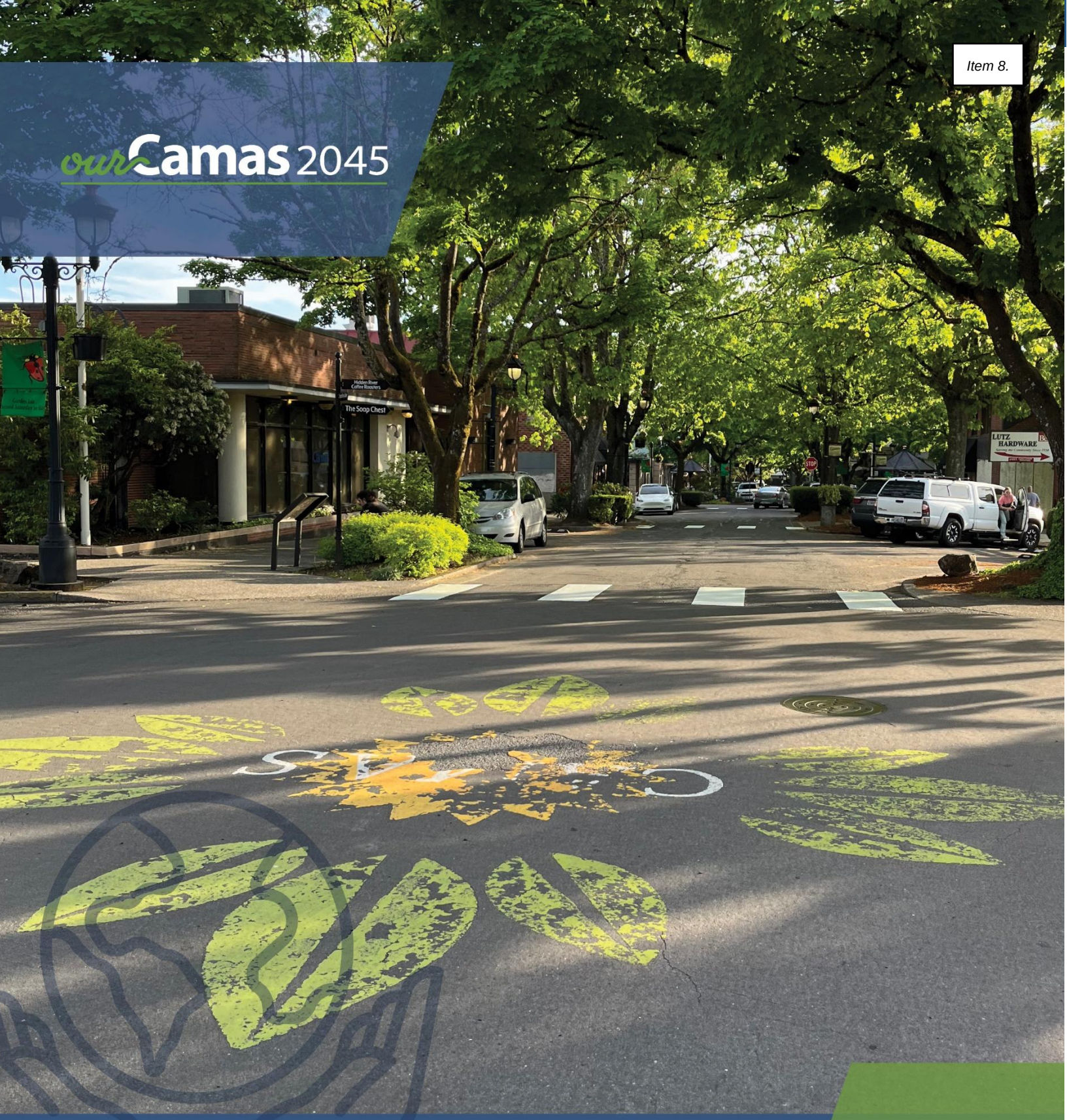
Policy NE-4.1 Develop and implement a program to prioritize retention of existing trees and planting of new trees within development sites to maximize cooling and energy savings. Encourage planting of hardy and climate resilient native trees.

Policy NE-4.2 Develop an urban forestry program that articulates a long-term strategy for future-proofing the City's tree canopy, including actions for tree protection, management, education, and collecting and maintaining data on citywide tree canopy.

Policy NE-4.3 Require the use of native and climate resilient plants in residential, commercial, and industrial landscapes to support the implementation of low impact development.

Policy NE-4.4 Develop and implement a program to mitigate and compensate for tree canopy loss when retention of mature trees within development sites is impractical.

ourCamas 2045



Climate Change & Resliency

07

07. Climate Change & Resiliency

Community Impacts from Climate Change

Climate hazards (i.e., natural hazards exacerbated by climate change) of the highest concern and priority are extreme heat and precipitation. Camas can address anticipated impacts by reducing GHG emissions and building community resiliency.

Vision

In 2045, Camas has proactive plans to reduce greenhouse gas (GHG) emissions and mitigate the effects of changing climate conditions and natural hazards, ensuring a resilient community for generations to come. The most vulnerable communities are protected, and climate planning contributes to improvements in community health and well-being.

Introduction

The City developed this climate change and resiliency element consistent with House Bill 1181, signed into law in 2023. This new state law integrates climate planning into Washington's GMA and requires cities and counties to include a climate element in their comprehensive plans.

Climate change refers to long-term shifts in temperatures and weather patterns. The burning of fossil fuels and other human activities are increasing emissions of greenhouse gases (GHGs) that trap heat in the atmosphere and contribute to global and local climate change. Negative effects include impacts on the community caused by natural hazards that are exacerbated by climate change (e.g., the increased frequency and severity of drought conditions). Natural hazards are also referred to as "climate hazards" in this element as climate change is anticipated to affect the frequency and intensity of natural hazards.

The purpose of this climate element is twofold: to reduce contributions to climate change (i.e., GHG emissions) and to build community resilience to climate change.

To support these two overarching goals, the City formed a Climate Policy Advisory Team (CPAT) to advise on the creation of this new element. The 17 CPAT members included community members, City staff, City Council and Planning Commission liaisons, and representatives from the Port of Camas-Washougal, Clark Public Utilities, NW Natural, and the Camas School District. CPAT members held five meetings between early 2024 and early 2025.

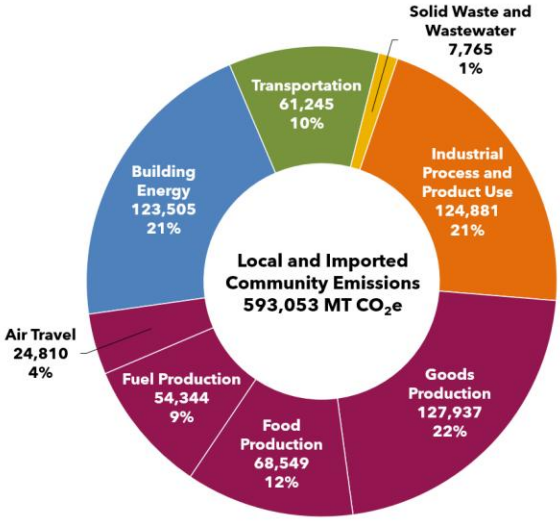
The CPAT was instrumental in the identification and development of climate goals and policies.

Climate Overview

Greenhouse Gas Emissions

The GHG reduction subelement identifies actions to reduce GHG emissions and decrease per capita vehicle miles traveled (VMT). One of the requirements of the GHG reduction subelement is to meet the GHG reduction requirements in RCW 36.70a.070(9)(d), including reducing per capita VMT within Camas but without increasing GHG emissions elsewhere in the state. To identify actions for VMT reduction, Clark County worked with local cities to prepare a VMT study and travel market assessment to understand baseline travel patterns and strategies for VMT reduction. According to the VMT study, data from the Highway Performance Monitoring System shows that the city's estimated per capita VMT, which represents the average weekday VMT within Camas divided by the city's population, is 11.1. The travel market assessment identified key travel destinations in the city for short trips (i.e., trips 3 miles or less), showing that areas near Lacamas Lake, Camas high school, and Downtown Camas are popular destinations. Both assessments will help inform a regional target for VMT, which will be established outside the climate element/comprehensive plan framework. In addition to VMT reduction, Clark County's Countywide Planning Policies establish requirements for cities to reach net-zero emissions by 2050 (14.1.2) in alignment with statewide GHG emission reductions (RCW 70A.45.020(1)) and set interim (5-year) objectives or targets (14.1.4). A GHG inventory for Camas was also prepared to inform GHG reduction strategies. The inventory provides an estimate of the city's carbon footprint from local emissions (building energy, transportation, solid waste and wastewater, and industrial process and product use) and imported emissions (consumption of goods). Figure 6 Camas Emissions, 2022~~Figure 6 Camas Emissions, 2022~~ shows the combined and per capita emissions for the city.

Figure 6 Camas Emissions, 2022



With a population of 27,250, all 2022 GHG emissions combined (local and imported) for City of Camas totaled

593,035 MT CO_2e

21.8 MT CO_2e Per Capita

Local emissions include sector-based emissions that are generated within Camas. Imported emissions are generated outside of Camas to produce and provide the goods, food, services, air travel, and production of transport of fuels consumed by households. Additionally, wildfires have become one of the largest sources of carbon emissions in Washington state. From 2014 to 2018, wildfires in the state generated 39,200,000 MT CO_2e.

Figure 7 Local and Imported Emissions in Camas

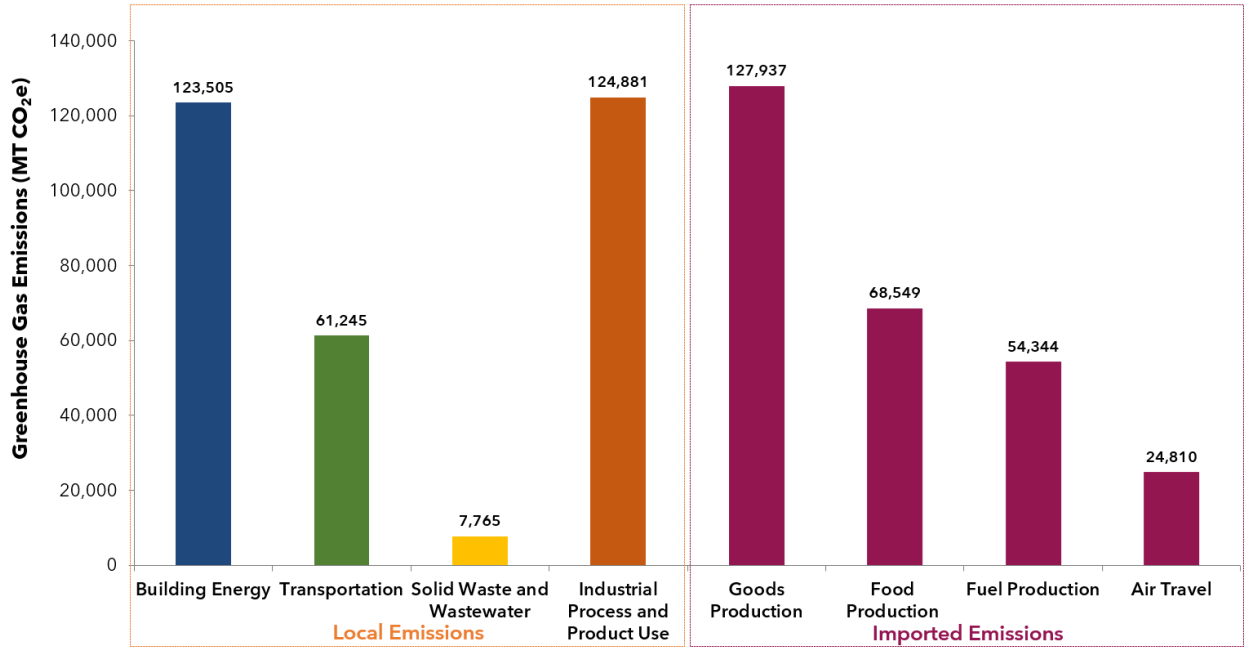


Figure 7~~Figure 7~~ shows a breakdown of the sources of local and imported emissions in Camas. Most sources of local emissions include **industrial process and product use** and **building energy**, which accounts for **78%** of local emissions. Emissions from the industrial process and product use sector generally involve facilities with silicon semiconductor manufacturing. While emissions from these facilities contribute to a large share of local emissions, demand for these goods is global and not specific to Camas. Therefore, goals and policies target reducing local emissions and support existing GHG reduction strategies or targets that are being implemented by businesses and industries in Camas.

Climate Resiliency

Community resiliency is the ongoing process of preparing for, anticipating, and responding to natural hazards created or aggravated by climate change.

Natural hazards relevant to Camas are identified in the 2023 Clark County Natural Hazard Mitigation Plan (NHMP) (CRESA 2023). Table 8 Natural Hazards in Camas lists hazards of concern in order of ranking and their priority, which were evaluated as part of the risk assessment in the NHMP. The risk rating reflects the probability of a hazard weighted against its potential impact on people, property, and the economy. The table also shows the projected climate impacts for each hazard and how hazards have affected the community in the past.

Table 8 Natural Hazards in Camas

Natural Hazard (NHMP Rating[9])	Projected Changes by 2050[10]	Effects on the Community[11]
Extreme Heat (High)	40+ days per year that feel hotter than 90 degrees.	Increased demand for air conditioning, higher utility bills, heat-related illness for sensitive populations and youth at school playgrounds and sports fields, disruption of outdoor activities.
Extreme Precipitation (High)	12% increase in total annual precipitation	Overflowing of streams or rivers, unsafe driving and walking conditions.
Landslide (Medium)	13% increase in heavy rain events	Physical damage to residential and commercial property, energy infrastructure, communication infrastructure, and transportation infrastructure.
Flood (Medium)	17% increase in peak streamflow in Washougal River	Property damage, particularly for older buildings and low-income housing near the floodplain, and temporary or permanent displacement. Temporary closures of businesses and other services.
Wildfire (Medium)	9+ days per year that have high fire danger	Wildfire smoke can impact human health, particularly people with respiratory illnesses or diseases. Increased health risks and property damage for communities near the wildland-urban interface[12].

[9] 2023 CRESA Regional Natural Hazard Mitigation Plan Volume 2 – Planning Partner Annexes
[10] University of Washington's Climate Mapping for a Resilient Washington webtool. Projections are based on a "business as usual" emissions scenario.
[11] Includes effects identified by the Camas community in a 2025 survey.
[12] Clark County Code (15.13.030) defines the wildland-urban interface as areas with elevation in excess of 500 feet and one or more of the following conditions: (a) slope equal to or greater than 25%, (b) forest type vegetation, and (c) outside of an organized fire protection district.

Drought (Low)	14% decrease in summer rains	Impacts to water quality and quantity, decrease in habitat quality and quantity for salmon and other aquatic species.

Vulnerability

Vulnerable Communities

Climate change can impact certain groups of people (vulnerable populations) and areas of the city (overburdened communities) differently. Vulnerable populations are groups of people who are more vulnerable to environmental harms due to socioeconomic factors and other health risk factors (RCW 70A.02.010(14)). Overburdened communities are areas where vulnerable populations experience environmental harms and health impacts (RCW 70A.02.010(11)). Together, vulnerable and overburdened communities are disproportionately impacted by climate change due to the concentration of environmental harms (e.g., air pollution near major roadways) and socioeconomic characteristics (e.g., low income, youth and children). People and communities in Camas who are vulnerable to climate hazards are generally described in the *Our Camas 2045* Equity Framework (see~~ Appendix F~~ ~~Introduction for a description of Equity Communities in Camas~~). Additional information regarding identification of overburdened communities and efforts to engage these communities during the update of the plan is available in the Overburdened Communities and Vulnerable Populations Memo (Appendix G).

In addition to communities described in the Equity Framework, CPAT members identified additional communities that could be more vulnerable to climate hazards. These communities include areas that are located near floodplains (such as Lacamas Lake and the Columbia River), near mobile sources of air pollution (such as major roadways), near steep slopes and steep road grades, and/or near the wildland urban interface (e.g., homes adjacent to forested areas).

Vulnerable Assets

In Camas, the impact of climate hazards can depend on the proximity of people and buildings to each hazard. The approximate location of these hazards is shown in Figure 8 Wildfire Hazard Areas and Figure 9 Flood and Landslide Hazard Areas. Climate hazard locations are based on data from publicly available sources such as Clark County's Open Data Hub and include approximate areas of increased risk. While this information provides a visualization of higher risk areas, data may not include all potential risks and data gaps may exist depending on when data was published. Therefore, these figures provide a conceptual understanding of the location of climate hazards and potential effects on the community.





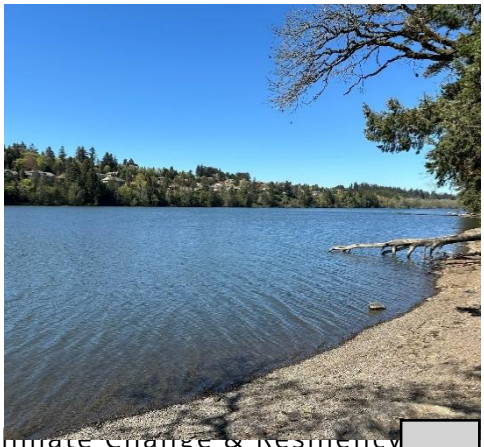


Figure 8 Wildfire Hazard Areas

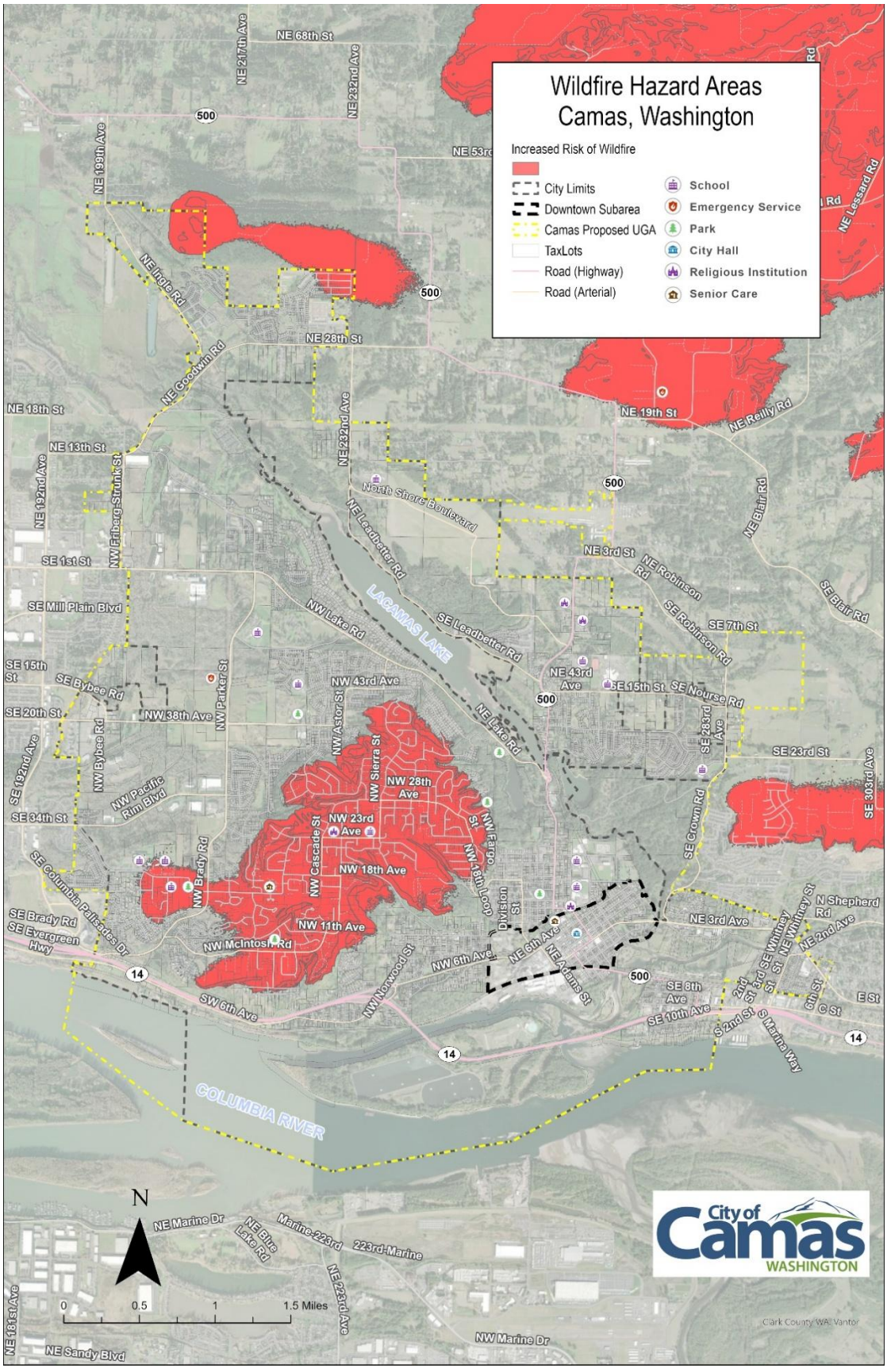
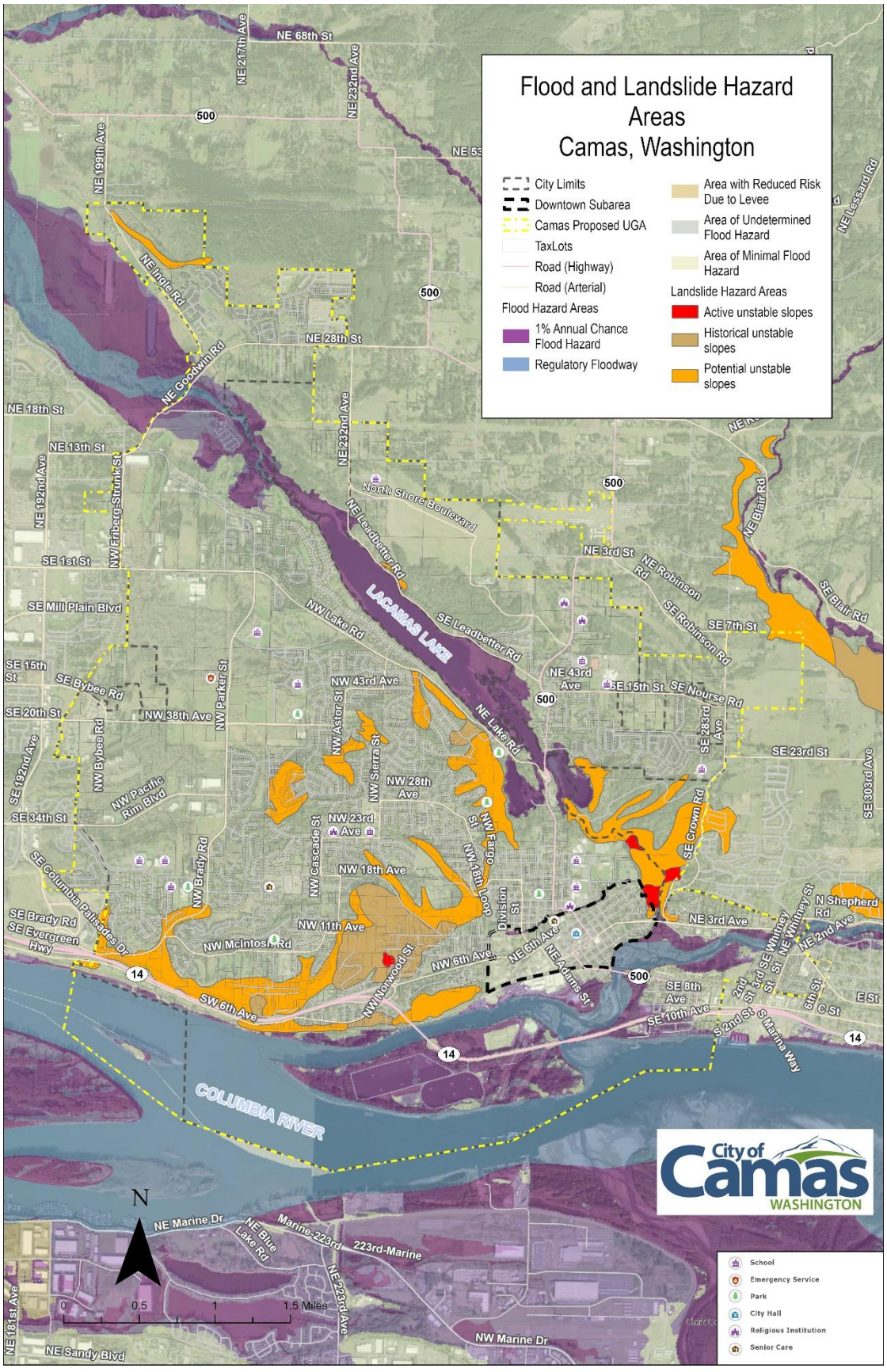


Figure 9 Flood and Landslide Hazard Areas





In Camas, buildings and infrastructure that could be vulnerable to climate hazards include aging water and sewer lines, buildings constructed before adopted seismic codes (e.g., city hall, public works operations center), and high-pressure natural gas lines. High tension power lines may also be vulnerable to severe storms (i.e., wind and ice), homes along the Washougal and Columbia Rivers, including the Georgia Pacific paper mill, may be susceptible to flooding, and the dam at Lacamas Lake could be impacted by an earthquake or flooding.

Extreme heat is one of the highest rated hazards for Camas. Buildings and impervious surfaces such as streets are factors in the urban heat island effect, where urban areas are warmer than surrounding rural or less developed areas. The County's department of public health collected heat data on one day in July 2024 and prepared a heat watch summary report describing how urban heat varies across neighborhoods in the county and how landscape features affect temperature and humidity. Across the county, areas with more buildings and paved surfaces tend to be hotter during the afternoon and evening. In Camas, the hottest areas of the city during the afternoon and evening are near Downtown Camas while cooler areas with more vegetation and shade are in west Camas, northeast of downtown, and near Lacamas Lake.

Vulnerability Assessment

A vulnerability and risk assessment prepared for Camas evaluated the risk of extreme heat on outdoor recreation sites, including (1) Lakes, (2) Parks & Trails, (3) School Playgrounds & Sport Fields, and (4) Downtown Camas. Both vulnerability (sensitivity and adaptive capacity) and risk (probability and magnitude) were evaluated.

The assessment produced composite scores for vulnerability and risk. For the lakes, Lacamas Lake and Round Lake scored high and Fallen Leaf Lake scored low. Under parks and trails, seven scored low, two scored medium, and 11 scored high. School playgrounds and sports fields scored medium (6) and high (6). Lastly, Downtown Camas scored high as it features the hottest area of the city. To reduce vulnerability and risk, this element includes policies to mitigate the impacts of extreme heat.

COMMUNITY FEEDBACK

- **Prepare a community wildfire protection plan that addresses wildfire prevention and requirements for fire resilient landscaping**
- **Hold community listening sessions on evacuation routes and develop policies based on community input**
- **Reform storm water modeling under climate scenarios to assess infrastructure capacity and service levels**
- **Retrofit older buildings to meet current codes**
- **Install electric vehicle charging stations**
- **Improve active transportation options to reduce dependence on vehicle travel, particularly for shorter trips around Camas and into Vancouver**
- **Incorporate solar power into local energy strategies**

Climate Change and Resiliency Goals and Policies

Climate goals and policies are established to meet the State's vision to reduce greenhouse gas emissions, plan for resilience, and support environmental justice. While these goals and policies directly focus on emissions and resiliency, additional policies in other elements of the plan tangentially support these goals. Those policies are noted with a leaf symbol.

Goal CL-1 Energy

Ensure that development and redevelopment projects, including buildings and energy infrastructure (generation, storage, and transmission) are designed to accommodate and use renewable energy, conservation, and efficiency technologies and practices to reduce GHG emissions and increase resiliency to natural hazards.

Policy CL-1.1 Support residents' efforts to improve energy efficiency and resiliency in existing and new residences through education and resources.

Policy CL-1.2 Encourage renewable energy sources for new and existing buildings and explore incentive programs for those that use renewable energy.

Policy CL-1.3 Provide commercial buildings, particularly restaurants and food services, with incentives to retrofit buildings for energy efficiency (e.g., grant programs, reduce permit fees, etc.).

Policy CL-1.4 Incentivize and streamline the review process for renewable resource projects.



Goal CL-2 Transportation

Improve the efficiency and resiliency of the transportation system to achieve GHG reduction goals and better withstand natural hazards.

Policy CL-2.1 Promote and complement state and utility incentives to provide electric vehicle charging infrastructure throughout the city, particularly at existing and new multi-family buildings and large employers.

Policy CL-2.2 Provide homeowners and renters information on state and federal tax credits/rebates for electric vehicles, renewable resources and energy efficiency.

Policy CL-2.3 Incorporate projected hydrologic climate impacts into the design and maintenance of water-crossing structures (e.g., climate-smart culverts and bridges).

Policy CL-2.4 Promote land use patterns and multimodal transportation systems that reduce vehicle miles traveled, traffic congestion, and associated greenhouse gas emissions per capita to support sustainability and climate resiliency.

Goal CL-3 Local Agency Sustainability and Preparedness

Support agencies, districts, and businesses in establishing and achieving their own sustainability goals, initiatives, and programs.

Policy CL-3.1 Support the sustainability initiatives of local agencies, districts, and businesses.

Policy CL-3.2 Support local businesses efforts to bolster climate preparedness and continuity of operations (e.g., develop on-site electricity storage to reduce energy demand during peak hours, incentives to install backup power, building retrofits).

Policy CL-3.3 Support the local economy's resilience to climate disruptions by providing information and resources on how to prepare for extreme heat, flooding, and wildfire.

Policy CL-3.4 Support economic opportunities for green jobs in Camas, including businesses that produce goods or services that benefit the environment and jobs that support business production processes to be more environmentally friendly or use fewer natural resources.

Policy CL-3.5 Develop a sustainable purchasing policy and sustainable construction standards for the City of Camas.

Goal CL-4 Community Health

Protect community health and well-being from the impacts of climate-exacerbated hazards and ensure that the most vulnerable residents do not bear disproportionate health impacts.

Policy CL-4.1 Promote the use of health impact assessments and other tools to identify and address the impacts on health and equity from climate change.

Policy CL-4.2 Develop and implement an urban heat resilience strategy that addresses land use, urban design, urban greening, and waste heat reduction actions.

Policy CL-4.3 Establish development regulations that include best practices for reducing risk of climate-exacerbated hazards such as wildfire, extreme heat, extreme precipitation and flooding.

~~Policy CL-4.3~~Policy CL-4.4 Develop and implement mitigation measures related to the impacts from air, water, heat, noise and light pollution, with a focus on areas with high environmental health disparities (see WA Department of Health map).

Goal CL-5 Emergency Preparedness

Enhance emergency preparedness, response, and recovery efforts to mitigate risks and impacts associated with natural hazards.

Policy CL-5.1 Create accessible evacuation plans and outreach materials to help residents plan and practice actions that make evacuation and reunification quicker and safer during a natural hazard event (e.g., notification alerts).

Policy CL-5.2 Develop a comprehensive, communitywide wildfire resilience strategy to support development in compliance with the International Wildland-Urban Interface Code, implement Firewise actions, improve emergency response capabilities, create fire-resilient landscapes, promote fire-adapted communities, and support the development of community wildfire protection plans.

Policy CL-5.3 Support enhanced data collection for hazard events of all magnitudes to provide a fuller understanding of the community's hazard characteristics.

Policy CL-5.4 Develop resiliency hubs, such as community-serving facilities that support residents, coordinate communication, distribute resources, and enhance quality of life.

Policy CL-5.5 Prepare, plan, and provide ongoing training for those responding to adverse environmental events.

Goal CL-6 Water Resources



Protect and preserve the long-term quality and quantity of Camas' water, and natural and cultural resources from climate change hazards such as drought and extreme participation.

Policy CL-6.1 Develop and implement a comprehensive drought resilience strategy that factors in projected climate impacts and sets action levels for different drought stages.

Policy CL-6.2 Evaluate the long-term adequacy of water delivery and storage infrastructure to ensure projected changes in hydrological conditions can be anticipated and managed effectively.

Policy CL-6.3 Implement actions recommended by the Lacamas, Round, and Fallen Leaf Lakes Management Plan to reduce the frequency of harmful algae blooms in lakes due to water pollution and projected changes in climate conditions, including higher temperatures.

Policy CL-6.4 Identify funding mechanisms for mitigation measures recommended by the Lake Management Plan to address the impacts of climate hazards on Lacamas, Round, and Fallen Leaf Lakes.

Policy CL-6.5 Introduce adaptive cooling features such as water and shade structures at local parks and school playgrounds and sports fields to help mitigate the effects of extreme heat on vulnerable park users and young children.

ourCamas 2045



Transportation

08

08. Transportation

GMA Planning Goal

Encourage efficient multimodal transportation systems that will reduce greenhouse gas emissions and per capita vehicle miles traveled, and are based on regional priorities and coordinated with county and city comprehensive plans.

Vision

In 2045, residents of Camas continue to appreciate their safe transportation infrastructure that equitably serves all users.

Introduction

As part of the comprehensive plan periodic update, the City of Camas reviewed and updated its Transportation System Plan (TSP). The TSP is adopted by reference and included as Appendix ~~E~~H. The TSP is a long-range plan to guide transportation investments for Camas and its UGA for the planning horizon to 2045. The TSP provides the following:

- Inventory of the current transportation system for all modes of travel
- Summary of land use assumptions used for estimating travel demands
- Summary of level of service (LOS) standards
- List of actions to address deficiencies
- Forecast of traffic demand for twenty years
- System needs to meet the current and forecasted demand
- Six-year Transportation Improvement Plan (TIP)

These items are foundational to a comprehensive plan and integral to implementing the Land Use plan.

The transportation element is one of the main parts of the comprehensive plan and is an effective tool for shaping the city's future development patterns. Growth and development patterns have a major influence on the fiscal health of local governments and on the economic performance of the community. The nature of public streets can shape the level of traffic congestion, the use of multiple modes, and the character of neighborhoods. Related requirements, such as parking and loading, will influence the cost to develop in a community and can present both opportunities and barriers to how people can access homes, schools, recreational opportunities, and businesses within the community and in the region.

Ownership, control, development, and the operation and maintenance of streets and public rights-of-way are primary functions of local governments. A transportation system is one of the most expensive facilities a community will construct, operate and maintain. Each new facility adds an asset to the city's portfolio, but it also must be managed, resulting in an incremental increase in operating costs and a new set of maintenance, preservation, and rehabilitation obligations.

Decisions about transportation facilities greatly influence the safety and security of the community. How the streets, roads and other transportation facilities are designed, built and maintained will influence safety in multiple ways for all users.

Federal, state, county and city transportation systems are interrelated, so coordination with other units of government is essential. Responsibility for transportation systems spans all levels of government. The Camas transportation network connects to state highways, neighboring city streets and adjacent county roads and indirectly to federal and interstate highways. It also interacts with transportation facilities operated by other special purpose districts like C-TRAN and for-profit businesses. Moreover, the public does not experience the transportation system as a series of separate systems, but as a single, unified system, and it expects all the parts to function in an integrated fashion. The transportation model used to plan future transportation projects in the TSP is consistent with growth assumptions for Camas as well as the region. The City coordinates closely with neighboring jurisdictions, regional bodies, Clark County and the state in transportation and land use planning.

The GMA requires the transportation element to implement and be consistent with the land use element. Counties and cities should use consistent land use assumptions, population forecasts, and planning periods for both elements. Coordination of the land use and transportation elements must be dynamic and iterative with an ongoing feedback loop coordinating land use and transportation in the plan development and in local implementation. The transportation element is also required to be consistent with state and regional plans. The transportation element is certified by the regional transportation organization, which is the Southwest Washington Regional Transportation Council (RTC), to ensure consistency with the regional transportation plan (RTP). This chapter was analyzed and revised to be consistent with the RTP, including consistency with project lists, LOS, land use assumptions, goals and policies.

Performance Standards

Level of Service (LOS)

The TSP includes level of service as a measure of performance standards for motor vehicles. A LOS "D" and a vehicle to capacity (v/c) ratio not higher than 0.85 is the minimum performance standard during the highest one-hour period of the day for signalized, all-way stop and roundabout controlled intersections under City jurisdiction. These standards shall be applied to the intersection as a whole.

A LOS "E" and a v/c ratio not higher than 0.90 is the minimum performance standard during the highest one-hour period of the day for two-way stop and yield controlled intersections under City jurisdiction. These standards shall be applied to all intersection approaches serving more than 20 vehicles. Mobility standards do not apply to approaches at intersections serving 20 vehicles or fewer during the highest one-hour period of the day. This mobility standard allows more flexibility in the tension between larger intersection and street designs that are sometimes needed to accommodate peak vehicle demands, and the desire to maintain smaller designs that encourage slower vehicle speeds and tend to be more accommodating to pedestrian and bicycle users.

Table 9 Transportation Level of Service

Level of Service	A/B	C	D	E
Intersections	N/A	Local Access	Collectors and Arterials	State Highways of Non-Significance
Roundabouts	N/A	Local Access	Collectors and Arterials	State Highways of Non-Significance

Table 10 Volume to Capacity Ratio

Volume to Capacity Ratio	0.85	0.9
Roundabouts	Local Access and Collectors	Arterials and State Highways of Non-Significance
Roadways Based on Average Speed	Collectors and Arterials	State Highways of Non-Significance

Level of Service for Highways of Statewide Significance is set by the State. In Clark County, the standard is set as LOS "D" for urban areas, including SR 14. Level of Service for regional state highway facilities (not part of the HSS), including SR 500 in Camas, is set through the Southwest Washington RTC. The Southwest Washington RTC Board adopted LOS 'E' or better for non-HSS urban state highway facilities.

The City adopts C-TRAN's MMLOS standard for the local and regional system. For the local system, routes have a service frequency LOS B (30 min headway) or better and transit stops have accessible path with LTS 1 or 2 and stop completeness (assess existing facilities against C-TRAN Amenity Standards). For the regional system, routes have a reliability LOS B or better and transit stops have accessible path with LTS 1 or 2 and stop completeness (assess existing facilities against C-TRAN Amenity Standards). Route 92 serves Camas and Washougal.

As part of the City's TSP update, forecasted 2045 motor vehicle volumes for peak hour conditions were utilized to determine areas on the baseline roadway network that will be congested and may require future investments to accommodate forecasted growth. The corridors recommended to prioritize for improvements include:

- SR 500-NE Everett Street between NE 23rd Avenue and SE Leadbetter Road
- NW 6th Avenue between Norwood Street and Adams Street
- NE 3rd Avenue between NE Dallas Street and SE Lechner Street

- The City will pursue implementation of the programs, policies and projects listed in the TSP in order to bring transportation facilities and services to the established LOS.

Level of Traffic Stress (LTS)

The City is adopting Level of Traffic Stress (LTS) as the multimodal level of service (MMLOS) standard. LTS is used to measure the comfort of those who are walking, biking or rolling on streets shared with vehicles. The best way to make these facilities comfortable to use while walking, biking and rolling is with space, separation, and visibility. The specific application depends on the conditions of each street. LTS is measured on a scale of one to four. A road with an LTS of 1 is best and is suitable for all users. A road with an LTS of 4 has the highest level of stress for a user and is typically used by those with a high level of confidence or those who don't have an alternative option. LTS 2 is the standard, meaning streets should be comfortable for most adults, including most adults experiencing disabilities. There may be some separation between pedestrians and vehicles, though no physical barrier.



Travel Demands and Characteristics

The number of people who choose to walk, bike, ride transit, or drive alone with the distances they travel is important for assessing how well existing transportation facilities serve the needs of users. Available data on travel demand, travel mode choice, and trip length are used to better understand travel behavior in the community and inform the needs analysis for the transportation system. This data is largely derived from the US Census Bureau on employment-based trips; however, no other travel data is available from this source. The following sections provide a summary of travel demands and characteristics in the City's planning area.

Commuter Trips

Much of the traffic in the Camas planning area, especially during the more congested weekday peak periods, is related to employment. In other words, how do people get to and from work from their place of residence. People who live in Camas and who are employed overwhelmingly

commute to work outside of the planning area (87 percent), while jobs in the planning area are overwhelmingly filled by people who live outside of the planning area (83 percent).[13]

In terms of the predominant travel mode, on average, almost 75 percent of employed residents in the Camas planning area commute to work using single-occupant motor vehicles. About 8 percent of residents carpool to work and the remaining 17 percent work from home, walk, bike, take transit, or use some other means of travel[14].

About 11 percent of employed residents in the Camas planning area worked from home pre-COVID, and that figure likely increased due to COVID-19. It seems likely that a higher percentage of workers will continue a hybrid work schedule that includes teleworking, at least part time. Any increase in the hybrid work week (e.g. 2-3 days in an office with the balance at home or some other remote location) will change the demand on the transportation network, including when and how people travel.

Transportation Demand by Mode

Pedestrian, bicycle, and motor vehicle traffic counts were conducted at key intersections throughout Camas on typical weekdays[15]. This information indicates where and when travel demand is highest for each mode of travel. It also provides a basis for assessing how well existing transportation facilities are able to meet the needs of users during peak demand periods.

- Pedestrian volumes during the PM peak hour are generally highest near downtown Camas, including along NE 3rd Avenue and NE Adams Street (the traffic count summary is included in Appendix H~~E~~). The highest hourly pedestrian activity during the evening peak occurred at the NW Sierra Drive intersection with NW 28th Avenue, near Dorothy Fox Elementary school, with 30 pedestrian crossings in the one-hour period. Other study intersections with more than 15 pedestrian crossings during the one-hour period included many downtown locations such as NE 6th Avenue at NE Adams Street, NE 3rd Avenue at NE Dallas Street, NE 3rd Avenue at NE 4th Street, and Weir Road at NE 3rd Avenue, near the border of Camas and Washougal.
- Bicycle volumes indicate limited biking, with the highest volumes along NW Lake Road, and NW Sierra Street (the traffic count summary is included in Appendix ~~E~~H, volume 2). During the evening peak hour, 20 of the 50 study intersections had no observed bicyclists during the one-hour period. The NE Lake Road at SR 500, NW Lake Road at NW Sierra Street, NW Lake Road at NW Leadbetter Drive, NW Sierra Street at NW 45th Avenue, and NE 6th Avenue at NE Garfield Street intersections had the highest observed bicycle volumes, with 4 or more bicyclists counted during the single hour at each of the intersections.

[13] US Census Bureau, OnTheMap. Home/Work Distance/Direction Analysis, 2015.
[14] US Census Bureau, 2012-2016 American Community Survey
[15] Based on counts conducted in April of 2018.

- Motor vehicle volumes on the roadways in Camas (the traffic count summary is included in Appendix HE) most commonly peak during weekday evenings between 4:50 and 5:50 p.m. The highest hourly motor vehicle volumes during the evening peak occurred along the NW 6th Avenue corridor between the SR 14 ramps and NE Adams Street, with more than 1,300 trips during the one-hour period. This corridor is the primary entrance into Camas from eastbound travel. The NE Lake Road at NE Everett Street, and NW 6th Avenue at SR 14 Ramps intersections had the highest observed volumes, with more than 1,800 entering vehicle trips during the single hour at each of the intersections.

Active Transportation Networks

Camas is a community with an active population and, therefore, requires a fairly robust active transportation system that includes pedestrian and biking facilities. The TSP inventoried the pedestrian and biking facilities, listed gaps in the systems, and assessed the facilities for how a pedestrian and bicyclist experiences them.

Multimodal Network Design

The design of the streets in the City's planning area is based on the network classifications and area designation. All streets in the planning area are multimodal and include travel lanes and on-street parking for vehicles, sidewalks for pedestrians, and on-street or separated facilities for bicyclists. Accommodating these modes varies by the functional classification and area designations. For a typical street cross-section, the functional classification determines the minimum design requirements for the number of vehicle travel way lanes and on-street parking, and the minimum acceptable bike facility, and the area designation is used to determine the minimum acceptable design for pedestrian facilities, and the minimum travel lane and median/turn lane width. Together, these cross-section standards identify the design characteristics needed to meet the function and demand for each facility type for streets in the City's planning area. Since the actual design of a roadway can vary from segment to segment due to adjacent land uses and demands, this system allows standardization of key characteristics to provide consistency. An example of a collector street cross section is shown below.



The typical designs are intended to be implemented in newly developing or redeveloping areas of the City's planning area, where constrained conditions do not limit the ability to construct the typical cross-section. A variety of physical and natural constraints may prevent adherence to the multimodal network design requirements. A deviation to the street standards may be requested from the City Engineer or City Engineer's designee with justification of constraints to consider a constrained cross-section or other adjustments.

Pedestrian Network

Walking supports healthy lifestyles, is an easy and economical way to travel, and is well-suited for people of all ages and abilities. In this plan, "walking" and "pedestrian" are terms that include people who walk independently or use canes, wheelchairs, or other walking aids, or strollers. Approximately two percent of commuters in the city walk to work, with three percent utilizing public transportation, which often includes walking at the beginning or end of the trip.[16] In addition to the work commute trips, walking trips are made to and from recreational areas, shopping areas, schools, and other key destinations in the community. Continuous and direct sidewalk connections to all key destinations and along all streets, in addition to safe crossing opportunities along major roadways, are essential to encourage walking and transit use.

A pedestrian network assessment of streets, showing the extent to which the walking network on collector and arterial streets provides a level of comfort and safety for users, was completed throughout the city. About 30 percent of the collector and arterial street miles in Camas were rated "good (i.e., level of traffic stress (LTS) 2)" or "excellent (i.e., LTS 1)" for pedestrians. However, over 35 percent of the collector and arterial street miles rate poorly (i.e., LTS 4). Most

[16] US Census Bureau, 2012-2016 American Community Survey

of the street miles rated "poor" are located in high growth areas, be that housing or business growth. The pedestrian network in these areas is largely unimproved due to the once rural nature of the surrounding land use. As future urban development occurs, pedestrian facilities will improve in those areas. Overall, the pedestrian network rates relatively high near downtown, and generally poorer towards the edges of the city. See Figure 11 for an inventory of the pedestrian network.

Bicycle Network

Cycling is important for both transportation and recreation in the Camas planning area. This includes people who bike to work and school, bike for recreation or running errands. Approximately one percent of commuters in the city bicycle to work[17]. Riding bicycles also plays a key role in the transportation system's ability to support healthy and active lifestyles and provide a viable alternative to the automobile. Continuous bicycle connections between all activity generators and arterial/collector roadways are desirable to allow for safe and attractive non-motorized travel options.

The bicycle network in the City's planning area, shown in

Figure 10~~Figure 10~~, is composed of bike lanes, roadway shoulders, shared roadways, and shared-use paths.

- Bike lanes are portions of the roadway designated specifically for bicycle travel via a striped lane and pavement stencils. Bike lanes are most appropriate for arterials and collectors, where high traffic volumes and speeds warrant greater separation of the travel modes. Significant segments of continuous bicycle lanes exist along portions of NW Lake Road, NW 38th Avenue, NW Parker Street, NW Friberg-Strunk Street, and SR 500.
- Shoulder bikeways are paved with striped shoulders wide enough for bicycle travel. A six-foot paved shoulder is desired to adequately provide for bicyclists, with a four-foot minimum width in constrained areas. Roadways with shoulders less than four feet are considered shared roadways. Some shoulder bikeways are signed to alert motorists to expect bicycle travel along the roadway
- Shared roadways include those on which bicyclists and motorists share the same travel lane. The most suitable roadways for shared bicycle use are those with low speeds (25 mph or less) and low traffic volumes (3,000 vehicles or fewer per day). Shared roadways, often signed as bicycle routes, serve to provide continuity to other bicycle facilities (e.g., bicycle lanes) or can be designated as a preferred route through the community. Shared roadways can have signs that highlight a special route or provide directional information in bicycling minutes or distance. Most local roadways in the city are considered shared roadways, but do not have signs or pavement markings, although some are planned to be improved in the TSP.

[17] US Census Bureau, 2012-2016 American Community Survey

- Shared-use paths provide off-street travel for bicyclists and pedestrians, and are wider than an average sidewalk (e.g., 10 – 14 feet). Shared-use paths are typically paved (asphalt or concrete) but may also consist of an unpaved smooth surface, such as compacted gravel, as long as it meets Americans with Disabilities Act (ADA) standards. Paved shared-use paths exist along portions of NW Parker Street, NW 18th Avenue, Lacamas Lake, Washougal River, and scattered throughout the residential neighborhoods.

A bicycle network assessment of streets in Camas shows the extent to which the bicycle network on collector and arterial streets provides a level of comfort and safety for users. About 20 percent of the collector and arterial street miles' in Camas rate "good (i.e., LTS 2)" or "excellent (i.e., LTS1)" for bicyclists. However, about 65 percent of the collector and arterial street miles' rate poorly (i.e., LTS 4) for bicyclists.

Overall, the bicycle network rates relatively high on the northwest side of the city and poor on the south and east side. The streets with the lowest ratings are the streets important for local and regional through travel (e.g. portions of NW 6th Avenue, NE 3rd Avenue, and SR 500), where many businesses and services are located. These streets rate low due to the relatively high motor vehicle traffic volumes and speeds and lack of separated bicycle facilities.

COMMUNITY FEEDBACK

- **Improve walking and biking infrastructure for better accessibility**
- **Connect neighborhoods and parks to Downtown Camas with sidewalks and trails**
- **Prioritize protected bike lanes**
- **Prioritize pedestrian-focused, multimodal streets with bike lanes, protected sidewalks, and transit stops that connect neighborhoods**
- **Develop a Safe Routes to School program with the Camas School District**

Transition Plan for Transportation

Title II of the Americans with Disabilities Act requires cities to establish a transition plan for transportation. The plan shall, at a minimum:

1. Identify physical obstacles in Camas' facilities that limit the accessibility of its programs or activities to individuals with disabilities;
2. Describe in detail the methods that will be used to make the facilities accessible;
3. Specify the schedule for taking the steps necessary to achieve compliance and, if the time period of the transition plan is longer than one year, identify steps that will be taken during each year of the transition period; and
4. Indicate the official responsible for implementation of the plan.

Camas has a relatively well-developed pedestrian network that is also potentially suitable for those who use mobility devices. The network is composed of sidewalks, shared-use paths and pedestrian trails, and other accessways. A large part of downtown Camas was developed prior to 1950, a time in which sidewalks were incorporated into the design of neighborhoods and streets. Although most areas incorporated into Camas over the following decades have sidewalk coverage, a few areas have noticeable gaps that do not make for a complete sidewalk network. These gaps are most significant in southwest, southeast, and northeast Camas, and on roadway segments outside city limits. Paved shared-use paths exist along portions of NW Parker Street, NW 18th Avenue, Lacamas Lake, Washougal River, and scattered throughout residential neighborhoods. Unpaved pedestrian only trails are scattered throughout the city.

Many intersections in older parts of the city lack ADA-compliant ramps, which provide important connections between sidewalks, making it easier to cross streets and handle the vertical drop at curbs. Knowing these conditions, the city has been recently installing new curb ramps in many of these locations. The presence of curb ramps is fairly consistent along streets in downtown Camas, and in the newer neighborhoods in the city. Additional work is required by the City to ensure all existing and future sidewalks have curb ramps.

About 38 percent of street miles (including City arterial, collector and local streets) lack sidewalk coverage along one or both sides (see Figure 11). These gaps are more common along arterial streets than collector streets, at 40 and 23 percent, respectively, of the street miles with no sidewalk on either side. These numbers do not incorporate off-street shared-use paths that may run alongside some roadways. Any future streets constructed in association with development projects will be required to construct sidewalks with curb ramps, increasing the overall sidewalk supply.

Transportation Projects and Priorities

This section describes the transportation system improvement projects – multimodal street improvement, intersection improvement, pedestrian/bike improvement, transit enhancement, and demand/system management – to address the system needs identified in earlier text in order to bring transportation facilities and services to the established level of service.

The list of projects was developed through three main sources including stakeholders, relying on previous plans (such as the North Shore Subarea Plan), and independent project team evaluation. The Camas project list is consistent with the RTP 6-year project list.

The full list of projects is identified to improve the transportation network along major streets in the City's planning area, regardless of their priority or their likelihood of being funded. The TSP focuses on streets in the planning area with a functional classification of Collector or higher. Additional improvements will occur with private development in the planning area, including the build-out of the local street network consistent with the applicable standards.

The planning process from the TSP screens candidate projects to set aside those that may not be feasible due to environmental or existing development limitations. The remaining projects

are a combination of new and previous ideas for the transportation system that seek to address the gaps and deficiencies in the city.

The full project list, included in Appendix ~~E~~H, includes 99 projects totaling over $180 million in total investments. For the purposes of cost estimates, project design elements are identified, however, the actual design elements for any project are subject to change and will ultimately be determined through a preliminary and final design process and are subject to City, WSDOT, Clark County, and/or other partner agency approval. The projects were assigned to one of several categories:

- Multimodal Street Improvement - these projects will improve or construct new multimodal streets throughout the planning area, each with facilities for motorists, pedestrians, and bicyclists. A total of 29 projects have been identified that, as of 2024, will cost an estimated $72 million to complete.
- Intersection Improvement – these projects will improve safety and mobility at intersections throughout the planning area. A total of 19 projects were identified to construct new or improve existing intersections that, as of 2024, will cost an estimated $64 million to complete.
- Pedestrian/Bike Improvement – these projects include stand-alone sidewalk, path and roadway crossing improvements, and an integrated network of bicycle lanes, marked on-street routes and shared-use paths to facilitate safe and convenient travel citywide. A total of 39 pedestrian and bicycle projects were identified that, as of 2024, will cost an estimated $38 million to complete.
- Transit Enhancement – these projects will enhance the quality and convenience for transit passengers. One transit project was identified that, as of 2024, will cost an estimated $1 million.
- Demand/System Management – this will encourage more efficient usage of the transportation system. Two projects were identified that, as of 2024, will cost an estimated $450,000.







Transportation Facility Maps

Figure 10 Bicycle Facilities

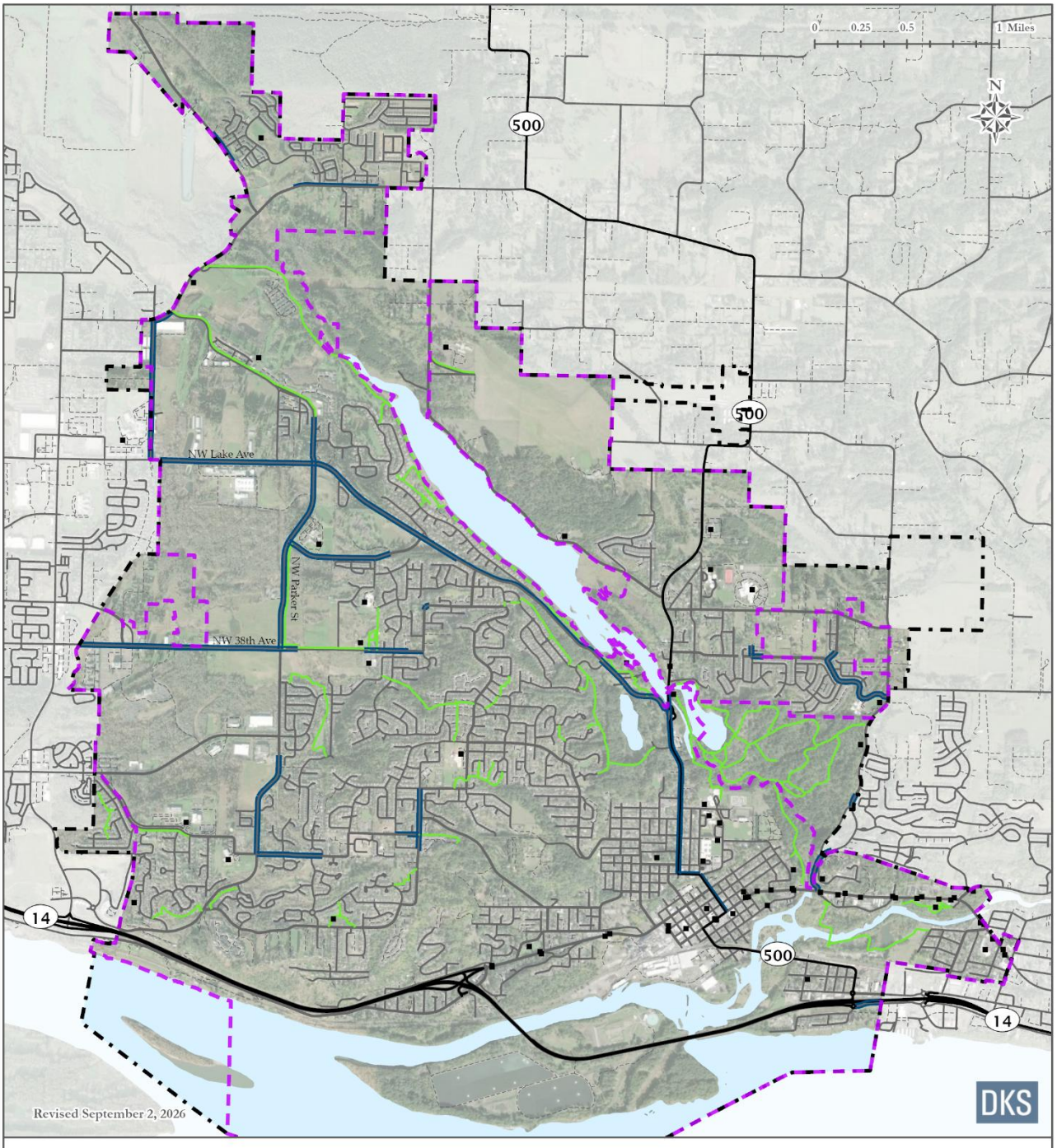


Figure 11 Pedestrian Facilities

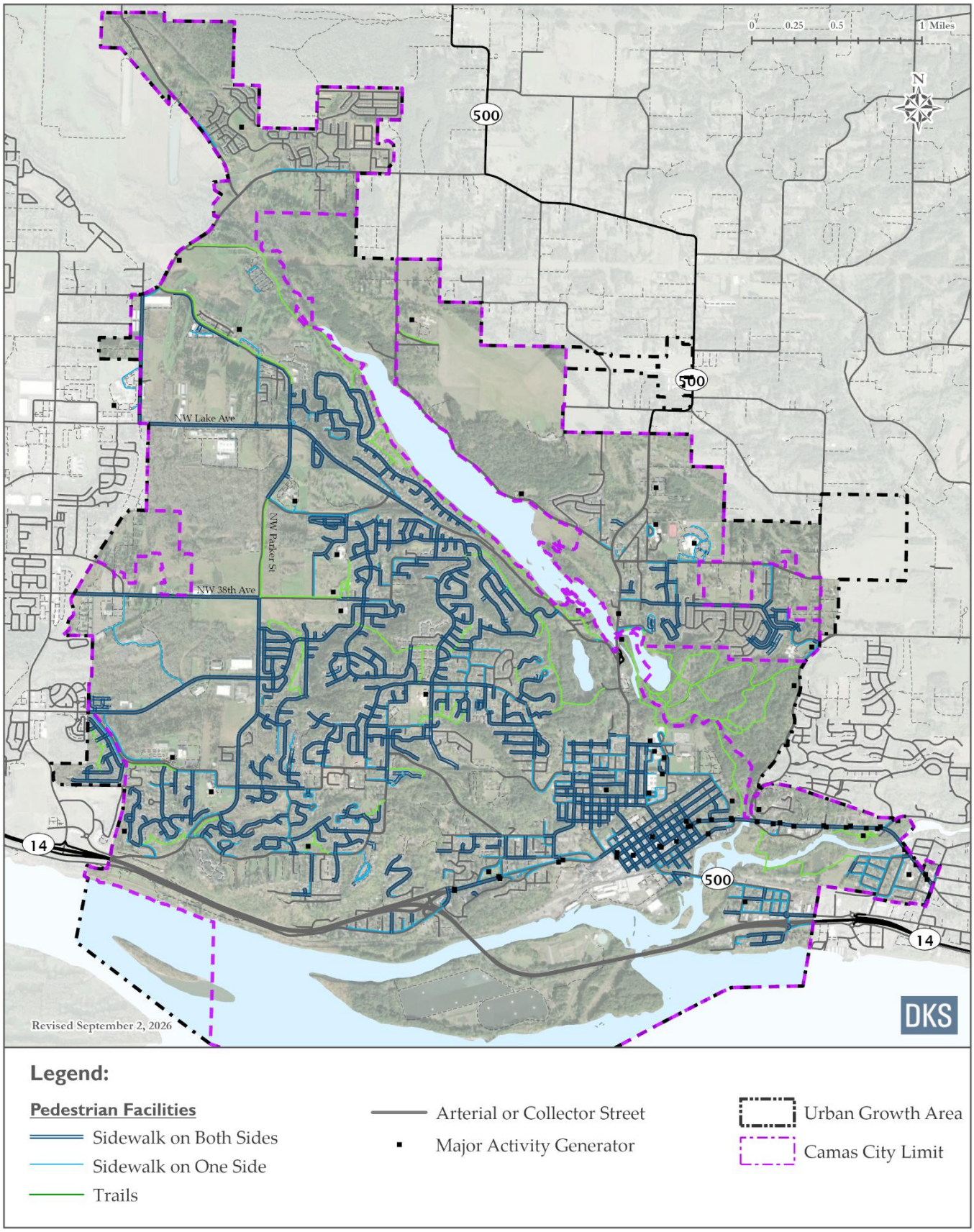


Figure 12 Street Network

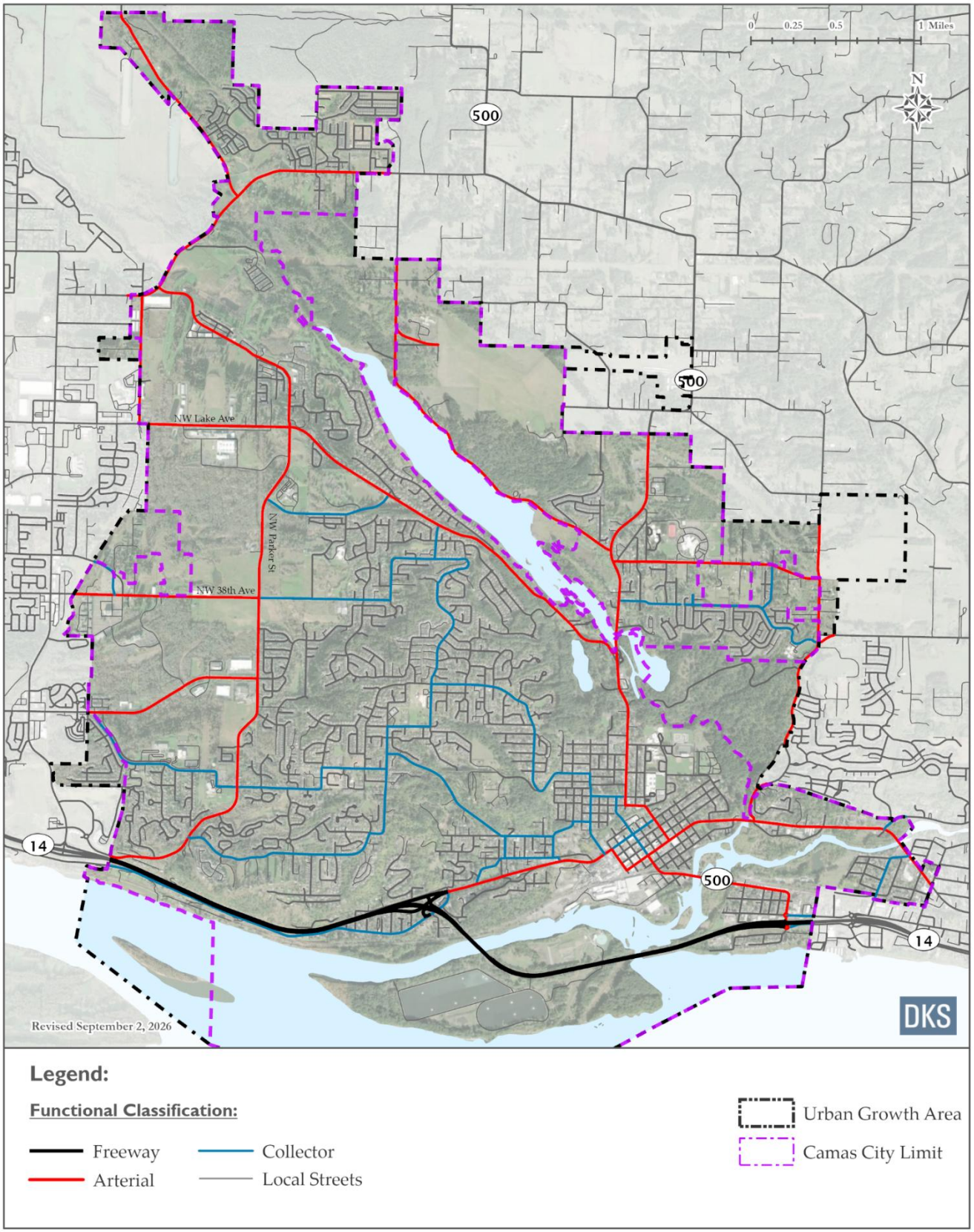
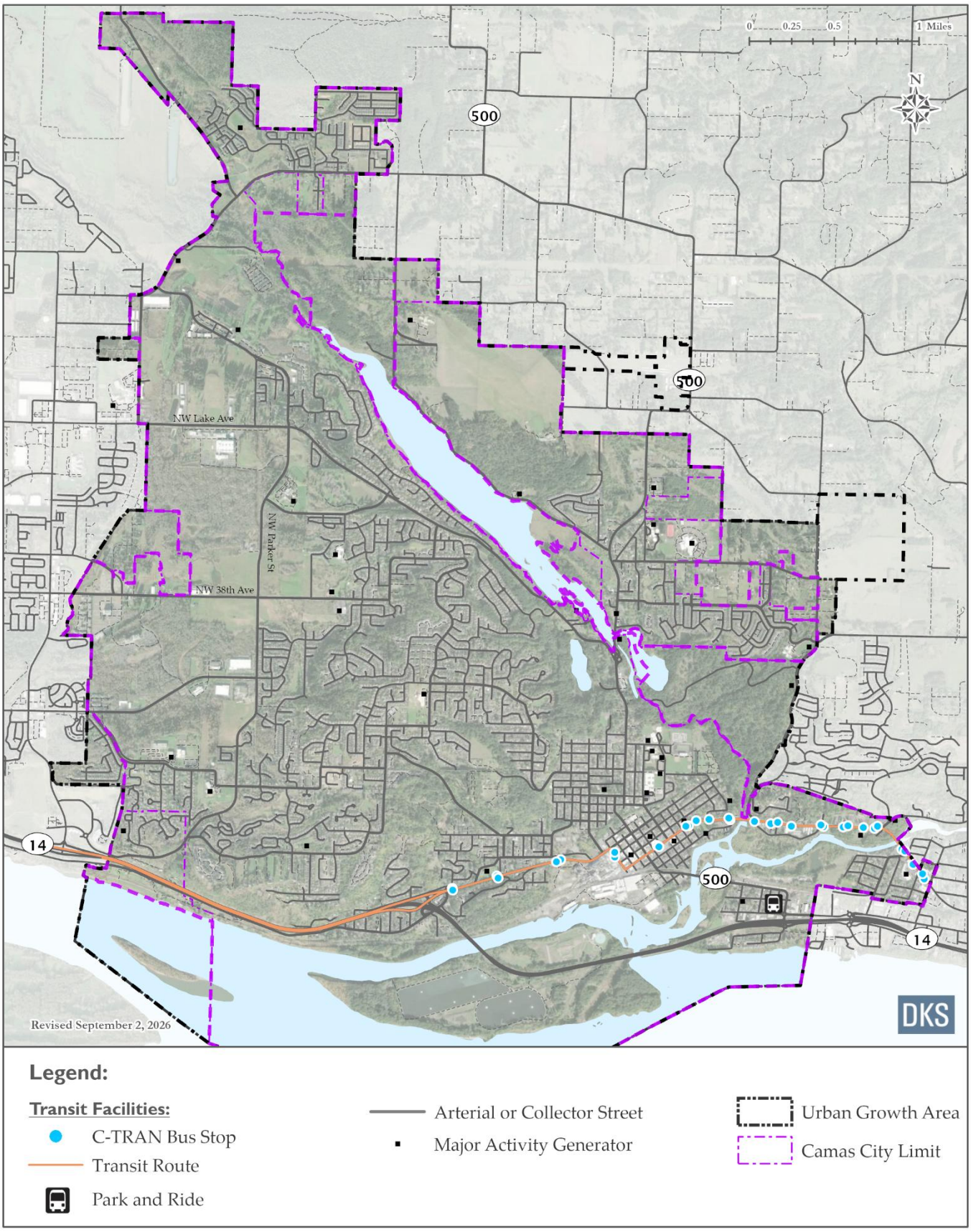


Figure 13 Transit Facilities



Transportation Goals and Policies

Goal TR-1 Complete Streets

Streets will function for all users of all abilities including bicyclists, pedestrians, transit users, and motorists.

Policy TR-1.1 Implement the Transportation System Plan (TSP) to maintain the livability of Camas and guide decision-making for transportation-related projects, policies, and design. Ensure consistency between the TSP, the Parks, Recreation and Open Space Plan and the 6-year street plan.

Policy TR-1.2 Maintain the transportation system to enhance safety and efficiency for all users, facility aesthetics, access management measures and the overall integrity of the system.

Policy TR-1.3 Construct streets that are interconnected and avoid long cul-de-sacs or dead ends. Block lengths should be less than 1,000 feet. Include pedestrian and bicycle linkages in the construction of cul-de-sacs and other forms of dead-end streets. Existing dead-end streets should be retrofitted to provide bicycle and pedestrian linkages as practicable.

Policy TR-1.4 Develop and implement design standards that provide attractive streetscapes, encourage appropriate traffic volumes and speeds, and support multi-modal safety. Include enhanced roadway features such as roundabouts, decorative lighting, and landscaping in gateways and design overlay areas.

Policy TR-1.5 Minimize access to new development and redevelopment along City arterials and consolidate access points when spacing is insufficient.

Policy TR-1.6 Provide routes designed for active transportation to encourage mode shift for short trips. Route planning should seek shortcuts and other opportunities that provide advantages to active transportation users. Public investments should support active transportation routes such as street lighting, safe crosswalks, and protected bike lanes.

Policy TR-1.7 Coordinate with Camas School District to implement a safe routes to school program to encourage the use of alternative and active transportation.

Policy TR-1.8 Develop and implement Complete Streets design in all new and retrofit street projects to support the use of alternative travel modes. Adopt engineering design standards consistent with Complete Streets goals.

Policy TR-1.9 Increase wayfinding signage for outdoor destinations throughout the City.

Policy TR-1.10 Inventory current bicycle and pedestrian networks to identify gaps in route coverage. Support filling in network gaps as new development and redevelopment occurs to create a bicycle and pedestrian network that is safe, comfortable, and accessible to people of all ages and abilities.

Policy TR-1.11 Minimize cut and fill roadway design and, where feasible, minimize restructuring the natural contours of the land.

Policy TR-1.12 Encourage the inclusion of low impact development (LID) design features (e.g. rain gardens, grass pavers, pervious pavement) in the design of road surfaces.

Policy TR-1.13 Require LED lights in new development and replace existing inventory that lack LED features.







Goal TR-2 Local and Regional Transit

Regional transit will provide safe, efficient, and dependable service to the Camas community for a variety of trips within and outside of the city.

Policy TR-2.1 Coordinate with local municipalities, Washington Department of Transportation, adjacent counties, and C-TRAN to ensure that minimum roadway and multi-modal design standards are consistent.

Policy TR-2.2 Partner with C-Tran to advocate for and develop transit options that are safe, convenient, frequent, and accessible for Camas residents.

Goal TR-3 Traffic Safety

Design and construct safe transportation facilities that meet applicable requirements.

Policy TR-3.1 Encourage traffic safety through education, enforcement, and engineering. Use traffic calming, traffic diversion, and other available tools such as landscaping, trees, and art to ensure a comfortable and safe environment for all users.

Policy TR-3.2 Provide adequate access for emergency vehicles throughout the city.

Policy TR-3.3 Develop safe pedestrian and bicycle routes between residential areas, schools, and public facilities.

Policy TR-3.4 Require new development to implement designs standards using the Neighborhood Traffic Management Plan.

Policy TR-3.5 Identify high accident areas and implement specific measures to reduce accident occurrences.

Goal TR-4 Transportation Demand Management

Transportation planning will achieve the efficient use of transportation infrastructure, increase its person carrying capacity, and accommodate and facilitate future growth consistent with land use objectives.

Policy TR-4.1 Require large employers to implement a commute trip reduction program for employees, as mandated by state law.

Policy TR-4.2 Support intergovernmental development review.

Policy TR-4.3 Support the Regional Transportation Council (RTC) with funding and staff participation to the extent possible.

Goal TR-5 Concurrency and Level of Service

The City will maintain the adopted LOS standards for all arterial streets and transit routes.

Policy TR-5.1 Encourage growth in areas with existing or planned infrastructure capacity.

~~Policy TR-5.1~~Policy TR-5.2 Pursue the programs and policies listed in the TSP in order to bring transportation facilities and services to the established LOS.

~~Policy TR-5.2~~Policy TR-5.3 Require new development to demonstrate that adequate person trips are available, or that multi-modal improvements to the transportation system will be made to accommodate the impacts concurrent with the development.

~~Policy TR-5.3~~Policy TR-5.4 Utilize traffic impact fee studies, development traffic impact analyses, and corridor studies to identify deficiencies and plan improvements to maintain or improve LOS standards.

~~Policy TR-5.4~~Policy TR-5.5 Take the following actions (in no priority order) if the probable funding falls short of meeting identified needs: 1) delay development until programs, facilities, or services can be funded; 2) obtain the revenue needed or revise the transportation plan to reflect known financial resources; 3) reassess the land use element, including land use designations and proposed densities. As a last resort measure, ~~; or 3)~~ change the transportation LOS standard~~, which is a last resort measure~~.

Goal TR-6 Transportation Revenue

Maximize the use of state and federal funds for transportation capital, operating, service, and demand improvements.

Policy TR-6.1 Maintain a capital improvement plan (CIP) that identifies construction and improvement priorities and funding.

Policy TR-6.2 Ensure that the transportation impact fee program responds to land use changes, supports connectivity, and requires new development to pay its proportionate share of needed capacity.

Policy TR-6.3 Support the Pavement Asset Management System and other maintenance programs to ensure cost-effective maintenance of transportation facilities and efficient use of public funds.

Policy TR-6.4 Develop equitable transportation impact fees to assess developers a fair-share contributions for any transportation improvements.

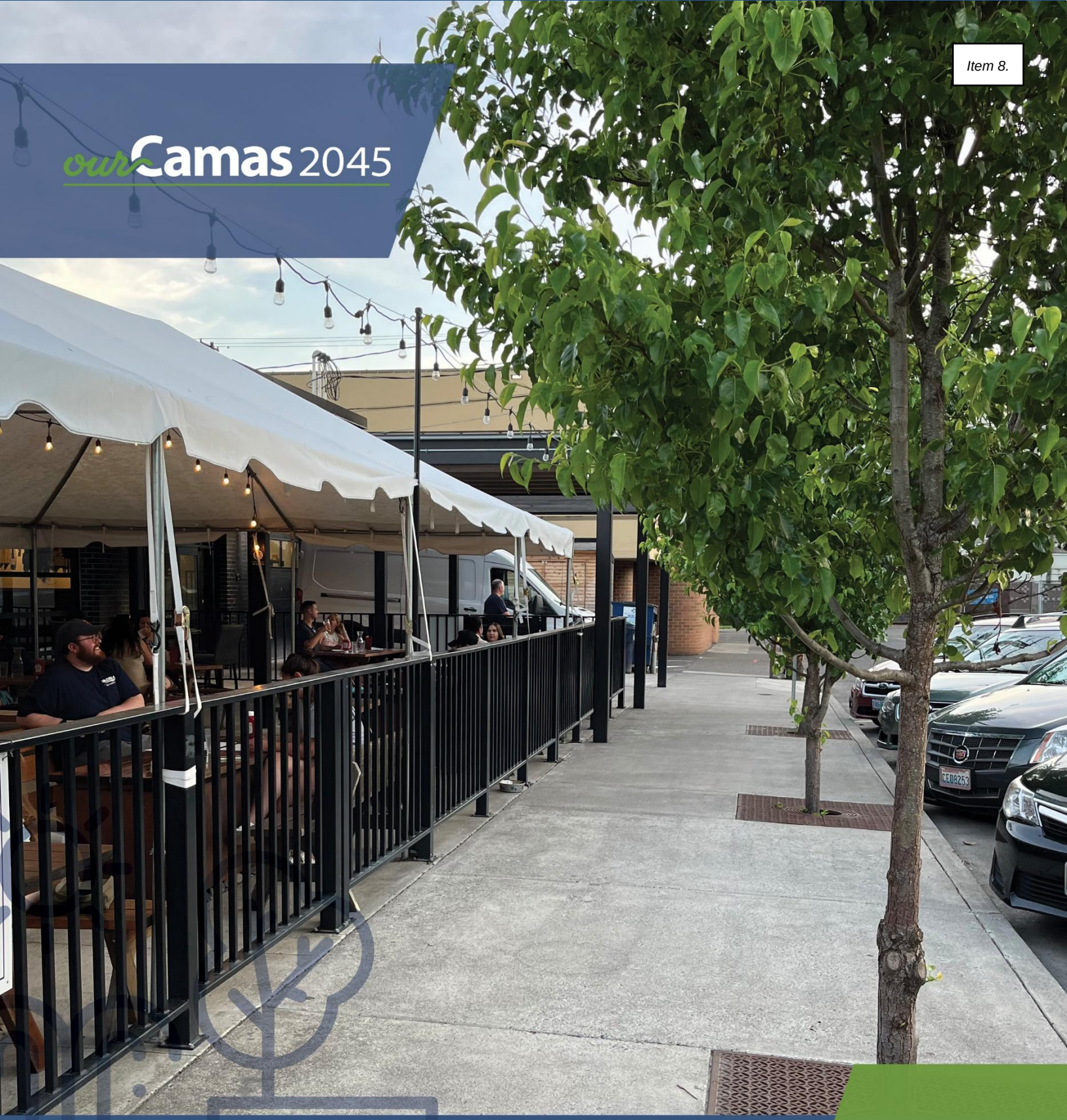
Policy TR-6.5 Prioritize transportation funding for multi-modal improvements that will enhance safety and access between infill areas, schools, and employment centers.

Policy TR-6.6 Focus transportation projects in economic development areas to act as catalysts for job growth.





ourCamas 2045



Public Facilities & Services

09

09. Public Facilities & Services

Purpose

Plan for adequate facilities that are consistent with the other elements, goals and policies of Our Camas 2045, can accommodate the projected population and employment growth and land use plan, and based on sound fiscal policies for the City.

Vision

In 2045, Camas residents enjoy the city's parks, trails, community centers, and other recreational opportunities. The school district draws families to the community and the library continues its vital role as a place of learning. Residents value accessible police, fire, and emergency response services. Proficient government agencies maintain existing City assets and coordinate future development.

Introduction

The City of Camas is a full-service community that offers a breadth of public facilities, services, and utilities. Public facilities include such things as City Hall, the Camas Public Library, the Public Works Operation Center, Lacamas Lodge, the Community Center, the Camas Police Department headquarters, and Fire Stations 41 and 42. The majority of the City's functions and services are carried out from these facilities.

General government services include such departments as Administration and Human Resources, Community Development, Finance, Information Technology, and the Camas Public Library. General services include but are not limited to utility billing, human resources, city clerk functions, building and engineering permits and inspection, and activities of the City Council and city boards and commissions.

Other city services include Fire and Emergency Medical Services (EMS), Police, and Parks and Recreation. Fire and EMS services are provided in Camas and, via intergovernmental agreements, beyond Camas city limits. The Camas Police Station dispatches law enforcement services throughout the community. Parks and Recreation services are housed in several facilities including Lacamas Lodge, the Community Center, and through a myriad of parks, trails, open spaces, and special use buildings.

Public utilities, administered by the Public Works Department, includes the city's sewer system, water system, and municipal stormwater system. These systems have a variety of assets that support them and are scattered throughout the city.

Public Works also operates solid waste service. Garbage trucks are dispatched from the Operations Center, the hub of Public Works' activities, and the solid waste is transported to an off-site transfer station and then to a landfill in eastern Washington. The City budgets money for capital equipment, however, the solid waste system does not require the same kinds of investments that the sewer, water, and stormwater systems require.

The public facilities and services element is divided into four sections:

- Public Facilities and Services including fire, emergency medical and police services, parks and open space, and City owned facilities
- Public and Franchise Utilities including water, sewer, stormwater, solid waste, electricity, natural gas, and telecommunications
- Capital Improvement Plan
- School Districts

Related to this element is the City's Water System Plan (Appendix ~~J~~M), General Sewer Plan (Appendix ~~K~~N), Stormwater Management Program (Appendix ~~L~~O), and Capital Improvement Plan (CIP) (Appendix ~~M~~P), which provide comprehensive project lists and schedules guiding the investment of city resources in facilities and infrastructure. These resources are made up of local revenues as well as State, Federal and other sources. The plans listed above identify projects which have secured funding as well as a list of projects which have not yet been funded.

Level of Service (LOS) Standards

Under the GMA, adequate provisions for urban governmental services must be provided in the UGA. The goals and policies in this element are provided to address anticipated growth and maintain adopted LOS standards.

COMMUNITY FEEDBACK

- **Enhance community facilities including parks and libraries**
- **Develop multipurpose green spaces for sports and other recreation that support active lifestyles**
- **Improve the Mill Ditch trail with lighting, well-maintained pathway to connect community spaces**
- **Incorporate sustainable design features (such as daylighting, solar, and green roofs) in existing and new public buildings**
- **Update the City's Stormwater Design Standards Manual to include requirements for low-impact development or green infrastructure to reduce the amount of impervious areas in new development or redevelopment projects**
- **Protect groundwater recharge areas**

Public Facilities and Services

Many of the public facilities and services listed in this element have strategic plans and actions that guide maintenance and service improvements. The identified goals and policies were given consideration based on a framework of budgetary and operational guidelines as well as these strategic plans.

Fire Protection, Emergency Medical Services, and Police Protection

The city is served by the Camas-Washougal Fire Department (CWFD), which covers 20 square miles and 33,000 residents for fire protection and 80 square miles and 65,000 residents for emergency medical services. The Camas and Washougal fire departments consolidated in 2011 through a joint contract for service to improve efficiency and lower costs. CWFD averages approximately 5,000 fire and medical calls annually. The CWFD is the only fire department in Clark County to provide ambulance transport services, which requires additional training for the firefighters in addition to fire suppression techniques.

Camas Fire and EMS operates out of two stations – Station 41 located in City Hall on NE 4th Avenue and Station 42 located off NW Parker Street. Station 42 opened in 2001, while Station 41 was constructed in 1967 as part of City Hall.

Voters approved a capital construction bond in August of 2024 for a new downtown station and headquarters to replace Station 41. It will be located on the property occupied by the City Hall Annex building just west of City Hall on NE Fourth Avenue. When construction of the new Station 41 is completed in 2027, there will be vacated space in the City Hall building. Future uses for the vacated space have not been determined.

A Facility Conditions Assessment (FCA) (Appendices F and G) was completed in 2021 and lists some deficiencies in Station 42 in the form of HVAC, plumbing, electrical, and interior finishes that will be addressed with funding from a general obligation bond.

Beginning January 1, 2027, the Camas-Washougal Fire Department will become a regional fire authority operating independent of the City of Camas. The boundaries of this new agency will cover the municipal boundaries of the cities of Camas and Washougal.

The Camas Police Department operates a full-service police department from one location near the downtown core on NE 3rd Avenue. This 15,000 square-foot facility was built in 1998 and includes a 1,500 square-foot community/training room. Services include police response, community engagement, school resource officers, investigative follow-up, parking enforcement, code enforcement, and records services.

The City is currently investing over $400,000 in upgrades to the Camas Police Station by replacing end-of-life mechanical equipment. This investment will make it more cost-effective and environmentally resilient.

Parks, Trails, and Open Space

Camas' Comprehensive Parks, Recreation, and Open Space (PROS) plan, updated in March 2022, outlines a community vision for Camas that includes a high-quality park and recreation system, with a comprehensive open space and trail system linking all recreational sites to the regional trail network. The PROS plan is adopted by reference and included as Appendix ~~H~~K.

Parks and recreational opportunities in Camas include neighborhood parks that serve individual neighborhoods, natural open space areas that preserve resources throughout the community, and special use areas for specific recreation needs. Supplementing these are public and private sites and facilities, such as school sites, regional parks, and privately-owned recreation facilities.

In response to the community's feedback on the PROS plan, the City completed a Parks and Open Space Management Plan (POSMP), included as Appendix L~~I~~. The purpose of the POSMP is to maintain the existing facilities, fill gaps and improve trail connections, and develop and improve existing parks. The POSMP outlines a strategic vision for the thoughtful management of parks and open spaces within the city, ensuring that they continue to serve as resources for all users. The City will need to coordinate the POSMP with the comprehensive plan to ensure consistency.

During the City's review of land use designations, the PROS plan was reviewed to ensure that sufficient land is designated as Parks and Open Space.

Camas receives impact fees paid by new development for park, trail, and open space improvements that increase the capacity of the system. The expenditure of the collected fees will be applied to the total costs of implementing projects that are identified in the PROS Plan project list, and as further refined by the City's Capital Improvements Plan.

City Facilities

The comprehensive FCA reviewed 17 publicly owned buildings located at 11 different sites. The total square footage of the surveyed buildings is just under 276,000 square feet.

The FCA report notes the total replacement value of all facilities at $61 million in 2022 dollars. The reported deficiencies for the years 2022-2027 total $17 million with the priority needs (life safety and code issue deficiencies) at $6.3 million. Long-term needs would require $18 million for major maintenance projects.

Recently, the City appropriated funding, through limited general obligation bonds, to pay for many of the items listed as priority needs in the FCA. This approximately $7 million has allowed the City to attend to some of the high priority deficiencies.

Noteworthy on the list is Station 41 and the City Hall Annex. With passage of a voter approved bond in 2024 specifically to replace Station 41, the City Hall Annex building will be demolished, and the site will house the new Station 41, which will also serve as the headquarters of the new regional fire authority.

The Camas Public Library, located across the street from City Hall on NE 4th Avenue, provides library services to the community at-large. According to the FCA, the library is in need of priority improvements to address immediate deficiencies. Since the date of the report, the City is funding a number of deficiencies through a general obligation bond.

City and Franchise Utilities

Water

The City owns and operates a multi-source municipal water system which includes supply, treatment, storage, and distribution of potable water to residential and commercial customers. The City currently obtains its water from ten groundwater wells and two surface water sources that are treated to provide high quality water to customers. The City owns over 143 miles of pipelines in its water transmission and distribution system. Service is provided to customers across five major pressure zones and 18 subzones. Eight booster pumping stations are used to move water between pressure zones. Seven storage facilities, with a combined total of 8.45 million gallons (MG), provide storage for normal and emergency conditions, such as fire suppression. Additionally, distribution system includes numerous meters, isolation valves, and hydrants. Additional information regarding Camas Water Service, including existing and future capacity analysis, is available in Appendix MJ, Water System Plan (2019).

Figure 14 Water System Map

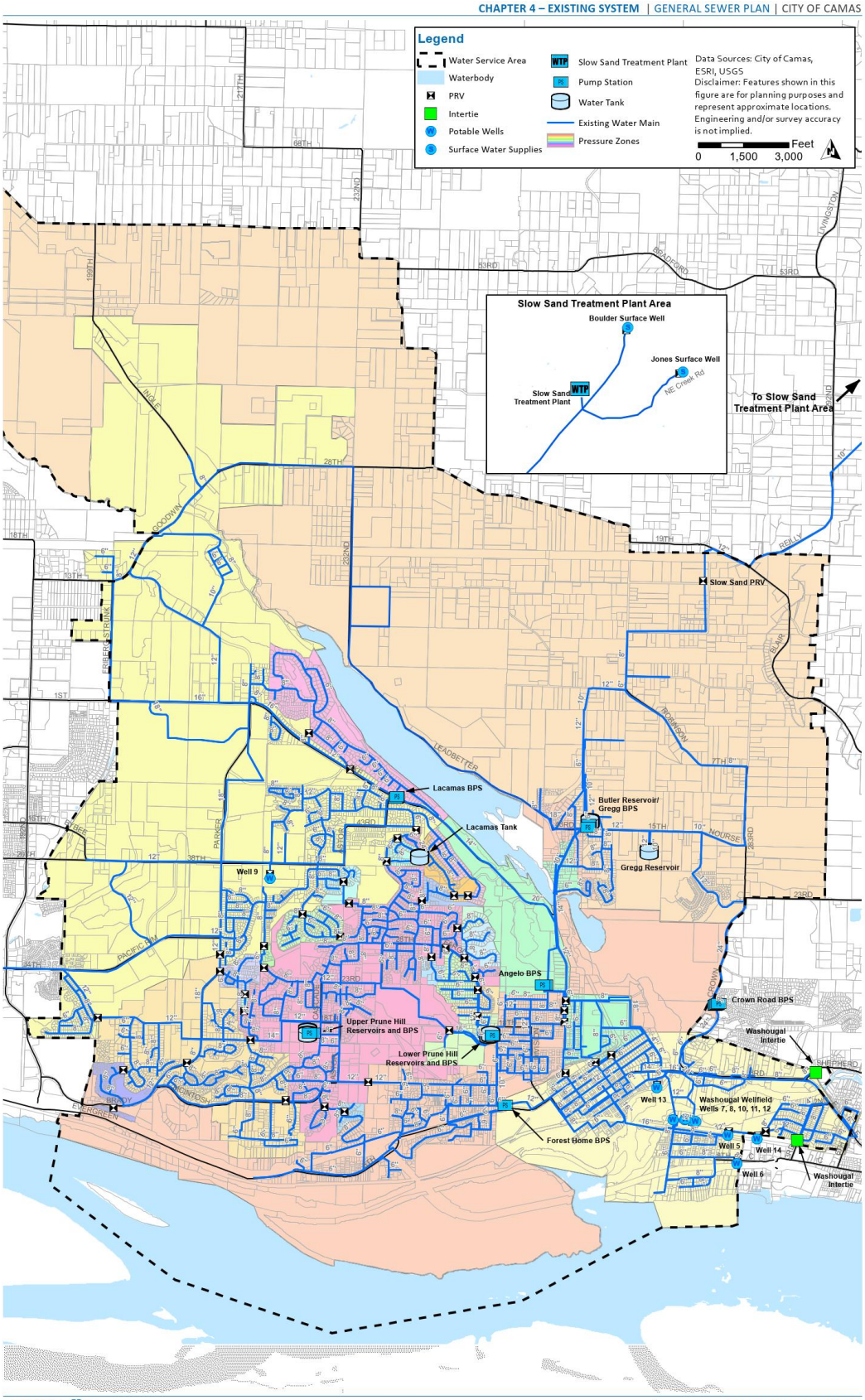


Figure 4.8 Water System Map

Sewer

The majority of the 7,700-acre UGA and the sewage collecting infrastructure inside the city limits is owned and operated by the City of Camas. The collecting system consists of traditional gravity sewers, pump stations, force mains, and septic tank effluent systems. The system includes 38,260 linear feet of force main, 29 lift stations, and 236,200 linear feet of gravity mains. Approximately half of the city is served by septic tank effluent systems and the other half by a traditional collection system. The City gathers, treats, and discharges wastewater into the Columbia River at the Camas Wastewater Treatment Plant (WWTP). See Figure 15 for a map of the existing system.

The City of Camas Sewer Division serves residences and commercial buildings, with approximately 8,500 customers, comprised of industrial, commercial, and residential users.

A collection system flow metering and projection of future need was conducted in 2018/2019 to evaluate the collection system using the City's hydraulic model. The results of this analysis are available in Appendix N, General Sewer Plan (2022), which develops a management plan for the system over the next 20 years.

Figure 15 Existing Wastewater Collection System

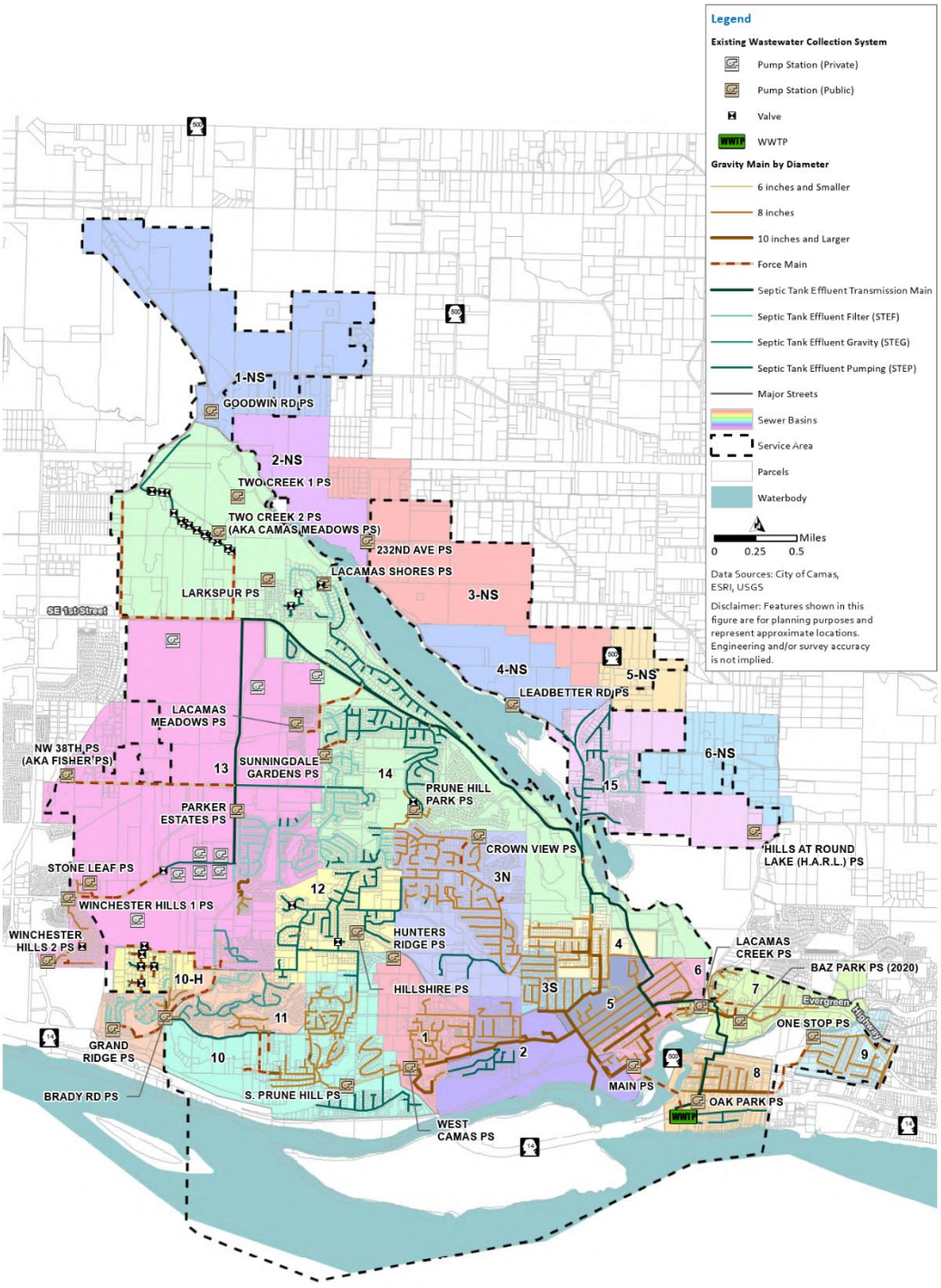


Figure ES.2 Existing Wastewater Collection System

~~The City of Camas Sewer Division serves residences and commercial buildings, with approximately 8,500 customers, comprised of industrial, commercial, and residential users.~~

~~A collection system flow metering and projection was conducted in 2018/2019 to evaluate the collection system using the City's hydraulic model. The results of this analysis are available in Appendix K, General Sewer Plan (2022), which develops a management plan for the system over the next 20 years.~~

Stormwater

The stormwater runoff generated from approximately 7,500 acres across the city of Camas is managed through 75 miles of stormwater conveyance pipe and 1,800 stormwater inlets and catch basins. The stormwater conveyance system is owned and maintained by the City. The City also owns and maintains stormwater facilities, including underground treatment vaults, detention ponds, biofiltration swales, wet ponds, drainage ditches, and culverts. These have been geolocated on the City's Stormwater Management Action Plan (SMAP) Public Input Map. The SMAP identifies actions to protect and improve receiving waters' water quality. Commercial and residential stormwater facilities are privately owned and maintained per stormwater code CMC 14.02.200 Ownership and Maintenance. These privately owned facilities within the city are geolocated on the SMAP Public Input Map. Additional details on stormwater management in Camas can be found in Appendix ~~L~~O, Stormwater Management Program (2026), which is reviewed and updated annually. A map of city owned and private stormwater facilities is available online: Camas Stormwater Facilities.

Solid Waste

The City owns and operates its own solid waste utility which provides for the collection and transfer of solid waste refuse to the Clark County-owned Washougal Transfer Station. The City is responsible for managing garbage collection within the Camas boundaries. The City has established universal compulsory solid waste collection, requiring all residents and businesses to maintain solid waste service. The City contracts with Waste Connections of Washington to provide recycling and yard debris management, collection, and disposal. The City also contracts with Waste Connections to provide large container service (larger than 2 cubic yards) to those with greater solid waste handling needs.

All cities and towns in Clark County have delegated responsibility for solid waste transfer and disposal planning to the County, including Camas. The currently adopted Clark County Comprehensive Solid Waste Management Plan (CSWMP) was adopted in October 2025. Agreements between Clark County and its cities commit each to the plan and to the plan's waste disposal system.

Franchise Utilities

There are several other utilities, some of which are provided by public entities and others by private entities, that contribute to the functionality and prosperity of the community. The main utilities include electricity, natural gas, and telecommunications. Electricity is provided by Clark

Public Utilities (CPU), a customer-owned public utility; natural gas is provided by Northwest Natural; and telecommunications, including high-speed internet, are provided by a variety of companies (e.g. Comcast, Verizon, Frontier, etc.). No detailed inventory regarding the capacity of these utilities is available.

Electrical

Clark Public Utilities (CPU) (https://www.clarkpublicutilities.com/) provides electricity to Camas and throughout Clark County. CPU balances strategic planning for the future with present rate and service stability in compliance with changing requirements at the local, state, and federal levels. CPU is led by an elected board to plan for integration of new technologies and has indicated there is ample capacity to meet existing demand for areas within both the incorporated City limits and the UGA. Power supplies are provided through a combination of power supply contracts and purchases from the generating system.

Natural Gas

Delivery of natural gas to Camas and its UGA is provided by Northwest Natural (https://www.nwnatural.com/). The delivery of natural gas is governed by the Federal Energy Regulatory Commission, the National Office of Pipeline Safety, and the Washington Utilities and Transportation Commission (WUTC). The City's regulations include safety and emergency provisions, LOS standards, and rate limitations. Northwest Natural provides natural gas service to all of Clark County. The alignment of the main pipeline crosses the Columbia River at the area of the Port of Camas-Washougal. Additionally, Northwest Natural is improving its backbone through the City with the installation of a large-diameter high-pressure gas main connecting Lake Road and Pacific Rim Boulevard.

Telecommunications

Verizon provides local telephone service to the City and its UGA. Many of the telecommunication facilities, including aerial and underground, are co-located with those of the electrical power provider. Frontier Communications also provides telecommunications to a large number of customers in the Camas area. Contact information for telecommunication utility providers is available on the City of Camas website (https://www.cityofcamas.us/utilities/page/new-resident-information).

Capital Improvement Plan

The 6-year Capital Improvement Plan (CIP) is a significant component of the financing plan and is adopted as part of the biennial budget. It includes a list of projects, project start dates, estimated cost, and funding. The CIP is a shorter term funding plan that directs available resources to specific projects including street preservation and improvements, fire and EMS, parks and recreation, stormwater, water, and sewer projects. The 2025-2026 CIP is included as Appendix ~~M~~P.

The first two years of the CIP are typically consistent with the adopted City budget. However, since capital expenditures often impact multiple years after funding has been committed, it is

prudent to plan ahead for the expenditure of funds for at least four years or longer. Additionally, some of the City's adopted plans include longer term expenditure plans in which resources are actively being pursued when opportunities arise.

School Districts

Public schools are recognized as one of the largest public services within the community. Education serves one of the most important roles in community health as the quality of education today impacts the skill levels, employment rates, labor supply, and wages of tomorrow.

The Camas School District has the most, and some of largest, public facilities in the Camas Urban Growth Area. The UGA spans two school districts. Camas and Evergreen School Districts are responsible for facility planning and service levels of the districts and coordination with the city's overall development. Both school districts are currently evaluating school facilities and overall needs to serve the community.

The Camas School District has prepared a 2022 Capital Facilities Plan (CFP) (Appendix ~~P~~S) to provide the County and the Cities with a schedule and financing program for capital improvement needs over a six year period (2022-2028) to ensure that adequate facilities are available to serve new growth and development.

The collection of school impact fees generates partial funding for construction of public facilities needed to accommodate new development. School impact fees are collected by the cities and County on behalf of the District at the time plats are approved or building permits are issued. Impact fees are calculated based on a formula, which includes the portion of District construction resulting in increased capacity in schools. The districts submit their capital facilities plans every other year, accompanied by impact fee calculations. The plans describe the existing and planned school facilities and services.

Anticipated property acquisition and new construction is based on the enrollment forecast, capacity, the District's educational standards and the community's support of finance tools to fund improvements.



Public Facilities and Services Goals and Policies

Goal PFS-1 Fire Protection, Emergency Medical Services, Police Protection

Provide fire protection, emergency medical services, and police protection to Camas and accommodate growth in the community.

Policy PFS-1.1 Plan for fire and emergency medical services to include adequate land, building, and equipment to effectively serve the geographic area of the city north of Lacamas Lake (North Shore).

Policy PFS-1.2 Assess the level of service needs and provide fire, advanced life support emergency medical, and police services that meet the community demand. Maintain service levels as growth occurs.

Policy PFS-1.3 Ensure the installation of commercial fire sprinklers where required by code and strongly encourage their use when installation is optional.

Policy PFS-1.4 Pursue funding to maintain fire facilities, including all fire apparatus at levels that best serve the community. Fire apparatus includes fire suppression equipment such as engine, water tenders, brush trucks and command officer vehicles.

Policy PFS-1.5 Require all new residences to install fire sprinkler systems.

Policy PFS-1.6 Plan police annex facilities at strategic locations throughout the City.



Goal PFS-2 Parks, Trails and Open Space

A network of parks, trails, and open space will connect neighborhoods, wildlife corridors, and natural resources and enhance the quality of life for residents and visitors. Refer to the Camas PROS plan for additional goals and policies.

Policy PFS-2.1 Provide and maintain an active transportation network to increase connectivity to natural areas, wildlife corridors, and other natural resources in Camas.

Policy PFS-2.2 Ensure every neighborhood has access to a park within a 15-minute walk or roll.

Policy PFS-2.3 Provide safe and maintained parks, natural areas, and other recreational spaces that are accessible for all ages and abilities.

Policy PFS-2.4 Provide a continuous trail network around Lacamas Lake with ample access points, prioritizing active transportation users. Consider new public access points through dedications, easements, and acquisitions. Partner with transit agencies to plan and implement transit service to Lacamas and Round Lake.

Policy PFS-2.5 Explore the development of dog parks within special use park areas to balance the needs of pet owners and other park users.

Policy PFS-2.6 Encourage the development of parks and playgrounds that have ample facilities for all users.

Policy PFS-2.7 Work with the Camas Parks & Recreation Department to acquire land for parks, trails, recreational uses, and habitat conservation.

Policy PFS-2.8 Enhance water conservation methods and technologies in development of irrigation infrastructure within parks and recreation areas.

Goal PFS-3 City Facilities and Services

Provide facilities and services to support the functions of City government and the community, including cemetery, animal control, and the public library.



Policy PFS-3.1 Develop an expansion plan (e.g., new municipal facility, meeting space) to accommodate additional personnel.

~~Policy PFS-3.2 Ensure that the municipal building and primary services remain downtown.~~ Maintain a strong civic presence in Downtown Camas, while exploring opportunities to expand and distribute municipal facilities and services throughout the City.

~~Policy PFS-3.3~~Policy PFS-3.2 Incorporate sustainable and low climate impact design into city buildings. ~~Promote~~Consider LEED certification ~~(or similar)~~or other sustainable design strategies and best practices when developing or renovating ~~for all~~ publicly owned facilities.

~~Policy PFS-3.4~~Policy PFS-3.3 Utilize the City's capital improvement program to develop alternative transportation facilities and electric vehicle charging infrastructure for public facilities.

~~Policy PFS-3.5~~Policy PFS-3.4 Maximize the developed and undeveloped property for cemetery use to meet future burial needs and trends and meet residents' service expectations.

~~Policy PFS-3.6~~Policy PFS-3.5 Provide economic stability to the cemetery fund by reducing dependency on the general fund.

~~Policy PFS-3.7~~Policy PFS-3.6 Develop a strong volunteer and donation program for the cemetery.

~~Policy PFS-3.8~~Policy PFS-3.7 Continue animal control partnership with the City of Washougal.

~~Policy PFS-3.9~~Policy PFS-3.8 Maintain funding and support for library services that meet the demands of current and future residents.

~~Policy PFS-3.10~~Policy PFS-3.9 Assess need and solutions for additional library services throughout the growing City.

Goal PFS-4 City and Franchise Utilities

Provide utility services, including energy and communication facilities and their services, to all businesses, residents, and properties in the City limits.

General Utilities Policy

Policy PFS-4.1 Maintain and improve City utility systems through preventative maintenance and regular assessments and improvements to meet regulatory standards.

Policy PFS-4.2 Where service is available, require connection to public water for domestic and irrigation needs and connection to sewer systems. Promote connection to sewer and water before system failure of private well or septic.

Policy PFS-4.3 The City should be the sole provider of urban services, including water and sewer, within the UGA for sewer service and the Water Service Area for water. Require all new construction connect to city systems. Prohibit construction of new private wells and subsurface sewage disposal systems in new developments.

Policy PFS-4.4 Do not extend utilities without annexation or commitments for annexation. Exceptions may be made in cases where human health is threatened. In areas where utilities presently extend beyond City limits, but are within UGAs, plan development jointly with the County. A joint development must be consistent with City standards.

Policy PFS-4.5 Coordinate plans for providing public utility services in UGAs and rural areas with plans for transitioning undeveloped land to urban uses.

Policy PFS-4.6 Plan public utility services so that service provision maximizes efficiency, cost effectiveness, is equitably distributed and ensures concurrency. Coordinate with other entities to provide services within the urban area.

Policy PFS-4.7 Update capital facility plans on a regular cycle that aligns with the Comprehensive Plan's projection year to ensure public facilities meet the needs of the community.

~~Policy PFS-4.6~~Policy PFS-4.8 Take the following actions (in no priority order) if the probable funding falls short of meeting identified needs to maintain or expand facilities: 1) delay development until programs, facilities, or services can be funded; 2) obtain the revenue needed or revise the Capital Facilities Plan to reflect known financial resources; 3) reassess the land use element, including land use designations and proposed densities; or 4) change the LOS standard.

Water Service Policy

~~Policy PFS-4.7~~Policy PFS-4.9 Extend adequate public water service throughout the City's urban areas that meets state requirements and provides minimum fire flow as required by the Fire Marshal.

~~Policy PFS-4.8~~Policy PFS-4.10 Conserve and protect groundwater resources to provide safe, clean, high quality drinking water to residents.

~~Policy PFS-4.9~~Policy PFS-4.11 Ensure water infrastructure is designed to City standards and is in place prior to land development.

~~Policy PFS-4.10~~Policy PFS-4.12 Coordinate with Clark County and other purveyors to eliminate private systems in accordance with the Clark County Coordinated Water System Plan.

~~Policy PFS-4.11~~Policy PFS-4.13 Coordinate with the County and the cities of Vancouver and Washougal to protect groundwater from contamination.

~~Policy PFS-4.12~~Policy PFS-4.14 Expand municipal reclaimed water systems and allow onsite non-potable water systems to reduce water demand in private-sector commercial and residential buildings.

~~Policy PFS-4.13~~Policy PFS-4.15 Eliminate the introduction of groundwater and surface water into the sewer system.

Sewer Services Policy

~~Policy PFS-4.14~~Policy PFS-4.16 Extend public sanitary sewer service, as required, throughout urban areas. Service may be provided outside urban areas to serve areas where imminent health hazards exist.

~~Policy PFS-4.15~~Policy PFS-4.17 Use traditional gravity sewer systems (in lieu of STEP systems) to serve future customers and reduce maintenance and power costs.

~~Policy PFS-4.16~~Policy PFS-4.18 Coordinate with Clark County to eliminate septic systems.

Stormwater Policy

~~Policy PFS-4.17~~Policy PFS-4.19 Provide a stable funding source to meet National Pollutant Discharge Elimination Systems (NPDES) Phase II requirements to manage and control stormwater runoff.

~~Policy PFS-4.18~~Policy PFS-4.20 Inspect homeowner association and other private facilities and provide directions and standards for repair.

~~Policy PFS-4.19~~Policy PFS-4.21 Meet water quality standards by providing best management practices for development activities.

~~Policy PFS-4.20~~Policy PFS-4.22 Establish baseline flows on each drainage basin or sub-basin for the analysis of deficiencies.

~~Policy PFS-4.21~~Policy PFS-4.23 Consider stormwater impacts during land use review processes and develop standards that would reduce the amount of impervious surface on existing and new development, including the creation and adoption of low-impact development standards and the use of green infrastructure, to address increased storm intensities and stormwater runoff.

~~Policy PFS-4.22~~Policy PFS-4.24 Require new development or redevelopment to comply with the Camas Stormwater Design Standards Manual and design criteria.

~~Policy PFS-4.23 Protect natural stream courses for water quality.~~

~~Policy PFS-4.24~~Policy PFS-4.25 Manage stormwater to safely pass surface water and maintain water quality of lakes, streams, and rivers.

Solid Waste Policy

~~Policy PFS-4.25~~Policy PFS-4.26 Provide for solid waste service throughout the City through continuance of self-collection of solid waste and contracting with private waste management companies to provide recycling and yard debris collection options.

~~Policy PFS-4.26~~Policy PFS-4.27 Continue a system of universal compulsory solid waste collection.

~~Policy PFS-4.27~~Policy PFS-4.28 Coordinate with the County to implement the Clark County Solid Waste Management Plan (CSWMP). Reduce the total production of waste, increase the recycling rate of waste that is produced, and properly manage and dispose of waste that is not recycled. Provide education and

outreach to businesses and the public on benefits and opportunities for waste reduction and recycling. Focus on residential recycling rates to improve participation rates similar to the rest of the County.

~~Policy PFS-4.28~~Policy PFS-4.29 Work with solid waste utility companies to determine if household food waste/compost can be accommodated in yard waste bins.

Franchise Utility Policy

~~Policy PFS-4.29~~Policy PFS-4.30 Minimize the effects on adjacent properties, the environment, and the visual quality of the community of siting, developing, operating, and maintaining facilities.

~~Policy PFS-4.30~~Policy PFS-4.31 Coordinate to provide reliable service through partnerships and agreements with utility companies.

~~Policy PFS-4.31~~Policy PFS-4.32 Promote the conservation of energy resources through the adoption of appropriate energy codes and efficient land use and transportation systems.

~~Policy PFS-4.32~~Policy PFS-4.33 Work with energy utilities to improve the safety and reliability of infrastructure vulnerable to climate change (e.g., undergrounding transmission lines).

Goal PFS-5 Capital Improvement Plan

Maintain and implement the Capital Improvement Plan in coordination with the biennial budget.

Policy PFS-5.1 Update the capital improvement plan biannually and include a statement of projected costs and sources of revenue.

Policy PFS-5.2 Ensure capital improvements enhance the community and add physical value to the City.

Policy PFS-5.3 Apply earnings from bond proceeds toward the debt service fund reserved for the future repayment of debt directly for enhancement of the project.

Policy PFS-5.4 Dedicate all or a portion of the first year of property taxes generated from newly incorporated areas to the Capital Fund.

Policy PFS-5.5 Dedicated funds and bonds may be used to fund essential capital improvement projects such as police, fire, and general municipal structures.

Policy PFS-5.6 Use voted, general obligation debt for discretionary projects such as recreation and library facilities.

Policy PFS-5.7 Prioritize projects that support the core services provided by the City.

Policy PFS-5.8 Ensure consistency of capital improvement plans with the adopted comprehensive plan map and evaluate if funding is adequate to provide necessary public facilities and services to implement the plan.

Goal PFS-6 School Districts

Support access to quality education and public schools through partnerships and investments.

Policy PFS-6.1 Encourage the Camas School District, Clark County, and the City of Camas to invest in mutual use facilities that support intergenerational and intercultural use.

Policy PFS-6.2 Coordinate planning between the Camas School District and the City of Camas to reflect school facility needs in response to growth forecasts.

Policy PFS-6.3 Ensure equitable access to schools and educational programs, specifically considering those in underserved areas, where needs and abilities may differ.

ourCamas 2045



Economic Development

10

10. Economic Development

Boosting the Local Economy

The economic health and well-being of the City of Camas is supported by providing a wide range of employment opportunities throughout the community and a setting and quality of life that is attractive to businesses and residents.

Vision

In 2045, Camas has cultivated a diverse and thriving economy with stable employment opportunities and living-wage jobs across various sectors, including technology, healthcare, manufacturing, retail, recreation, and professional services. Camas residents have access to a wide range of services and amenities in their community, while benefiting from excellent regional connectivity and the city's proximity to Portland International Airport. Camas is a gateway to nature and recreational opportunities, supporting regional tourism in the area. Camas is home to a thriving economy and diverse businesses, affording residents ample employment opportunities. Neighborhood commercial hubs connect residents to daily services and amenities through a network of sidewalks and bike lanes, improving access and connectivity. Professional office, medical, and industrial uses typify western Camas, with retail businesses supporting these firms and nearby residents. The North Shore area will fulfill the employment and retail needs of the growing population on the northeast side, and reduce trips outside the city. Downtown Camas anchors the community with a dynamic economic landscape and retains its historic atmosphere as a walkable, attractive place to shop, dine, and gather. Inclusive housing options within the city's core contributes to a town center that supports local businesses.

Approach for Updating this Element

The approach for updating the economic development element for the 2026 to 2045 planning horizon was informed by community input (outlined below), state legislation requirements, priorities, and a comprehensive economic profile. This profile integrated the best available information from public and private data sources to assess the city's economic trajectory, opportunities, challenges, and economic conditions and competitiveness. These insights help build a factual basis for the updates.

Community Engagement Insights

Interactive open houses and interviews with stakeholders provided information about economic development strengths,

challenges, opportunities, and actions in Downtown Camas and other areas in the City. Engagement activities identified the following themes that could contribute to future decision-making related to economic development in Camas.

COMMUNITY FEEDBACK

- **Support for infill development in North Shore**
- **Maintain land for commercial and manufacturing jobs**
- **Maintain Downtown's quaint, small-town character and support the mix of older and newer businesses**
- **Increasing housing density near Downtown will support more amenities in the area**
- **Need for more indoor and outdoor gathering spaces**
- **Explore opportunities for ground floor activation**
- **Partner with groups such as the Chamber of Commerce, Port of Camas-Washougal and CREDC to proactively recruit new businesses and industries and ensure that tools and incentives are in place to attract and retain living-wage employment**
- **Support local businesses and provide incentives for new businesses and industries with a grant program**

City of Camas Competitive Position

The city's competitive position can be summarized in terms of strengths, weaknesses, opportunities, and threats. These represent internal and external factors that can have positive or negative impacts on economic outcomes in Camas. Several ideas added to the summary below are based on feedback received through community engagement activities. Table 11~~Table 9~~ below outlines key findings associated with economic growth and development.



Table 119 Strengths, Weaknesses, Opportunities, and Threats Summary Analysis

STRENGTHS

High quality of life amenities like parks and recreation opportunities including new City investments in capital projects.

- Downtown experiencing high visitation and high demand for retail spaces (increasing rents, low vacancy).
- Responsive permitting, ongoing maintenance of the public realm.
- No Washington State income tax.
- Proximity to Portland International Airport.
- Well regarded public schools.
- The Downtown Camas Association is completing a comprehensive Downtown lighting plan with a state grant to support safety.

WEAKNESSES

Rising housing costs, purchasing a home is unaffordable for those under 120% AMI.

- High industrial rents and very low industrial real estate vacancies.
- Development standards related to height was cited as a barrier by stakeholders.
- Need Downtown development to be feasible to build (pencil).
- Highly constrained lands may be difficult to develop for commercial or industrial land uses (such as in Washougal).

OPPORTUNITIES

Attract highly skilled workers with locational flexibility.

- Develop pathways for youth to gain skills and seek jobs in Camas.
- Identify target industries for managing land capacity and expected growth.
- Incentives for existing business owners, wishing to expand their operations.
- Opportunities for Downtown redevelopment and partnerships with Downtown businesses and nonprofits (such as Downtown Camas Association, the Port, Chamber, Farmers Market, and more).
- Develop mill ditch into a compelling, easy, and beautiful trail system that is clear to connect with from Downtown and improve the trails to encourage local resident activity and to attract visitors.
- Need more hotels and conference space.
- City should partner more with the Downtown Camas Association on incentive programs.
- Improve pedestrian safety throughout downtown.

THREATS

Unequal rates of homeownership by race and ethnicity indicating unequal economic opportunities.

- Disparities between remote and non-remote workers.
- Anchor employer changes.
- Safety threats that could be supported by better lighting, street tree improvements, safer crossings for pedestrians in the Downtown.
- Need to balance preserving historic features with new development in Downtown.

Broad Planning Context

Comprehensive planning in Washington is guided by the Growth Management Act (GMA), a series of statutes first adopted in 1990 which requires cities and towns within the state's most populous counties to fully plan for future growth (RCW 36.70A) and develop mandatory comprehensive plan elements. State provisions set limits on what actions cities and counties can take to support economic development. Article 8, Section 7 of the state constitution specifies that "No county, city, town or other municipal corporation shall hereafter give any money, property, or loan its money, or credit to or in aid of any individual, association, company or corporation, except for the necessary support of the poor and infirm."[18] Given this limitation, cities generally cannot directly use public funds to attract private development and instead target policies that facilitate economic growth through land use, infrastructure, tourism, marketing, and partnerships with nonprofit community-based organizations.

Cities in Washington also coordinate with county-level Associate Development Organizations (ADOs) that represent each of Washington's counties, funded in part by the state Department of Commerce. The Columbia River Economic Development Council (CREDC) represents Clark County and presents a baseline of goals and objectives for the region. Their former 2018-2023 Comprehensive Economic Development Plan outlined goals and actions based on a vision and set of values and guiding principles identified through extensive engagement with local partners, which have carried through and expanded with the more recent 2024 Comprehensive Economic Development Plan with new supplemental actions to encourage economic development for communities within Clark County.

New objectives in CREDC's regional economic development plan expand on support for entrepreneurship, placemaking investments, fostering development and redevelopment projects, and expanding equitable employment opportunities. The Plan also recognizes the growing role of smaller cities like Camas outside of Vancouver which are seeing fast population growth and opportunities to develop their own employment bases.







[18] RCW 35.21.703 does allow cities to contract with nonprofit corporations to advance economic development.

Table 12~~10~~ Goals and Objectives from 2018-2023 CREDC Comprehensive Economic Development Plan

Source: CREDC

	2018 Plan Objectives	2024 Update Objectives
Expand the Existing Base	• Become Industry Experts • Strategically Market Industry Clusters • Build a Start-Up Ecosystem	• Reduce Site Infrastructure Hurdles • Grow Start-Up Ecosystem • Support Permitting Consistency • Explore Commercial Code Flexibility • Foster Small Business Networking
Support People	• Foster Skills Development • Prepare Youth for Economic Opportunity • Launch a Brain Gain Initiative	• Align Workforce with Employer Needs • Enhance Access to Career Pathways • Support Talent Retention
Create Place	• Each Community Creates a Placemaking Strategy • Embrace Economic Opportunity in Urban Center • CREDC Tells the Story of Place • Make Areas Desired by Industry Clusters Shovel-Ready • Determine All Transportation Needs on a Regional Level	• Leverage Placemaking Investments • Encourage Infrastructure Investments That Cross Municipal Boundaries

The Clark Countywide Planning Policies provide guidance on economic development across incorporated and unincorporated areas of the County (the County also distinguishes policies specifically for unincorporated areas, but not for jurisdictions and their UGAs). These policies were updated in 2026.

Buildable Land Capacity and Employment Capacity

Cities fully planning for adequate land capacity to meet the needs of the community must understand their current employment base, development trends, workforce housing availability, income segments of the population, and future projections. To fully plan for growth and meet community needs in compliance with state provisions, more suburban cities like Camas that are growing in terms of employment must understand the dynamics of the local and regional

economy, consider where employment is concentrated and how residents and workers access employment opportunities, what industries are growing or declining, and whether there is sufficient space to fulfill anticipated employment land needs alongside other uses.

Washington's Review and Evaluation Program (the Buildable Lands Program, RCW 36.70A.215) requires certain counties, including Clark County, to establish their own buildable lands programs and review past development and density patterns to see if local policies are effective and prepare to plan for the next 20 years of growth, through a "Buildable Lands Report" released before a Comprehensive Plan update.

Clark County has updated its Vacant Buildable Lands Model (VBLM) as a part of their 2026 periodic update of their Comprehensive Plan. This VBLM provides a basis for the available employment capacity in the City of Camas based on available buildable land (including both vacant and underutilized land), current zoning, and market and employment density assumptions. Table 13~~Table 11~~ below shows the County's current allocation of jobs for the City of Camas and the Camas Urban Growth Area (UGA) and the 2023 Vacant Buildable Lands Model (VBLM) capacity and yield calculations.[19]

This analysis shows that the City of Camas has an overall job target of 13,658 jobs; however, not all of those jobs create demand for commercial or industrial land. The County estimates that 2,043 of the allocated jobs will consist of work-from-home employment, field-based construction employment, or government employment accommodated on public land or existing facilities. Accordingly, the employment land capacity target for Camas is 11,615 jobs as documented in Clark County's 2025 Population, Housing and Employment Allocation memorandum.[20]

Evaluating employment capacity is necessary to determine whether the job growth allocation (determined by the county) can be accommodated within the City of Camas and Camas UGA(s). Sufficient capacity is available if employment growth capacity is equal to or greater than the City's allocation. If sufficient capacity is not available, the shortfall must be addressed by rezoning, or revising allowable density, or by modifying or creating a new UGA or annexed area to provide additional area for employment growth capacity. To help provide geographic context for this analysis, see Figure 1, a map of the City of Camas and its existing and proposed Urban Growth Areas.

[19] This has been modified since the County's 2020 Buildable Lands Report, which identified 963 net buildable acres (296 on commercial land, 667 on industrial land) in the Camas UGA (Clark County Buildable Lands Report, 2023).

[20] Clark County Community Planning, 'Clark County Comprehensive Plan 2025 Update 2025 Population, Housing and Employment Allocation – Issue Paper 5,' April 2024, https://clark.wa.gov/sites/default/files/media/document/2024-04/issue_paper_5_pop-emp_alloc_4_17_24.pdf.

Table 1311 Employment Capacity and Allocation by UGA, Clark County

Source: VBLM 2023, Capacity and Yield by Jurisdiction. Note: The County total estimate is 88,100 jobs accounting for government, construction, rural, and work from home jobs.

Jurisdiction	2023-2045 Employment Allocation	2023 VBLM Capacity	Assumptions		
			Work from Home	Construction	Government
City of Camas and Camas UGA	**13,658 jobs**	**12,423 jobs**	615 jobs	879 jobs	549 jobs
Total Clark County UGAs and Cities	**83,695 jobs**	68,406 jobs	3,524 jobs	5,038 jobs	8,600 jobs

Additional analysis refining the employment capacity is underway that is based on key City of Camas zoning and UGA modifications. The City of Camas is adopting zoning modifications and expanded the UGA to allow for additional employment capacity. According to these refined employment capacity estimates, Camas has capacity for 12,423 jobs which exceeds the 2045 employment target of 11,615 jobs.

Clark County's Buildable Lands Report, 2023, Key Findings

Clark County's Buildable Lands Report was adopted in June 2022 to update the methodology and Vacant Buildable Lands Model (VBLM) and updated with 2023 data.

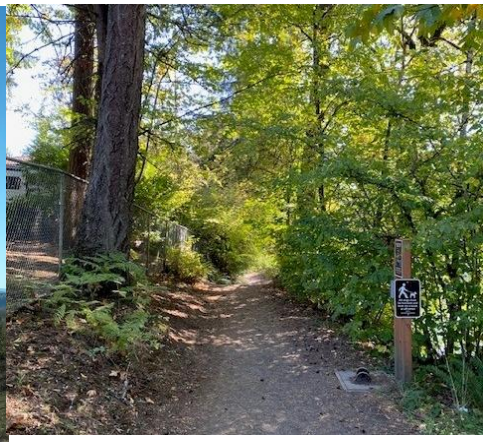
- The Clark County Buildable Lands Report and employment allocations and City of Camas estimates indicate that there is sufficient employment capacity for employment growth in the county through 2045.
- Camas has the second largest share of total projected jobs in Clark County (17.5%) after the City of Vancouver and the Vancouver Unincorporated Urban Area (U). The City of Camas is expected to have capacity to accommodate 11,363 jobs, with about half (55%) of new employment on commercial land and half on industrial (45%).

City of Camas Profile

The early economy in Camas was at first dominated by manufacturing but has shifted and diversified over time. In 2018, the mill now owned by Georgia-Pacific, shut down several facilities and all but one of its paper machines and downsized its workforce to roughly 150 workers. In 2026, the mill began a multi-year revitalization project which includes removing buildings and equipment no longer needed for papermaking as well as new investments to upgrade equipment and infrastructure. The City's past economic health was closely tied to the paper mill but has shifted to become more diversified supporting many technology and manufacturing firms, as well as a growing school system and professional offices. In the last four decades, the family-friendly city with close ties to the Portland Metropolitan Region has continued to attract more residents, especially from 1990 to 2000 by almost doubling in size to almost 13,000 people, increasing to a little over 19,000 people in 2010, and then reaching 27,420 people by 2023. Similar to the City of Vancouver, Camas has experienced high population growth over the last two decades, with an average annual growth rate of 5.2% which is double the rate in Clark County and Washington State.

Today, the City of Camas is a highly desirable place to live, offering a prime location nearby the growing cities and employment centers of Vancouver and Portland, and the smaller cities of Washougal and Battle Ground in south Clark County. The City of Camas is sandwiched between the City of Vancouver (sharing a border on the west side of Camas) to the west and the City of Washougal to the east. At a regional level, the City is interconnected to the Portland Metropolitan region, located northeast of Portland (see map below).

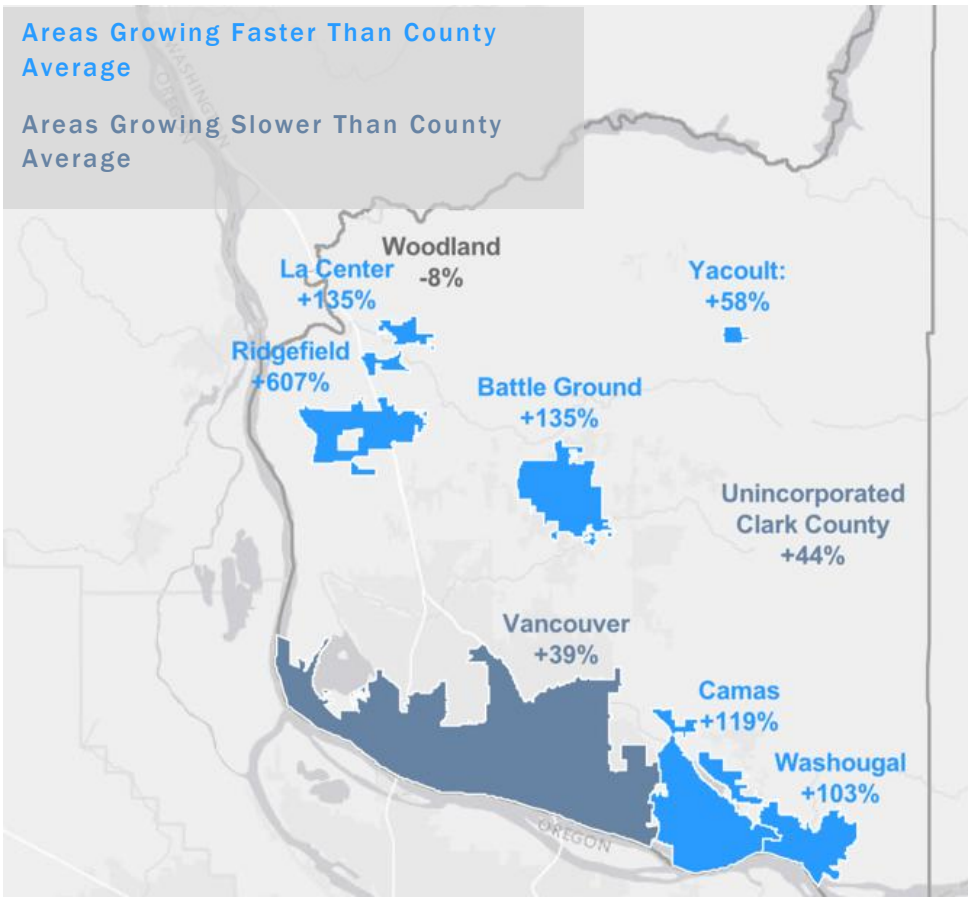


Camas has been working to advance its economic development goals in recent years while investing in quality-of-life amenities that make it a competitive location for attracting workers and residents. Recently, the City adopted a North Shore subarea plan (2022) to support community vibrancy and economic development strategies and the City is working to adopt a new Downtown subarea plan as part of the 2026 Comprehensive Plan periodic update. The City has also been expanding its inventory of parks space by leveraging the County's Legacy Lands

program to expand its offerings of natural areas and recreation facilities. As larger economic trends increase locational flexibility (especially for professional services and traditionally office-based jobs), these types of investments will be critical for cities in the region to continue drawing in and retaining a residential base and workforce. The Port of Camas-Washougal manages an airport that is outside City limits, but most of the developable land in the North Shore area is within the airport influence area.

Figure 16~~15~~ Camas Compared to Clark County Cities



Source: Office of Financial Management Population Estimates

Economic Development Overview

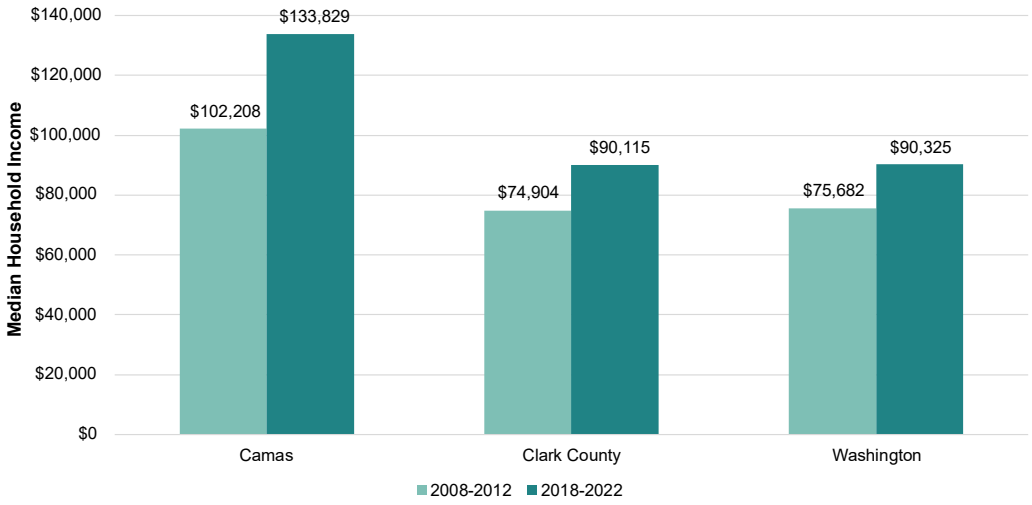
Economic development for the City of Camas is the creation and sustenance of a diverse array of employment opportunities, ensuring the tax base currently enjoyed by the City endures and is strengthened. The economic health and well-being of the City are tied to commitments to promote a wide range of employment opportunities for the community and to provide a setting and quality of life that attract businesses and residents.

Planning a diverse and vibrant economy must start by understanding current economic conditions in the City and Clark County. While the City's past economic health was closely tied to the paper mill, in more recent years, the City's economy has diversified and now supports many technology and manufacturing firms, as well as a growing school system and professional

offices. The figures below compare the median household income for Camas, Clark County, and Washington as well as employment and related trends over time.

As illustrated in Figure 17~~Figure 16~~ when compared with Clark County, wages in Camas are higher and have grown over the last decade. Higher wages can have positive impacts on other aspects of the economy, and community members have expressed their desire to support living-wage jobs, particularly in healthcare and high technology.

Figure 17~~16~~ Median Household Income, Camas, Clark County, and Washington



Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates
Note: 2008-2012 values are adjusted for inflation. Median household incomes are shown in 2022 $.

Growth in employment, population, and housing are interconnected. In general, communities with a high ratio of population to jobs can be characterized as "bedroom" or commuter communities, where there are fewer jobs than residents in the city. In Camas, there are roughly three residents for every one employee, indicating a continued trend from the past decade.

The ratio of jobs to housing has slightly increased from 0.9 to 1.0, indicating a healthy balance of housing units in comparison with employment and meeting the jobs-to-housing ratio of 1:1 adopted by Clark County (Resolution 2016-03-01). As the City grows, maintaining this trend can help to ensure there is adequate housing for those who work in Camas.

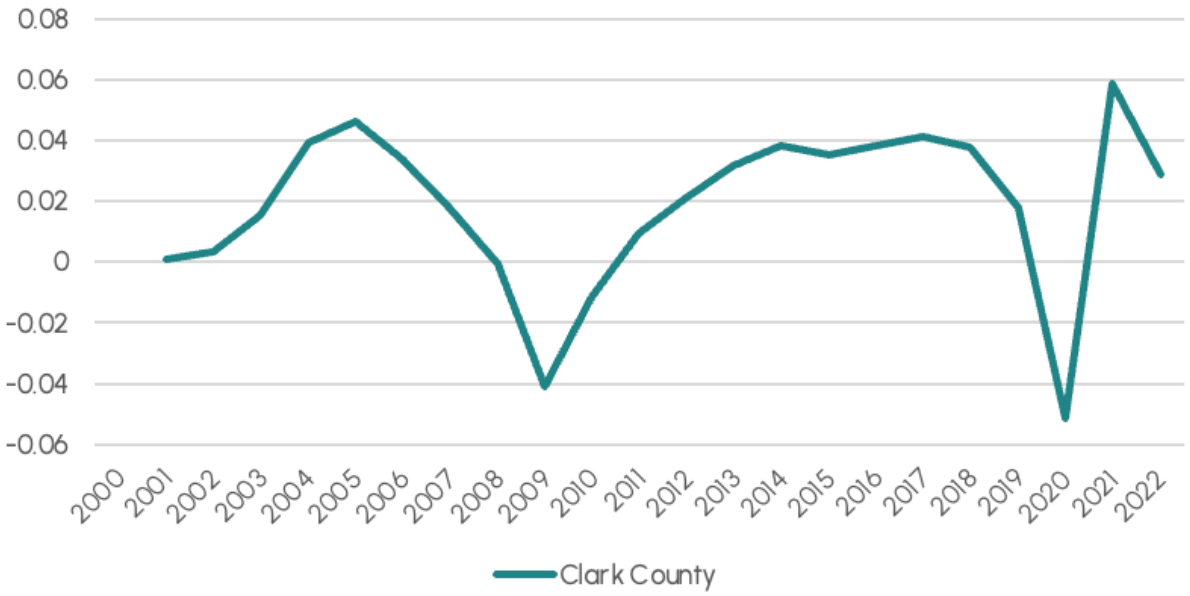
Table 14~~12~~ Population, Employment, and Jobs Comparison Ratios, Camas, 2010-2021

	Trends			Ratios	
	Population	Employment	Housing Units	Population : Jobs	Jobs : Housing
2010	19,355	6,508	7,072	3.0	0.9
2021	26,870	9,558	9,586	2.8	**1.0**

Source: OFM, LEHD-LODES. Note: Employment data is currently only available at the City level through 2021.

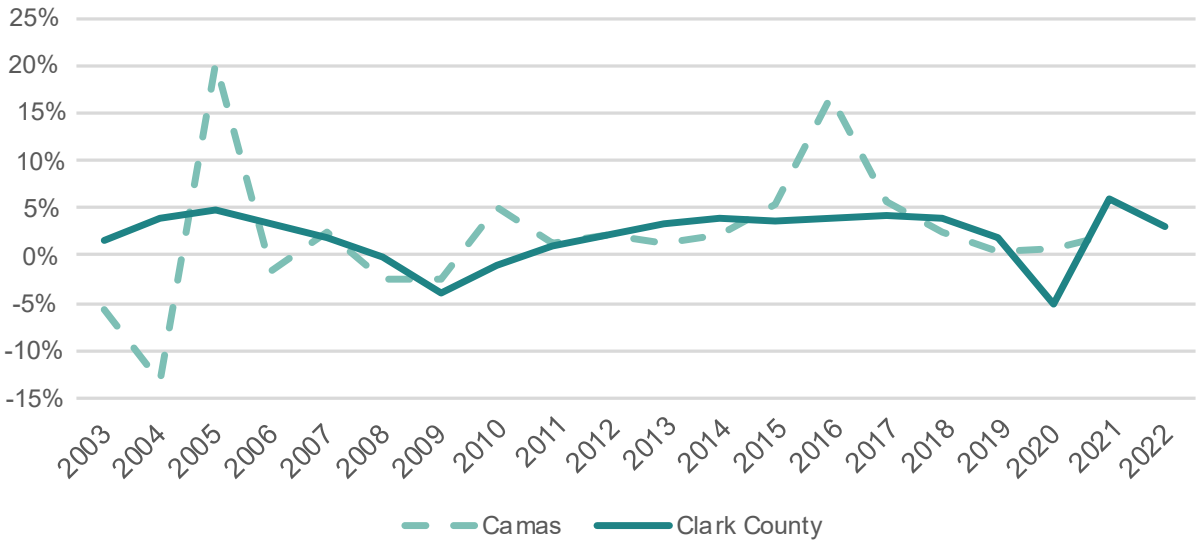
Overall, Clark County has seen fluctuations in employment since 2000, with the most notable decline in employment in the wake of the 2008 recession and at the onset of the COVID-19 in 2020. However, the County has also seen a rapid rebound from pandemic trends, with sharp employment growth after 2020. The City has generally seen positive growth in employment over the last two decades. The City saw less of a decrease during 2020 compared to Clark County overall, which may reflect Camas' growth in remote workers during this period (Figure 18~~Figure 17~~).

Figure 18~~17~~ Total Covered Employment Change YOY, Clark County (2001-2022)



Source: Washington Employment Security Department

Figure 19~~18~~ Total Employment Change YOY (Primary Jobs), Camas and Clark County

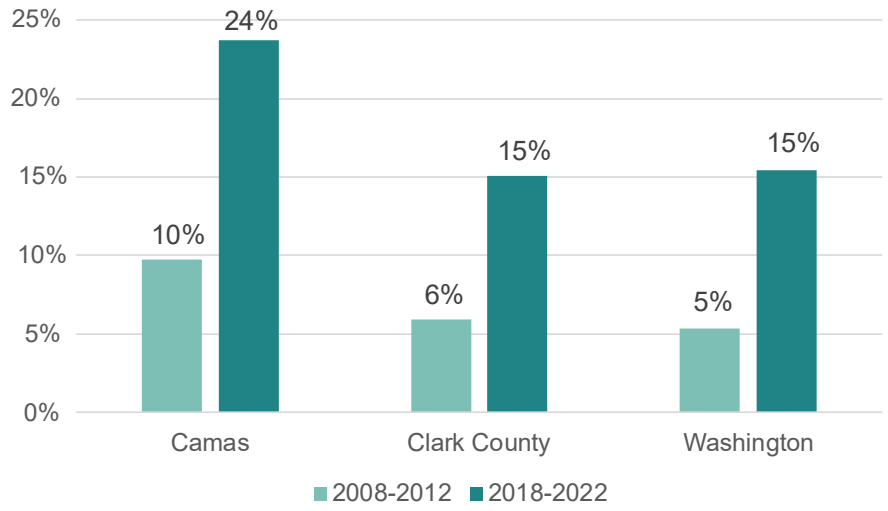


Source: Washington Employment Security Department, LEHD-LODES. Note: LEHD-LODES data for the City of Camas only available through 2021

The Economic Development Element establishes goals and policies that seek to maintain the diversification of employment opportunities and support the continued growth of the Camas economy and attainment of the jobs target by 2045.

The City is targeting businesses that provide a greater proportion of living-wage jobs. Increasing retail services in support of residential, industrial, and professional business growth is highly desirable. Camas is also seeing an increasing share of remote workers at a higher rate than the County or State, with nearly a quarter of workers falling into this category in 2022.

Figure 2019 Share of Remote Workers, Camas, Clark County, and Washington, 2012-2022



Source: ACS, 2008-2012, 2018-2022

Summary of Demographic and Economic Trends

A summary of key findings from this Economic Development Element analysis is provided below to help describe key insights regarding the economic context, economic opportunities and challenges informing plan updates (Appendix ~~N~~Q, Economic Conditions and Opportunities Analysis provides the full findings).

- **Camas has an aging population with a median age of 40 years in 2022 and a growing share of residents aged 60 years and over.** This group typically represents late-career workers or retirees. Median age in Camas is higher than Clark County overall and quickly growing since 2012, likely indicating a combination of natural growth and in-migration of older adults.
- **Camas has a higher share of residents 25 or older with at least a college level bachelor degree compared to Clark County or Washington State**, with 79% of residents holding these degrees in 2022. This share of residents rose quickly from only 37% in 2012.

- **Median household income for all households in Camas was nearly $134,000 in 2022, higher than Clark County or Washington State.** Since 2012, median income for residents of Camas increased by about 30% (in nominal dollars, not adjusted for inflation), more than either the County or State.
- **The City of Camas has seen generally positive trends in employment growth over the last two decades,** with notable increases in the number of workers in 2005, 2010, and 2016. The City of Camas employment grew from approximately 6,584 to 9,558 between 2011 and 2021.
- **The current employment to housing ratio in Camas was 1.0 in 2021, meaning that there is about one employee working in the City for every housing unit.** This ratio indicates that Camas has a well-balanced housing stock to accommodate workers in the City.
- **In 2021, the top five industries by employment in Camas were Finance and Insurance; Manufacturing; Educational Services; Professional, Scientific, and Technical Services; and Wholesale Trade.** Four of these five top industries paid above average wages (all except Educational Services paid below average wages). Finance and Insurance was the City's fastest growing industry (with an average annual growth rate of about 33%).
- **Top employers also reflect many of the County's largest industries, including professional services like finance and insurance, technology, manufacturing, and health care. Four of the City's top ten employers were in the manufacturing industry as of 2020.** Within Camas, employment has concentrated at two nodes, including the Downtown area to the southeast and corporate campuses in the Grass Valley near the border with the City of Vancouver.
- **Camas is part of an interconnected region, with more residents commuting out of Camas for work (8,159) than employees commuting in (6,982) as of 2021. Approximately 9,102 people are employed in Camas and among this total nearly 90% live in Camas (8,159) but work outside of the city and the remaining 10% live and work in Camas (943 people).** Top commuting destinations for Camas residents are primarily nearby, larger cities with employment hubs like Vancouver and Portland, while only 10% remained in the City. Nearly 59% commute less than 10 miles. The fourth most common destination for residents was Seattle, likely indicating remote workers at companies based in the Puget Sound area. Workers commuting to Camas originated from similar destinations, with one quarter coming from Vancouver.
- **Washington State Employment Security Department projections for future employment growth estimated that the Southwest Washington region will grow by about 19% overall by 2031.** The sectors expected to see the greatest increase in their share of employment are Professional/ Business Services, Leisure/ Hospitality, Education/ Health Services, Information, and Other Services.
- **Camas has a larger share of remote workers compared with Clark County and Washington State.** In 2022 one in four workers in Camas was a remote employee,

compared to 15% in both the County and State overall. The share of remote workers in Camas has grown since 2012.

- **Since 2020, the City has issued 8,652 new business permits, with the largest volume of new permits in 2020 and a decreasing amount annually after 2020.** General business establishments accounted for the largest portion of these permits (74%), followed by home occupations (25%), and nonprofits (1%).
- **Camas' taxable retail sales were higher than those in most comparable jurisdictions in Clark County over the past decade**, competing primarily with the City of Battle Ground for the highest annual sales. In 2022, total taxable retail sales reached an all-time high of over $600 million.
- **Retail rents in Camas had slight upward growth since 2014 while vacancies trended downward, indicating increasing demand for retail. Industrial real estate in the City of Camas is also performing well compared to Clark County in 2024.** The City is home to only about 3.9% of Clark County's industrial real estate in square footage but saw a sharp increase of industrial rents PSF in 2022, growing by over 200% year-over-year (YOY) to $23. Vacancy rates for industrial real estate were also extremely low in Camas in 2024 YTD at 1.7%, indicating high demand in the industrial market.

Implementation Tools and Strategies

Realizing the City of Camas economic development goals requires building on the City's potential while overcoming existing constraints. The following implementation strategies will generate positive momentum toward creating a more balanced and healthy economy.

Programmatic Strategies

- **Economic Development Committee:** Establish a mayor-appointed committee to help refine and implement Camas' economic development goals and strategies. The committee will:
  - Convene government, private sector, and nonprofit partners to leverage resources or secure financial support for economic development initiatives that benefit Camas and the broader region. In addition, this committee would help provide input on the Economic Development Strategy.
- **Economic Development Strategy**: Create an Economic Development Strategic Plan involving the Economic Development Committee, local businesses, community groups, school districts, and city leadership that further identifies priorities for job creation in targeted industries, infrastructure needs, reducing regulatory barriers, and incentives to attract needed and desired businesses.
  - Promote the development of an economic development strategy that will capitalize on the creation and retention of industries that provide living-wage jobs.
  - Future economic development strategy planning should capitalize on existing facilities and infrastructure and include a mix of uses that are trail- and transit-oriented and designed with high-quality streetscape appeal.

- Lead an economic development strategy update every 1 to 3 years.

Financial Strategies

- **Leverage Grant Dollars**: Utilize federal, state, and county grants to support the establishment and expansion of small local businesses and infrastructure improvements benefiting economic development areas.
- **Incentives**: Explore incentives to encourage mixed-use development and provide affordable housing options (such as TIF, LID, MFTE changes).
- **Partnership**: Coordinate with the Columbia River Economic Development Council (CREDC) or other relevant organizations, to explore collaborative opportunities in promoting regional workforce development.
- **Opportunity Site Inventory**: Identify sites where the city can participate in cost-sharing mechanisms for infrastructure development.
  - Establish a policy that prioritizes capital investments to or on opportunities sites or other capital projects that better connect commercial nodes. This could include sidewalks, trails, bike paths, etc.

Regulatory Strategies

- **Code Audit**: Ensure the zoning code supports/incentivizes a broad range of needed and desired businesses in various zones.
  - **Study Allowed Uses:** Ensure needed and desired businesses are allowed in certain zones, including accessory uses which can support home-based businesses.
  - **Design standards**: Consider revisiting existing design standards to ensure they adequately support efforts to maintain and enhance existing character without compromising development feasibility.
  - **Flexible parking standards:** Develop flexible parking standards that can respond to site conditions.
  - **Revised Gateway Corridor Design Standards:** Update the design standards and allowed uses for gateway corridors to enhance its natural beauty but deemphasize its auto-oriented environment.

Procedural Strategies

- **Capacity Building**: Leverage increased tax revenue from population growth to support Camas' economic development strategy.
- **Clear and Objective Development Standards**: Establish clear and objective development standards for all development types, reducing the need for conditional use processes or other discretionary review processes.
- **Monitoring**: Monitor the performance of economic development such as with business retention and attrition, changes in tax revenues, and permitting of employment facilities. Monitor the financial impact of new programs, policies, and regulatory requirements on

development feasibility by providing a report update every 1-3 years describing key metrics such as development changes and infrastructure projects.

Economic Development Goals and Policies

Goal ED-1 Citywide Economic Development

Maintain a diverse range of employment opportunities to support all residents, provide sufficient land supporting employment needs, and provide a setting and quality of life that attract and retain living-wage jobs[21] throughout the community.

Policy ED-1.1 Work with partners to identify strategies to proactively recruit businesses and ensure that tools and incentives are in place to attract sustainable and innovative industries to expand and provide stable living-wage employment.

Policy ED-1.2 Work with partners (such as the Chamber of Commerce, education programs, Workforce SW WA, CREDC) to provide apprenticeships, internships, vocational training schools, entrepreneurship programs, equitable opportunities, and on-the-job training in targeted industry sectors.

Policy ED-1.3 Encourage appropriate reuse, environmental cleanup, and redevelopment of older and deteriorating commercial areas and industrial brownfield sites. Identify opportunities to support place-based economic development, provide connections to the waterfront, diversify the economy, and support mixed-use development.

Policy ED-1.4 Foster and expand year-round recreational services, lodging, conference spaces, dining, and retail options to support tourism, benefit residents and employers, leverage Camas' strong parks and open space assets, and connect to the waterfront.

Policy ED-1.5 Participate in regional recruitment organizations to ensure the availability of an adequate supply of commercial and industrial employment land to support the City's economic development goals. Evaluate city resources to support economic development planning and implementation by designating a point-of-contact for economic development programs and serving as a liaison to the business community.

Policy ED-1.6 Support and encourage employees to use the Commute Trip Reduction Program. Encourage businesses to support remote work to reduce trips and

[21] A living-wage job is one that pays an income sufficient to cover basic living expenses without financial hardship, allowing an individual or family to afford essential needs such as housing, food, healthcare, transportation, childcare, and other necessities without relying on public assistance. MIT Living wage calculation (2024): https://livingwage.mit.edu/counties/53053.

implement a trip reduction program with incentives for carpooling, transit ridership, and other options beyond single-occupancy vehicles.

Policy ED-1.7 Encourage mixed-use development and complementary businesses throughout the City to support industry clusters and leverage resources.

Policy ED-1.8 Review regulatory design standards and planning procedures for industrial and commercial facilities and provide economic incentives to promote private investment in start-ups, incubator businesses, and businesses relocating to Camas.

Policy ED-1.9 Explore ways to support remote workers such as community hubs and third places and code revisions for co-working spaces.

Policy ED-1.10 Implement the Downtown Camas subarea plan and the associated goals and actions (see downtown subarea element).

Policy ED-1.11 Promote the growth of residential development in the North Shore as described in the Camas North Shore Subarea Plan.

Goal ED-2 Local Business Development

Promote business creation, expansion, retention, and diversification throughout the community to create a consistent and reliable tax base and a healthy, diversified local economy.

Policy ED-2.1 Identify and plan for infrastructure to nurture and incubate new businesses. Explore financing tools such as tax increment financing to fund infrastructure to support development and investment in targeted areas.

Policy ED-2.2 Support retention, expansion, and recruitment of local businesses in Camas.

Policy ED-2.3 Support development standards that promote high-quality building and site design, encourage businesses to operate in a sustainable and environmentally responsible manner and integrate energy efficient design features.

Policy ED-2.4 Collaborate with partners and agencies (such as CREDC and the Port of Camas Washougal) to develop economic strategies that promote diversification of business and industry in the city and facilitate opportunities for entrepreneurship.

Policy ED-2.5 Work with partners to proactively recruit and promote the growth of businesses and industries that provide, at a minimum, cost-of-living wages and economic diversity in alignment with the CREDC regional economic development plan.

Policy ED-2.6 Explore the creation of an economic development grant program for local businesses in connection with local partners.

Policy ED-2.7 Facilitate an environment for the success and growth of small businesses to maintain a strong, diverse, and resilient local economy.

Policy ED-2.8 Encourage investments and programs that provide resources and support to minority-owned and woman-owned businesses.

Policy ED-2.9 Increase the number of neighborhood business districts to expand local access to goods and services. Consider expanding mixed-use zoning options with ground floor commercial uses that allow residents to walk or roll from home.

Policy ED-2.10 Encourage shopping local to support Camas businesses.

Goal ED-3 Mixed Use and Commercial Areas

Encourage efficient and innovative development that thoughtfully mixes commercial and residential land uses that are pedestrian-friendly and consider the context of the surrounding area.

Policy ED-3.1 Develop commercial and mixed-use areas that are safe, comfortable, and attractive to pedestrians.

Policy ED-3.2 Encourage efficient land use in the mixed-use land use designation by facilitating compact, high-density development and minimizing the amount of land that is needed for surface parking.

Policy ED-3.3 Promote the growth of businesses such as grocery stores, medical offices, and restaurants that meet the retail and service needs of the community.

Policy ED-3.4 Encourage new developments to provide neighborhood parks and shared use paths to encourage greater physical activity and connect residential areas to commercial centers, public transit, and community facilities.

Goal ED-4 Mixed Employment and Industrial Areas

Providing a mix of traditional industrial and non-industrial land uses to maximize opportunities and partnerships and facilitate employers to remain, expand, or locate in Camas.

Policy ED-4.1 Evaluate the costs and benefits associated with adding the Grove Field Urban Growth Area to the North Shore Subarea Plan.

Policy ED-4.2 Preserve large tracts of land for large industry and master-planned commercial development within mixed employment land use areas.

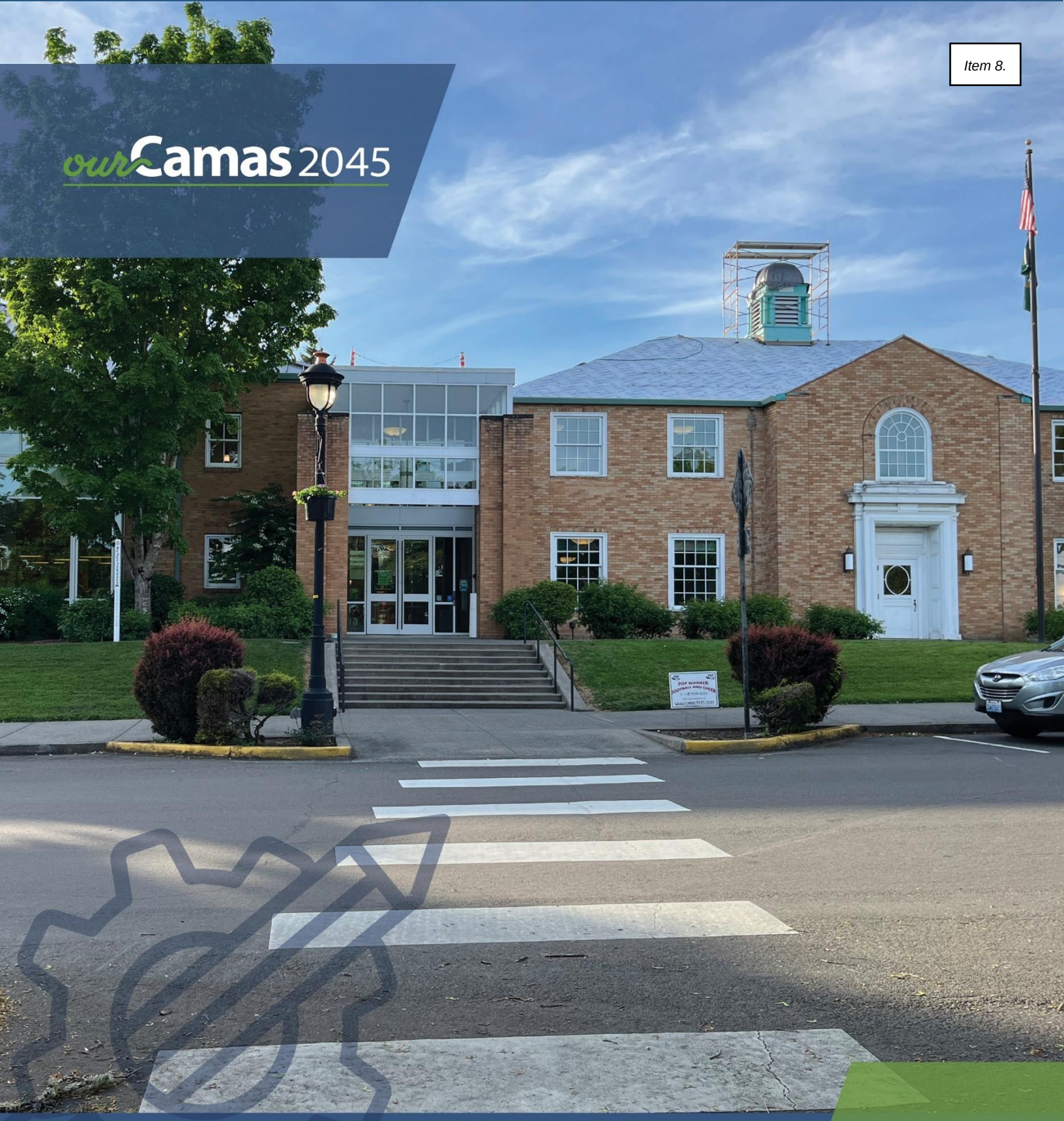
Policy ED-4.3 Support a mix of light industrial, research and development, manufacturing, and office spaces through flexible zoning that allows for evolving business needs.

Policy ED-4.4 Support the development of business parks, incubators, and innovation hubs that integrate industrial and high-tech employment uses.

Policy ED-4.5 Ensure zoning and development regulations support both large-scale employers and small businesses, including start-ups and maker spaces.

Policy ED-4.6 Support continued operation of the Camas Mill while recognizing the long-term potential for mixed-use redevelopment, including residential. Support environmental cleanup to standards protective of unrestricted land uses.

ourCamas 2045



Technical Appendices

11

11. Technical Appendices

A. Engagement Summaries
B. Housing Action Plan (2021)
C. Housing Analysis (2024)
D. Racially Disparate Impacts Memo
~~D.~~E. Housing Needs and Land Capacity Analysis
F. Equity Framework
G. Overburdened Communities and Vulnerable Populations Memo
~~E.~~H. Transportation System Plan (Draft, 2024)
~~F.~~I. Facility Conditions Assessment, Volume 1
~~G.~~J. Facility Conditions Assessment, Volume 2
~~H.~~K. Parks, Recreation & Open Space (PROS) Plan (2022)
~~I.~~L. Parks and Open Space Management Plan (POSMP) (2025)
~~J.~~M. Camas Water System Plan (2019, update forthcoming, anticipated adoption end of 2026)
~~K.~~N. Camas General Sewer Plan (2022, update forthcoming, anticipated adoption end of 2026)
~~L.~~O. Camas Stormwater Management Program (2026)
~~M.~~P. 2025-2026 Capital Improvement Project List
~~N.~~Q. Economic Opportunity Analysis (2024)
~~O.~~R. 6-Year Street Plan
~~P.~~S. Camas School District Capital Facilities Plan (2022)

Appendix A Engagement Summaries

Appendix B Housing Action Plan (2021)

Appendix C Housing Analysis (2024)

Appendix D Housing Needs and Land Capacity Analysis

Appendix E TSP (Draft, 2024)

Appendix F Facility Conditions Assessment - Volume 1 (2021)

Appendix G Facility Conditions Assessment - Volume 2 (2021)

Appendix H PROS Plan (2022)

Appendix I POSMP (2025)

Appendix J Water System Plan (2019)

Appendix K General Sewer Plan (2022)

Appendix L 2025-2026 CIP

Appendix M Stormwater Management Program (2026)

Appendix N Economic Opportunity Analysis (2024)

Appendix O 6-Year Street Plan (2027-2032)

Appendix P School District Capital Facilities Plan (2022)

Engagement Summaries

City of Camas
Comprehensive Plan Update (Our Camas 2045)

August 2026

This file contains the following engagement related materials and summaries.

- Camas 2045 Public Participation Plan
- Visioning Outreach Summary
- Visioning Outreach Summary Appendix
- Community Summit 1 Summary
- Community Summit 2 Summary
- Community Summit 3 Summary
- Community Advisory Committee Meeting 1 Agenda and Summary
- Community Advisory Committee Meeting 2 Agenda and Summary
- Community Advisory Committee Meeting 3 Agenda and Summary
- Community Advisory Committee Meeting 4 Agenda and Summary
- Community Advisory Committee Meeting 5 Agenda and Summary
- Community Advisory Committee Meeting 6 Agenda and Summary
- Community Advisory Committee Meeting 7 Agenda and Summary
- Community Advisory Committee Meeting 8 Agenda and Summary
- Climate Policy Advisory Team Meeting 1 Agenda and Summary
- Climate Policy Advisory Team Meeting 2 Agenda and Summary
- Climate Policy Advisory Team Meeting 3 Agenda and Summary
- Climate Policy Advisory Team Meeting 4 Agenda and Summary
- Climate Policy Advisory Team Meeting 5 Agenda and Summary
- Downtown Advisory Committee Meeting 1 Agenda and Summary
- Downtown Advisory Committee Meeting 2 Agenda and Summary
- Downtown Advisory Committee Meeting 3 Agenda and Summary
- Downtown Advisory Committee Meeting 4 Agenda and Summary
- Downtown Advisory Committee Meeting 5 Agenda and Summary
- Downtown Advisory Committee Meeting 6 Agenda and Summary

Camas Comprehensive Plan Update and Downtown Subarea Plan

Public Participation Plan

February 9, 2024

Project Overview

The City of Camas seeks to update its Comprehensive Plan and to account for 20 years of growth and remain consistent with the requirements of the Growth Management Act (GMA). Per the GMA, comprehensive plans are required to contain certain elements including land use, housing, capital facilities, utilities, transportation, economic development, and parks. New considerations stemming from recent state mandates in the GMA include housing, critical areas, and the recently released guidance on climate change. The City of Camas also seeks to create a Downtown Subarea Plan that will coincide with the Comprehensive Plan update. This plan will consider the direction for sub-districts, land use and density, connectivity and mobility systems, potential redevelopment sites, gateways, and activity centers.

To ensure the Comprehensive Plan and Downtown Subarea Plan reflect the needs of community members, a robust public involvement process that reaches a large segment of Camas's population is essential. The purpose of this document is to outline an array of tools that will be employed to reach a diverse set of Camas stakeholders who will help guide the development of the Comprehensive Plan Update and Downtown Subarea Plan.

Community Engagement Objectives

The public involvement process aims to meet the following objectives:

- Inform the community with timely, transparent, and accurate information.
- Educate community members about planning, the Growth Management Act, and decision-making processes.
- Consult and involve the community in the identification, refinement and prioritization of policy updates needed to guide growth and development in Camas over the next 20 years as well as for the Downtown Subarea Plan. Ensure community members understand how decisions are made, their concerns are heard, and they know how their feedback influenced decisions.
- Partner with city and agency representatives to ensure officials are engaged in the planning process and key decisions.
- Reach a diversity of stakeholders who reflect Camas's greater community.

Key Messages

- The City of Camas is launching *Our Camas 2045*, a citywide effort to develop a new, community-wide vision for the future and update the Camas Comprehensive Plan to reflect that vision.
- Washington requires that all cities and counties plan for managing growth over a 20-year horizon, including changes in population, demographics, housing and employment trends.
- The Comprehensive Plan is Camas's primary planning document. It articulates the city's vision for future land use, housing, capital facilities, utilities, transportation, economic development, and parks.
- The City of Camas is also launching *Our Downtown Camas 2045*, a concurrent planning process to establish a more detailed vision and action plan to preserve and enhance our historic downtown's unique sense of place.
- The City of Camas is committed to an inclusive and transparent planning process. Community engagement is crucial to understanding the community's core values and developing an equitable, representative plan.
- There will be many opportunities for community members to engage throughout the planning process, with a focus on accessible opportunities to provide feedback.
- Community members can stay engaged by visiting the project website: https://engagecamas.com/

Community Demographics

The following demographic profile helps identify priority populations and tailor outreach methods to reach the full spectrum of Camas residents and property owners. Demographic data is derived primarily from the U.S. Census American Community Survey 5-Year Data 2017-2021 Data Profile. According to Census Bureau Population Estimates, Camas's population reached 27,371 as of July 1, 2022.

Race and Ethnicity

According to 2017-2021 American Community Survey data, 78 percent of Camas residents identify as White. The remainder of residents identify as African American (1.6%), American Indian/Alaska Native (1.0%), and Asian (10.6%). 8.0 percent identify with two or more races. 3.8 percent of Camas residents identify as Hispanic or Latino.

Race/Ethnicity	City of Camas	Washington
White	78.0%	71.7%
African American	1.6%	3.9%
Asian	10.6%	9.0%
Native Hawaiian and other Pacific Islander	0.1%	0.7%
American Indian or Alaskan Native	1.0%	1.2%
Two or more races	8.0%	8.6%
Hispanic or Latino (any race)	3.8%	13.2%

Languages Spoken at Home

86.7 percent of Camas residents are English speakers. The language spoken most commonly other than English are Indo European languages (5.9%) as well as Asian and Pacific Islander languages (5.5%). Smaller portions of the population speak Spanish (1.4%).

Age

The City of Camas has a larger share of residents 19 and under (29.0%) than the State of Washington (24.4%). There is also a significant portion of those who are between 35 and 54 years old (32.0%). Consequently, there are smaller shares of residents who are between the ages of 20-34 (12.7%) and those who are 75 years and older (4.0%) than Washington (21.4% and 5.8%). Camas's other age group sizes are roughly on par with State averages.

Age	City of Camas	Washington
19 years and under	29.0%	24.4%
20 – 34 years	12.7%	21.4%
35 – 54 years	32.0%	26.0%
55 – 64 years	12.9%	12.7%
65 – 74 years	9.3%	9.6%
75 years +	4.0%	5.8%

Income

From 2017-2021, the median household income in Camas was $121,094, which is higher than the state median ($82,400). More than half of Camas households earn more than $100,000 annually, compared to the State average of 40.9%.

Income	City of Camas	Washington
<$15,000	4.9%	7.1%
$15,000-$25,000	3.8%	5.9%
$25,000-$50,000	9.3%	16.5%
$50,000-$75,000	15.0%	16.3%
$75,000-$100,000	8.9%	13.4%
$100,000+	58.1%	40.9%

People with Disabilities

Census data indicates that 17.3 percent of Camas residents live with a disability. This is lower than the Washington state average of 25.4 percent. The highest percentages of those with disabilities have a hearing (3.9%) or cognitive (3.8%) disability.

Housing

Census data indicates that more than 83 percent of Camas residents live in a single-family detached home, which is greater than the State of Washington (63.0%). Around 9.7 percent of Camas residents live in middle housing (1 to 4 attached units), 5.3 percent occupy multi-family homes (5 or more attached units), and about 1.2 percent live in a mobile home. 79.9 percent of Camas residents are

homeowners and 20.1 percent are renters. ACS 2017-2021 shows that median gross rent in Camas was $1,504.

Housing Type	City of Camas	Washington
Single-family home	83.8%	63.0%
Middle housing	9.7%	10.0%
Multi-family home	5.3%	20.9%
Mobile home	1.2%	5.9%
Homeowners	79.9%	63.6%
Renters	20.1%	36.4%

Underserved Populations

The City of Camas is committed to facilitating extensive and equitable community engagement for the Comprehensive Plan Update and Downtown Subarea Plan. To ensure full and fair participation by all potentially affected community members in the decision-making process, engagement activities and tools will focus on meeting underserved groups where they are. The following describes priority populations for this process.

Census demographic information indicates that second most spoken language besides English are Indo-European Languages (5.9) and Asian and Pacific Islander Languages (5.5%) in Camas. About 10.6 percent of the community also identified as Asian. The City may consider translation of materials in relevant languages, and hosting public activities in non-governmental, community spaces that are comfortable and welcoming to those who speak limited English.

The City of Camas is also shown to have significantly higher proportions of youth (19 and under). To reach the youth of Camas, engagement activities should be centered around youth-oriented events and activities. Local schools, after school programs, and youth groups may be considered for community conversations and surveys or notified of engagement opportunities.

While the City of Camas does have a lower proportion (17.3%) of those with disabilities than Washington (25.4%), engagement activities should be made accessible and include accommodations for people of all abilities. Among identified groups in the census, those with hearing impairments are the higher than others (3.9%). Engagement events should consider the accessibility of community spaces and venues, including provision of hearing impairment accommodations, as well as access to transportation options.

Although Camas's median household income is higher than Washington, approximately 18 percent of Camas households still earn less than $50,000 a year. Access to technology to participate in engagement activities, as well as access to transportation and childcare during engagement activities should be considered when taking an equitable approach. While the City of Camas has a lower percentage of renters and people living in multifamily housing, citywide mailings could ensure all residents regardless of housing type and tenure are informed and engaged.

Stakeholders and Partners

Community members and stakeholders will have multiple opportunities to participate in the Comprehensive Plan Update and Downtown Subarea Plan processes. This section identifies the spectrum of stakeholders and the variety of ways in which the City will engage community members in the process.

Interests	Specific Organizations
Schools/Youth	Camas School District- Citizen Advisory Committee Dorothy Fox Elementary PTA Grass Valley Elementary PTA Helen Baller Elementary PTA Lacamas Lake Elementary PALS Prune Hill Elementary PTA Woodburn Elementary PTA Middle School and High School student groups Clark College Camas Montessori C-W Parent Co-Op Preschool Tree Hill Learning Center Boys and Girls Club 4-H Programs Camas Little Leage Camas Educational Foundation (CEF)
Parks and Nature	Camas Parks & Rec Department Clark County Parks Department Lacamas Trails Advocacy Group Parks and Recreation Commission Parks Foundation Clark County Camas Parks Foundation
Industry and Businesses	Downtown Camas Association (Economic Vitality Committee; Downtown Merchants Committee) Chamber of Commerce Port of Camas-Washougal Columbia River Economic Development Council (CREDC) Franchise utility companies
Public Safety	Camas Police Department Camas-Washougal Fire Department Station 42 East County Fire and Rescue Station 91
Utilities	Waste Connection NW Natural Gas Clark Public Utilities

Interests	Specific Organizations
Developers/Property Owners	Property Owners Port of Camas-Washougal Homeowners Associations Habitat for Humanity Clark County Housing Authority Vancouver Housing Authority Building Industry Association (BIA)
Health	Legacy Medical Group-Camas Camas Center Clinic (Kalispel Tribe of Indians)
Transportation	C-Tran Clark County Transportation Alliance SW WA Regional Transportation Commission Bike Clark County
Service Non-profits	The Columbia Future Forge Camas Community Education Camas-Washougal Community Chest Camas-Washougal Wildlife League Camas Lions Club Rotary Club of C-W Inter-faith Treasure House Meals on Wheels Booster Club Vancouver NAACP
Non-native English Speakers	APANO Latino Community Resource Group (LCORG)
Arts and Culture	Clark County Arts Commission DCA Design Committee Camas Artisans Guild Camas Library Camas Library Book Clubs 411 Art Collective
State Agencies	WSDOT Clark County
Faith Based Organizations	NorthLake Church Journey Church Zion Lutheran Church Elca Northwest Gospel Church Camas United Methodist Church Camas Friends Quaker

Interests	Specific Organizations
	St. Thomas Aquinas Catholic Church Activate Church
Elected and Appointed Officials	City Council Planning Commission Boards and Commissions
Accessibility	Council for the Homeless Camas View Senior Care Forest Home Elder Care Adult Family Home Lacamas Heights Memory Care PEACE NW Stephen's Place Washington State School for the Blind (WSSB)
Environmental	Camas Washougal Community Chest Columbia Springs Columbia Land Trust

Engagement Activities

The following table summarizes primary community engagement activities, their intended audience, and partners needed to carry out the activities while using the IAP2 engagement spectrum.

The IAP2 Spectrum is an internationally recognized model developed to help clarify the role of the public in planning and decision making, and how much influence the community has over planning or decision-making processes. The model identifies 5 levels of community engagement, ordered as follows by increasing impact on decision-making: (1) inform; (2) consult; (3) involve; (4) collaborate; and (5) empower.

Engagement Tool/Activity	IAP2 Spectrum	Description	Audience
Project Advisory Committee (PAC)	Inform Consult Involve	The PAC will meet up to eight (8) times to advise on the Comprehensive Plan Update and Downtown Subarea Plan process. The PAC will consist of technical stakeholders, agency partners and service providers to work alongside the CAC. They will review project materials and advise on technical issues.	Interest Groups Technical Groups
Community Advisory Community (CAC)	Inform Consult Involve	The Community Advisory Committee (CAC) will meet up to eight (8) times. The committee will represent a broad cross-section of community interests. The CAC will review and comment on work products, guide public outreach and engagement efforts, act as liaisons to specific constituencies or interest groups, help host public events, encourage community members to participate in the	Public Interest Groups

Engagement Tool/Activity	IAP2 Spectrum	Description	Audience
		process, and act as champions of the ultimate Camas Vision, Comprehensive Plan, and Downtown Plan that emerge from this process.	
Downtown Camas Association (DCA) Meetings	Inform Consult Involve	The Consultant Team will attend up to eight (8) meetings with the Downtown Camas Association (DCA) at key project milestones. Meetings will be held with the DCA board or subcommittees.	Public Interest Groups
Interested Party Interviews	Inform Consult Involve	Up to (6) interviews with interested parties will be conducted. Interviews will help build relationships with trusted community leaders and identify important issues, challenges, and assets at the outset of the project.	Stakeholders Public
Community Conversations & Events	Inform Consult	Up to ten (10) Community Conversations will be conducted by the project team, City staff and CAC members. Community Conversations will provide community members with information about the project and engage them in discussion about what they value about Camas today and what could make it a better place to live in the future. Up to five (5) community events will involve visioning activities through an informational table/booth or intercept surveys. Visioning activities will be designed to create awareness of the project and engage youth and adults in identifying what they love about Camas today and what they would change to make Camas an even better place to live, work and play in the future. Events could include: • Little Art Camas • Camas Farmer's Market • Camas Days • First Fridays • Plant and Garden Fair	Public
Surveys & Online Engagement	Inform Consult	Four (4) online community forums or surveys to gather the general interests and positions of the public will be created. Digital surveys will be provided through Engage Camas, and paper surveys will be distributed or conducted as intercept surveys at strategic locations around the city. Surveys will coincide with each of the (4) rounds of public involvement and provide an alternative opportunity to comment for those who may not come to a meeting or	Public

Engagement Tool/Activity	IAP2 Spectrum	Description	Audience
		event or feel comfortable voicing their opinions among others.	
Community Summits	Inform Consult Involve	Four (4) Community Summits throughout the course of the project will be held. These fun and engaging community events are the main opportunities for Camas community members to engage and share ideas with their neighbors face-to-face regarding the Vision, Comprehensive Plan, and Downtown Plan. To encourage participation, snacks/beverages and activities for children will be provided.	Public

Communication Tools

In addition to the above activities, the following communication tools will provide information about events, activities, and opportunities to be involved in developing the Comprehensive Plan Update and Downtown Subarea Plan.

Communication Tools	Description
Project Website	The website page will utilize the Engage Camas platform and will function as an information and engagement hub for the project. It will be used for outreach activities such as online surveys and virtual meetings as well. A project overview, timeline, important contacts, schedules for public events, surveys, and other engagement activities, updates on the project's status, and the ability to view or download documents will be available on this webpage.
Social Media	Content will be prepared for social media platforms, such as Facebook and Instagram accounts to increase project awareness and provide multiple avenues for community input.
Media Contacts	Media releases to the Camas-Washougal Post Record and other local media outlets will be prepared for the City to distribute.
Public Information Materials	Flyers, newsletters, facts sheets and other materials to educate and inform the public will be prepared.
Electronic Mailing List	The City will maintain a database of e-mail addresses of people who express interest in the planning process. E-blasts for the City to distribute to help notify people about events and activities will be prepared. Interested parties will have several opportunities to join the mailing list, such as on the project website and at public meetings and events.

Risks and Mitigation Engagement Activities

The following table summarizes potential risks and suggested mitigations.

Risks	Mitigation	Stakeholder(s) Affected
Low attendance at public forums	Community event notices are shared through e-blasts, social media, website, at public events and in print materials, and distributed by CAC members.	General public
Low response rate for surveys	Surveys are shared through e-blasts, social media, website, at public evets and in print materials, and distributed by CAC members.	General public
Limited communication and buy-in from agency and city partners	Advisory Committee meeting summaries are shared in a timely manner with city and agency partners. Planning Commission and City Council updates occur throughout the project.	Agency partners, City, general public
Inadequate or poor media coverage	Press release published prior to each community event; Press invited to attend committee meetings and public events; Detailed and up to date information on the website.	Agency partners, City, general public
Lack of variety in stakeholders engaged	Committee meetings and public events held at a variety of venues that meet stakeholder needs. Direct outreach to stakeholder and community organizations that represent a broad cross section of the Camas community.	General public

Evaluation

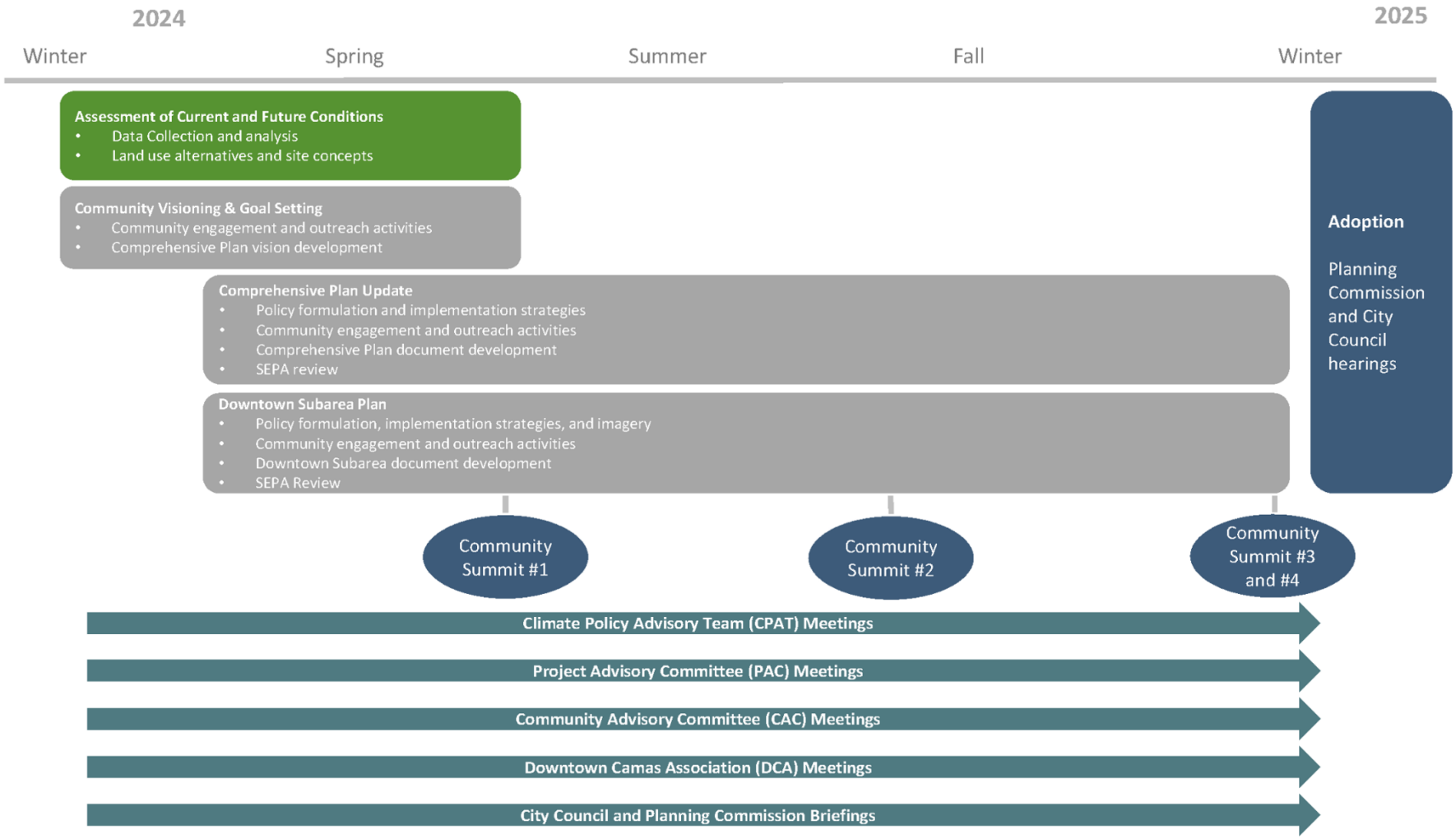
The following table describes the key metrics and processes for evaluating progress on meeting the goals set out in this public engagement plan. The project team will evaluate progress made toward meeting these goals throughout the duration of the project.

Goal	Objective	Metric	Tool
Inform: inform the community with timely, transparent and accurate information.	• Community event attendees report high satisfaction with information shared at forums • Web traffic increases throughout the process • Social media engagements increase throughout the process	• >75% attendees are satisfied with information shared • >75% attendees are satisfied with transparency of process • Increase in web traffic throughout process • Increase in social media engagement throughout process	• Online survey • Web analytics • Social media analytics • Event questionnaires and comment forms
Consult: consult and involve the community in the identification, refinement and prioritization of plan updates. Ensure community members understand how decisions are made, have their concerns heard and learn how their feedback influenced project decisions.	• Community event attendees report high satisfaction with opportunities to engage in sharing feedback • Stakeholder feedback is plentiful • Stakeholder feedback and decisions are published within a timely manner • Information is shared back with stakeholders about how their feedback influenced the plan	• >75% attendees are satisfied with opportunities to share feedback • 200+ residents respond to surveys • 50+ residents attend public events • Website includes information on feedback and how it influenced policy • CAC meeting summaries are uploaded to website within 20 days	• Online survey • Online survey analytics • Community event sign-in sheet • Web content (Project library) • Event questionnaires and comment forms

Partner: partner with city and agency representatives to ensure officials are engaged in the planning process and key decisions.	• City Council and Planning Commission are satisfied with frequency and quantity of information shared	• City Council and Planning Commission receive a planning update either in writing or through regular briefings	• City Council and Planning Commission engagement at briefings and attendance at key community events
Reach: reach a diversity of stakeholders that reflect Camas' community.	• Each stakeholder interest is represented • Community events are hosted at accessible and representative venues • Specific outreach methods are used to reach minority populations including people of color people experiencing low income, renters, and seniors.	• Community members from all interests identified in the stakeholder interest matrix are engaged at some point throughout the process • 100% of venues are ADA accessible • Venue reflects diverse interests	• Community events sign in sheets • Venue list • Mailers • Print materials

Project Schedule

This schedule outlines engagement activities and key milestones throughout the project.



OurCamas2045 Visioning Outreach
Summary of Engagement Results
October 2024

Project Overview

The City of Camas is undertaking a multi-year initiative to update the City's Comprehensive Plan. The Our Camas 2045 Comprehensive Plan will establish a vision for growth and development and will articulate goals, objectives, policies, and actions to guide our future through 2045. The plan will also address recent changes to Washington's Growth Management Act related to housing and climate change. In conjunction with Our Camas 2045, the City of Camas is developing a downtown subarea plan to establish a more detailed vision and action plan to catalyze public and private investment in our historic downtown that preserves and enhances its unique sense of place. Our Downtown Camas 2045 will be a visionary roadmap that honors our rich heritage and maintains our hometown feel while setting the stage for a thriving future.

Beginning in December 2023, City staff and the consultant teams led outreach efforts to better understand the community's vision and priorities related to Camas' future. As of October 2024, the *Our Camas Visioning* process has reached over 1,000 community members through Community Conversations, Community Events, online surveys, online mapping tools, and the project website. The main purpose of the initial outreach effort was to ask the following questions:

- *What makes Camas, including our historic downtown, special today? What should we strive to preserve or enhance?*
- *What about Camas, including our historic downtown, would you like to change in the future? What can improve?*

While there was variation in how these broad questions were posed across different activities, they were designed to identify common themes around the aspirations and concerns of Camas residents and business owners, which is a key piece to the development of the vision statement for both downtown and the broader community. After each engagement activity, all information received was reviewed and stored within the online survey database, either through individual survey responses or manual input (which is noted within the survey system) of notes from events and activities.

This summary provides a review of the various outreach efforts and summarizes the key themes that emerged from these activities through tagging of community

conversations, event notes, and survey responses. The raw survey data, which includes the notes and feedback from community conversations and events, is included in the Appendix to this document. Note that this is not a statistically valid survey and is only meant to qualitatively explore the future of Camas.

Engagement Activities

Community Conversations

To reach a wide spectrum of Camas community members, project staff and members of the Community Advisory Committee (CAC) facilitated community conversations with local groups, clubs, committees, and organizations in Camas.

While most community conversations were facilitated by City staff, project staff and CAC members, a "Community Conversation Kit" was available on the project website for anyone to download and conduct among their own networks.

Fourteen community conversations were conducted with the following groups, engaging approximately 558 community members in Camas:

- City Council
- Camas Library Board of Directors
- Columbia Ridge Assisted Living
- Chamber of Commerce
- Downtown Camas Association
- Skyridge Middle School
- Prune Hill Residents
- Camas Planning Commission
- Holly Hills Residents
- Camas City Directors
- Downtown Merchants
- Camas Parks and Recreation Commission
- Camas Lions Club
- Camas High School



Camas High School Community Conversation

Community conversations were held in-person, and the discussion questions followed the same questions posed through the online questionnaire. These discussions helped extend the reach of the online questionnaire. Notes from discussion leaders were manually inputted to the questionnaire and marked as a community conversation.

<u>Community Events</u>

Starting in April, the project team kicked off the beginning of presence at community events. Tabling at community events provides a unique opportunity to reach many people in one place. Materials for tabling were designed to receive community feedback, build project awareness, drive people to the project website, and promote opportunities to get involved.



Downtown Camas First Friday Event

- Downtown Camas First Fridays
- Camas Days

On June 12th, the City of Camas hosted Our Camas 2045 Community Summit #1. The purpose of this event was to report back on the outreach and engagement activities that took place over Spring 2024, reveal the draft and ask for feedback on the Our Camas 2045 Vision Statement and Goals, and to identify the community's big ideas for achieving the vision and goals. More than 40 community members participated in the event at the Lacamas Lake Lodge, where kids activities and refreshments were provided.

A wide range of participants included residents, business owners, families with children, and elected officials. A compilation of the raw notes from the comment forms and poster boards are included in Appendix.



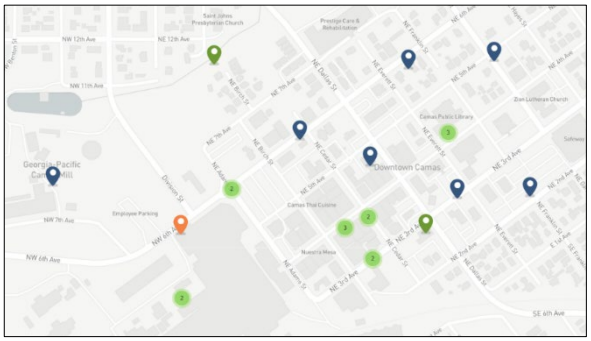
Our Camas 2045 Community Summit #1

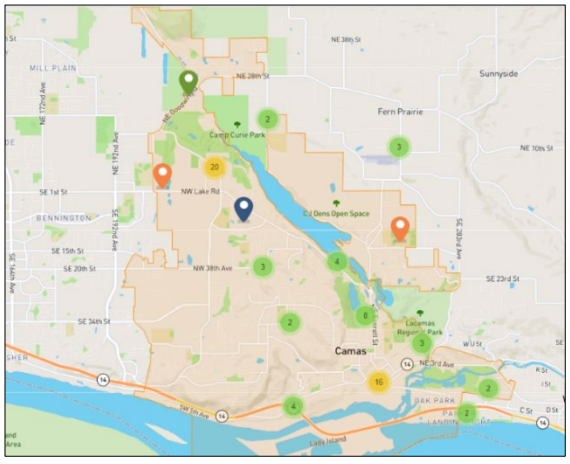
Online Engagement

Running concurrently with outreach through Community Conversations and community events, an initial online questionnaire and interactive map were launched in early February 2024. A citywide mailer was sent to all Camas residents to announce the launch of the project and promote the project website and online engagement activities.

The initial questionnaire received 367 responses, accessed through the City's *Engage Camas* online platform, which has received over 2,000 visitors to the site.

In addition to the first questionnaire, an interactive online map provided the opportunity for participants to identify and describe areas of opportunity or concern both in the downtown and in the wider Camas community. Overall, the interactive map received 146 pins.





Following Summit #1, an online survey complimentary to the summit was launched as an opportunity for community members to participate who were unable to attend the event.

Topics and Key Themes

The following is a list of topics that emerged from the outreach conducted through the initial visioning process. These topics are a synthesis of the comments shared by Camas residents and business owners when they describe what they love about their community today, and what they want to see in the future. The word clouds provide a visual representation of the most repeated phrases.

What makes Camas, including our historic downtown, special today? What should we strive to preserve or enhance?

City-wide

- Family-friendly
- Outdoor Access
- Trails
- Small-town feel
- Safety
- Community
- Cleanliness
- Art
- Parks
- Beauty
- Community Events
- Natural Resources

Downtown

- Walkability
- Charm
- Trees
- Historic



What about Camas, including our historic downtown, would you like to change in the future? What can improve?

City-wide

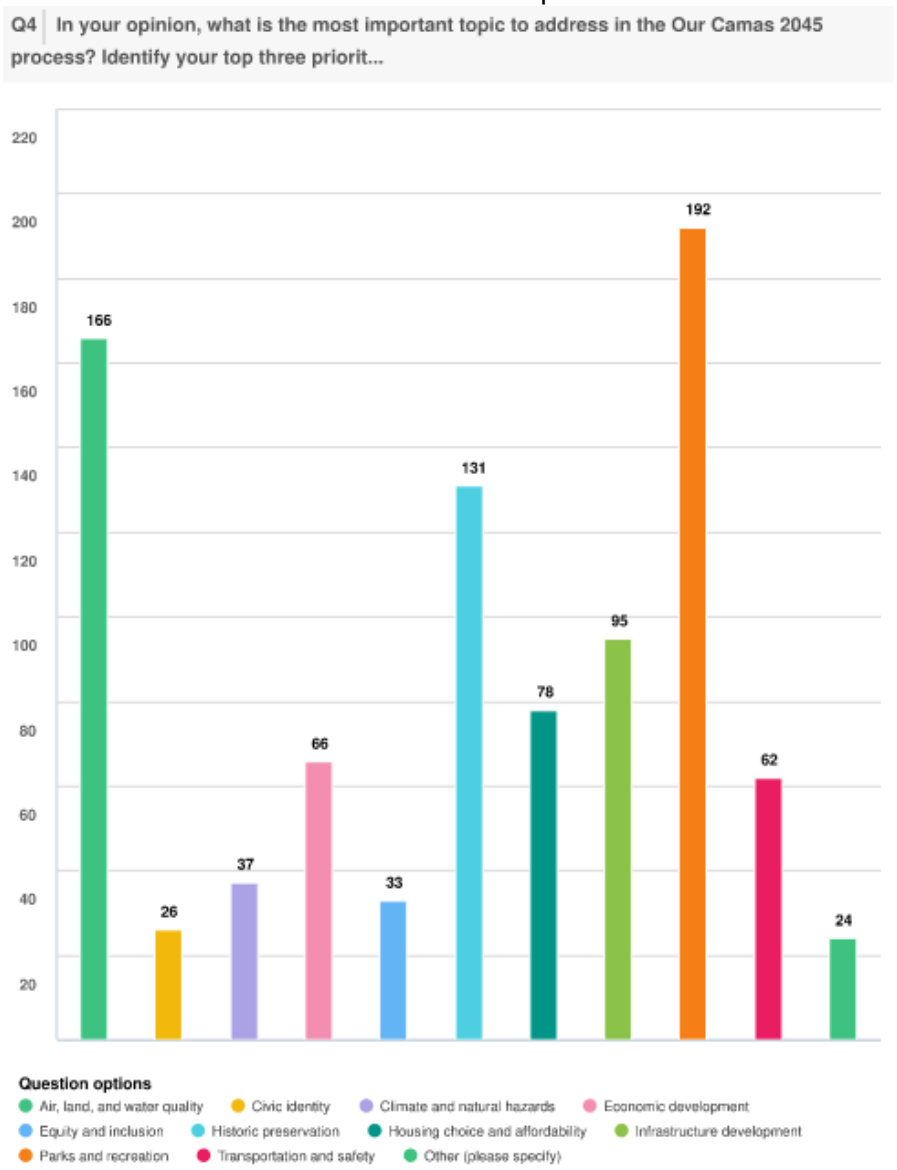
- Equity
- Support diversity
- Celebrate history
- Community pool
- Prioritize infrastructure
- Gathering space
- Lake quality
- Improve walkability
- Enhance parks
- Increase green space

Downtown

- Better parking
- More restaurants
- Less Church property
- More businesses
- Redevelop Paper Mill
- Expand downtown
- More hotels
- Maintain landscaping
- More entertainment
- Develop waterfront

- Dog park
- Smart growth
- Encourage employment
- Youth activities
- Better communication
- Building facade
- Trees
- Improve bike facilities
- Traffic
- More housing
- Affordability
- Support Emergency Services
- Maintain/increase safety
- Maintain cleanliness
- Add High School
- Increase trail connectivity
- Preserve open space
- Plan for Natural Hazards
- Support education
- Improve environment
- Reduce temporary camping
- More community events
- Public transit
- Neighborhood centers
- Recreational opportunities
- Reduce speeding
- Facility maintenance
- Accessibility
- More parks

In addition to these two broad visioning questions, the online questionnaire also asked respondents to identify the most important topics to address through the *Our Camas 2045* Comprehensive Plan and Downtown Subarea Plan process. Parks and Recreation, Air, Land, and Water Quality, and Historic Preservation were the top three topics that respondents chose as seen below in a snapshot of the results.



Based on the topics that were uncovered through the visioning process, four key themes emerged that captured the sentiment and aspirations of Camas residents and businesses owners about the future of their community. An assessment of the outreach feedback is organized around these four key themes, which serve as the foundation of the *Our Camas 2045 Vision Statement*.

Our Community:
The questionnaire's results show support for more community events and activities to add to existing programming. There were requests for better communication with residents, more involvement in decision-making processes and the welcoming of new families moving into the area through informational welcome packets. Respondents share concerns about taxation, zoning, and development decisions. Many respondents also call for more community facilities like a swimming pool, youth center, and more recreational activities such as parks, trails, and sports facilities. Lastly, some suggestions call for improving access to education, including the need for more schools and support for innovative education models.

Positive feedback was offered on the community feel and connection, shown in in sentiments like "it's a great mix of people, a safe place for families, and has a small-town community feel" and "I think the city still offers a feel of community that is lost in some places." Many point to the downtown as the center of the Camas community, noted in responses like "the downtown corridor is the foundation of Camas" and "the DCA (Downtown Camas Association) is critical in creating a welcoming atmosphere." There is strong support for locally owned businesses, seen through responses like "small family-owned businesses" and "local businesses, walkability." Emphasis was seen on preserving the small-town feel through responses like "preserve the small-town feel" and "don't turn it into a crowded, noisy place!"

Our Environment:
The questionnaire's results highlight care and passion for the many opportunities for access to nature and the outdoor recreation opportunities offered by the regional outdoor access, lakes, the waterfront, and hiking trails. Concerns were voiced about water quality in lakes seen through responses like "water quality in lakes" and "clean up the lake." Respondents noted the need for clean-up and maintenance to preserve the natural beauty and green spaces.

Many respondents spoke positively about the City's access to nature through statements like "access to nature on a daily basis is very important to me" and "nature, calmness/peace are what I think of with Camas." Emphasis was placed on the beauty, greenery, and trails, seen through responses like "I love our beautiful eclectic town" and "trails, green space and parks."

Our Neighborhoods:
The questionnaire's results ask for better management of growth, specifying the need for infrastructure considerations prior to additional housing development, shown in

responses like "developers are building housing developments faster than our infrastructure and the schools can handle them" and "growth needs to be better managed." Concerns were voiced about parking availability and infrastructure improvements such as improved streets, sidewalks, and central gathering places like parks or a town square. Emphasis was placed on improving walkability with better sidewalks, bike lanes, pedestrian-only areas, and safer pedestrian crossings, as well as reducing car traffic in downtown areas. Specific responses seen were "Strive for more large sidewalks" and "Walkability and food; shopping options downtown."

Positive feedback was given on the current state of the City's safety, cleanliness, quietness, and quality of schools. Responses indicated "it's a safe and clean community" and Camas is a "small, quiet, clean town." Emphasis was placed on slowing down development and preserving existing buildings, with comments that expressed " many things have changed over the past 15 years" and "it's sad to see buildings destroyed for what some feel is 'improvement'."

Our Downtown:
Respondents call for maintaining and preserving the historical significance of Camas, including educating youth about the town's founding and heritage. There is considerable appreciation for the quaint, historic downtown area, noted in responses like "it is a tight knit community," "the small-town feel" and "I love the older buildings downtown with the lighted trees."

There is a strong desire to preserve downtown's charm and ambiance, expressed in comments such as "preserve the small-town vibe" and "preserve the heritage and hardworking culture of the past." Emphasis was placed on the feel and the draw offered by downtown and its local businesses, noted in responses like "our quaint historic downtown area, wonderful shops and restaurants" and "love the 'community' feel, the downtown area is quaint and enjoyable."

Every key theme has ties to the downtown core, with specific suggestions for downtown development including building a parking garage, revitalizing existing parks through the addition of new play structures, restrooms, and water fountains, preserving the historic look and feel of the area, and attracting more diverse businesses, shown in responses like "continue to encourage businesses to develop in the downtown area" and "continue investment in the downtown core."

Respondents express a strong desire for downtown to be more pedestrian-friendly, with respondents saying, "make the downtown core walkable (vehicle free), with ample parking around it" and "make the entire downtown core a pedestrian zone." There is a

strong interest in more dining and restaurant options, with nearly 40 mentions of the word "restaurant" in the survey analysis. This is supported by sentiments like "add more restaurants, cafes, wine bars" and "[I] would like to see more shops/restaurants and other business that make it fun to spend an afternoon shopping and eating."

Lastly, there are some differing opinions on increasing housing downtown, but more often, respondents note the need for more downtown housing options in addition to hotels and places for visitors to stay. Specifically, people mentioned supporting "downtown businesses by including more housing" and "more housing downtown and throughout town for all income levels."

Conclusion

The raw survey data, which includes the notes and feedback from community conversations and events, is included in the Appendix. All comments received through community conversations and community events were inputted into the questionnaire to build an online database of feedback. Information from this summary was used to craft the *Our Camas 2045 Vision Statement for* the Comprehensive Plan update and Downtown Subarea Plan process.

Our Camas 2045: Vision Survey

SURVEY RESPONSE REPORT
01 December 2023 - 15 May 2024

PROJECT NAME:
Our Camas 2045

SURVEY QUESTIONS

Q1 Why do you choose to live and/or work in Camas?

Screen Name Redacted 2/09/2024 07:21 PM	When I originally purchased property here in Camas it presented as a small town that valued exactly that- a small town culture of safe protection. Boy was I wrong!
Screen Name Redacted 2/09/2024 09:12 PM	I moved to Camas specifically because of the downtown area. I have lived by Crown Park and now live by Doc Harris, and specifically live close to the center of downtown because it is what makes our city special.
Screen Name Redacted 2/10/2024 07:55 AM	I was born and raised in Washougal and I love our beautiful eclectic town.
Screen Name Redacted 2/10/2024 09:40 AM	Schools, nature, small town feel
Screen Name Redacted 2/10/2024 11:47 AM	I moved to Camas because I liked the simple small town feel. I loved how kind and inviting people were and how safe it was.
Screen Name Redacted 2/10/2024 11:14 PM	Community and culture
Screen Name Redacted 2/11/2024 10:27 AM	It is safe for raising a family. It is close to parks and nature with a strong community feel rather than an unplanned urban sprawl.
Screen Name Redacted 2/12/2024 10:02 AM	nature, calmness/peace are what I think of with Camas. Camas is ideal in its environmental setting--- with the lakes & rivers providing so many areas to walk and hike. I love how green it is here, and keeping access to recreation in nature is very important to me.
Screen Name Redacted 2/12/2024 02:44 PM	Small town feel, family environment, unique shops, lots of open spaces, amazing schools.
Screen Name Redacted 2/12/2024 02:59 PM	Safety, good schools, small town feel, cleanliness.
Screen Name Redacted	Great schools. Proximity to job.

2/12/2024 04:48 PM	
Screen Name Redacted 2/13/2024 08:43 AM	I live in the Green Mountain neighborhood off of Ingle. I live here because of safety, access to the lakes and hiking trails and the good schools.
Screen Name Redacted 2/13/2024 08:52 AM	The excellent school district, green spaces, rivers & "small town" feel.
Screen Name Redacted 2/13/2024 09:11 AM	Community focus on families, quality schools, and a safe, welcoming environment.
Screen Name Redacted 2/13/2024 09:37 AM	Great schools and wonderful community
Screen Name Redacted 2/13/2024 09:42 AM	Because my wife lives here.
Screen Name Redacted 2/13/2024 09:42 AM	Schools and community feeling.
Screen Name Redacted 2/13/2024 10:00 AM	The safety and small town feel! If it changes to much more I may have to choose elsewhere.
Screen Name Redacted 2/13/2024 10:42 AM	Parks and trails. Quiet and not overdeveloped.
Screen Name Redacted 2/13/2024 10:52 AM	I am a lifelong Camas resident. I stay because of the beautiful area and because the town has been developed thoughtfully and in a way that has retained and enhanced its unique small town feeling.
Screen Name Redacted 2/13/2024 10:55 AM	Schools and public outdoor recreation/beauty (lake, park, gorge)
Screen Name Redacted 2/13/2024 12:18 PM	Small and historic town is why we moved here 20 years ago.
Screen Name Redacted 2/13/2024 12:47 PM	School, Community, Parks and Trails

Screen Name Redacted 2/13/2024 12:49 PM	It's a great small-town feel with modern amenities. Convenient location and spectacular views.
Screen Name Redacted 2/13/2024 01:27 PM	Parks/Trails, Schools, Location to PDX, Taxes, and the hope of a more diverse downtown.
Screen Name Redacted 2/13/2024 02:09 PM	The natural beauty and small town charm.
Screen Name Redacted 2/13/2024 02:59 PM	From Washougal. I love what used to be the small feel like Washougal. I work in Camas. I enjoy supporting the local businesses in town and the trails and parks.
Screen Name Redacted 2/13/2024 06:00 PM	Schools and location
Screen Name Redacted 2/13/2024 07:02 PM	Small feel
Screen Name Redacted 2/13/2024 07:34 PM	Great small community vibe, lots of green space and dedicated parks and trails.
Screen Name Redacted 2/13/2024 07:53 PM	safety and schools
Screen Name Redacted 2/13/2024 09:21 PM	Lots of open green spaces, and a useful, vibrant downtown.
Screen Name Redacted 2/13/2024 09:29 PM	I enjoy the small town feel, plentiful outdoor activities and trail system
Screen Name Redacted 2/13/2024 11:33 PM	Small town feel. Time moves slower. Know people I went to school with.
Screen Name Redacted 2/14/2024 05:29 AM	I live by downtown and like being able to walk to get many basic everyday needs met, while also being able to walk to a trail system from my house. Access to nature on a daily basis is very important to me. And also the great schools for my kids!

Screen Name Redacted 2/14/2024 08:06 AM	Good schools. Small town feel. Both of these aspects are dwindling FAST. Developers are building housing developments faster than our infrastructure and the schools can handle them. Camas high school is over crowded and serves only the top echelon of students. A second high school is needed. New road projects are literally pushing small businesses out - people that have spent time and money and invested in our community. What the EverettStreet corridor project is doing to these businesses is outrageous- all because the city didn't have a plan for infrastructure after allowing developers to build hundreds (maybe thousands?) of homes east of the lakes.
Screen Name Redacted 2/14/2024 09:39 AM	Safety and quality schools
Screen Name Redacted 2/14/2024 12:05 PM	Raised our children in Camas Schools while working in the metro Portland-Vancouver job market. Have remained here now that we are empty-nesters and retired because of the availability of services, health-care, relatively low taxes, and excellent parks & trails
Screen Name Redacted 2/14/2024 05:16 PM	Safety, small town community, conservative values
Screen Name Redacted 2/15/2024 08:30 AM	We've built a family, home and community here.
Screen Name Redacted 2/15/2024 09:16 AM	We live in Camas because we have lived here for 50 years now and don't want to sell our home and start over even though we don't like the direction that our town is going.
Screen Name Redacted 2/15/2024 09:16 AM	Safe, good schools, beautiful scenery, modern suburbs and development
Screen Name Redacted 2/15/2024 09:26 AM	Our quaint historic downtown area, wonderful shops and restaurants.
Screen Name Redacted 2/15/2024 09:33 AM	We picked Camas first for the schools. Second we picked it based on it's proximity to PDX and Portland. Third we picked it based on it's charming downtown and walking trails.
Screen Name Redacted 2/15/2024 09:39 AM	Now that the city doesn't give a crap about the beauty of trees, all access to the lake or anything nature/wildlife related, not sure why. I

	will be moving out of here in the next 2 to 3 years. Camas used to be a gem - now it's just as ugly as strip-mall Vancouver. Well done Camas, you've ruined the beauty that brought me here. Shame on you.
Screen Name Redacted 2/15/2024 09:46 AM	Safety. No homeless camps and drugs on streets. There's no gang activity and violence.
Screen Name Redacted 2/15/2024 09:44 AM	The schools, small town community but close to airport and PDX. Parks and neighborhoods with trees
Screen Name Redacted 2/15/2024 09:44 AM	Nice, friendly small town with great schools.
Screen Name Redacted 2/15/2024 09:52 AM	Small Community values, school excellence, safety, quiet neighborhoods.
Screen Name Redacted 2/15/2024 09:58 AM	I live in Washougal, but worked at the paper mill for 40 years. I moved here for works but enjoy the small town feel of Camas and Washougal.
Screen Name Redacted 2/15/2024 10:02 AM	I like the small town feel and abundance of trees and trails.
Screen Name Redacted 2/15/2024 10:06 AM	Small community support, outdoor access to hikes, lakes, feeling of safety
Screen Name Redacted 2/15/2024 10:08 AM	New Housing.
Screen Name Redacted 2/15/2024 10:18 AM	We chose to live here because of the small town feel, specifically downtown's charm. We live a few blocks from downtown and the walkability is a huge positive for my partner and me. We also love how close we are to the hiking trail and river walk. It feels like we have everything we need here and it is lovely not having to leave town unless there is a special need.
Screen Name Redacted 2/15/2024 10:18 AM	I moved here to live with my daughters family. I enjoy the area and 'home' town feel.

Screen Name Redacted 2/15/2024 10:29 AM	I live it Camas because it is a friendly, safe community. We love the large lots of land that houses are on. We love how adorable yet functional downtown Camas. We love that getting into Portland and PDX isn't a hassle, traffic is good.
Screen Name Redacted 2/15/2024 10:28 AM	Large lot homes, small town feel.
Screen Name Redacted 2/15/2024 10:36 AM	away from the bigger cities, yet near enough to PDX and Downtown Vancouver if need some city life. Feel fairly safe - but this is starting to change....
Screen Name Redacted 2/15/2024 10:41 AM	The low crime rates, people it draws to the community and abundance of outdoor recreational access/opportunity (primarily biking lanes, trails and open space).
Screen Name Redacted 2/15/2024 10:43 AM	It's where the business I work at is located.
Screen Name Redacted 2/15/2024 10:48 AM	The charming downtown and friendly people drew us to Camas. Our home is within walking distance to downtown. We also like its proximity in the Portland metro area.
Screen Name Redacted 2/15/2024 10:50 AM	I work and hangout in camas because it is a great town with awesome small town feel. Being able to hangout downtown and walk to round lake park and feel like you are in the middle of nowhere is so cool. So many great places to eat and drink
Screen Name Redacted 2/15/2024 10:52 AM	It is a cute, vibrant and at the same time quiet town that is really enjoyable to stroll around regularly. There are also lots of events and opportunities available.
Screen Name Redacted 2/15/2024 10:59 AM	I love the small town feel, it's very beautiful.
Screen Name Redacted 2/15/2024 10:58 AM	Beautiful area, love down town, and friends already here
Screen Name Redacted	It is beautiful and safe

2/15/2024 10:56 AM

Screen Name Redacted 2/15/2024 10:59 AM	Community culture, downtown
Screen Name Redacted 2/15/2024 11:17 AM	Public green spaces with water access for hiking, biking and dog walking, proximity to airport and Portland, quality schools,
Screen Name Redacted 2/15/2024 11:30 AM	Our jobs were here (in the late 70's). Now we could work anywhere but we love the downtown core and the fact that we live within walking distance, n "old Camas."
Screen Name Redacted 2/15/2024 11:45 AM	Nice surroundings
Screen Name Redacted 2/15/2024 11:49 AM	Amazing small town and community feel. Lots of access to great parks and recreation.
Screen Name Redacted 2/15/2024 12:41 PM	It’s beautiful
Screen Name Redacted 2/15/2024 12:44 PM	Well, technically I'm in Washougal, but only just -- however our family did live in Camas for about 10 years. The biggest draw -- besides good schools -- was and is the downtown core, with shops, restaurants, galleries and regular community activities. The places I visit most often are Caffe Piccolo, Camas Antiques and the library.
Screen Name Redacted 2/15/2024 12:53 PM	Small town feel but close to bigger cities. Originally the school district but feeling lied to regarding it being top notch.
Screen Name Redacted 2/15/2024 12:56 PM	Great school districts, small town feel with proximity to Portland/Vancouver.
Screen Name Redacted 2/15/2024 01:07 PM	Love the small town feel the town
Screen Name Redacted 2/15/2024 01:10 PM	Its reputation for being a clean and safe place to live. A place that cares about the families that live there

Screen Name Redacted 2/15/2024 02:08 PM	We live in an older neighborhood walking distance to downtown. Love the downtown but disturbing to see all the development swallowing up the outskirts of camas.
Screen Name Redacted 2/15/2024 02:16 PM	Small town and great schools
Screen Name Redacted 2/15/2024 02:16 PM	I love the community! The shops and nice restaurants. I also love the trails for biking and walking. I really really love camas.
Screen Name Redacted 2/15/2024 03:14 PM	Love the small town feel(I live close to Downtown, I'm in Washougal, but camas school district.
Screen Name Redacted 2/15/2024 03:56 PM	Great schools
Screen Name Redacted 2/15/2024 04:23 PM	Location, schools, amenities, and recreational opportunities.
Screen Name Redacted 2/15/2024 04:40 PM	I both work and live in Camas. I wanted a small town feel, but close to the city of Portland. I like the parks, especially Round Lake, Fallen Leafe Lake and Lacamas Lake parks.
Screen Name Redacted 2/15/2024 05:20 PM	Schools, trails, beautiful and quaint downtown.
Screen Name Redacted 2/15/2024 05:39 PM	It is a nice little city
Screen Name Redacted 2/15/2024 06:46 PM	Because it's home for over 29 years.
Screen Name Redacted 2/15/2024 07:46 PM	Fairly small town setting.
Screen Name Redacted 2/15/2024 11:23 PM	I love the strong sense of community reflected in the pride shining in our downtown and parks, the strong support of our schools and public services, and the joyous neighborhood feeling of First Fridays, Camas Days and Farmers Market.

Screen Name Redacted 2/16/2024 12:20 AM	You are close to nature and the beauty of the trees and lakes, yet not too far from civilization either.
Screen Name Redacted 2/16/2024 05:07 AM	I like the community and small town atmosphere.
Screen Name Redacted 2/16/2024 08:08 AM	I have lived in Camas for 62 of my 64 years. I love our town, but our growth needs to be better managed.
Screen Name Redacted 2/16/2024 08:40 AM	I chose to live in Camas because of the quality of schools and because of the mix of rural and small-town urban community. I value open space and trails and I love that Camas has so much open space and rural community in combination with a lively small-town feel downtown.
Screen Name Redacted 2/16/2024 09:47 AM	Small town feel, love the beauty of the downtown as well as the nature around us.
Screen Name Redacted 2/16/2024 11:53 AM	nice people, pleasant, clean, safe, pretty.
Screen Name Redacted 2/16/2024 12:34 PM	We moved for the schools and will stay because of the natural beauty, dedication to preserving quality public spaces and the small town ethos that drives development.
Screen Name Redacted 2/16/2024 01:44 PM	Love the 'community' feel, the downtown area is quaint and enjoyable, the work of the Small Business Association is vibrant, there are art galleries, and the vintage Liberty Theater is great!
Screen Name Redacted 2/16/2024 04:54 PM	Live near Camas, Vancouver!!😊
Screen Name Redacted 2/16/2024 05:18 PM	Safety, clean, parks/trails, small town feel.
Screen Name Redacted 2/16/2024 06:17 PM	Camas has done a great job balancing community, businesses, jobs, and schools. The historic downtown. We are far enough away from the big cities, but close enough to go there if we chose.

Screen Name Redacted 2/17/2024 08:19 AM	Found an affordable view property in an established neighborhood 34 years ago.
Screen Name Redacted 2/17/2024 09:23 PM	It is a safe, family friendly small town where one can actually know others who also work and live here.
Screen Name Redacted 2/18/2024 09:07 AM	Natural elements: the forest, trails, lake, river
Screen Name Redacted 2/18/2024 09:38 AM	I relish living close enough to Lacamas Park, and ready access to all the trails, while also within easy walking distance to downtown Camas.
Screen Name Redacted 2/18/2024 04:15 PM	Schools and neighborhoods
Screen Name Redacted 2/19/2024 08:42 AM	I love the small-town vibe, interesting houses, walkable streets, and community events (even if I don't partake in very many).
Screen Name Redacted 2/19/2024 11:53 AM	Outdoor recreation (hiking, mountain biking, lakes, etc.), good schools, safe.
Screen Name Redacted 2/19/2024 02:23 PM	Family (I'm a 3rd generation Camasonian), friends, community.
Screen Name Redacted 2/20/2024 09:33 PM	Highly rated schools. Safety. Quiet, small town life-style.
Screen Name Redacted 2/21/2024 10:35 AM	Small town, small school district, nice people, cute downtown area, beautiful nature
Screen Name Redacted 2/21/2024 05:11 PM	I live in Camas because I enjoy quick access to trails and LaCamas Lake. I also enjoy. Downtown Camas.
Screen Name Redacted 2/22/2024 01:22 PM	Beautiful suburb and location next to Columbia River is gorgeous. Great schools and safe for kids
Screen Name Redacted	Moved here for schools in 2001. Staying because we like the

2/23/2024 09:58 AM	downtown & parks.
Screen Name Redacted 2/24/2024 08:28 PM	We moved here from out of state, we heard from a lot of people this is the best town to live in for kids, and low crime.
Screen Name Redacted 2/26/2024 08:36 AM	We wanted to move to camas for the quiet, unique, far-away feel from the big city; for the schools; for the serene beauty of the trees, the quiet neighborhoods, the less populated roads. Sadly, many of those things have changed over the past 15 years. The streets are failing - our road is crumbling apart and looks like it could be a sinkhole one day soon. Our street is like a main highway, our house is being targeted nearly every weekend by kids trying to beat down our door - causing health issues for my husband. We can't sit in our backyard without hearing industrial decibel leaf blowers all day and street racers at night. The front of our house has become a parking spot for folks that are up to no good - no plates or temp tags, smoking, yelling, trash, etc. Yet the city keeps asking for more of our money while our quality of living in this city is taking a nosedive.
Screen Name Redacted 2/27/2024 09:54 AM	I love the small town feel. Not a lot of Portland and Vancouvers messy homeless politics.
Screen Name Redacted 2/27/2024 10:39 AM	We moved here for work. We chose Camas for the Lakes, trails, small community, and we heard so much about the great schools. We LOVE the Library!
Screen Name Redacted 2/27/2024 11:58 AM	For the neighborhoods, open spaces/farms, and schools.
Screen Name Redacted 2/27/2024 02:25 PM	Access to nature and schools
Screen Name Redacted 2/27/2024 04:18 PM	Good schools Beautiful community The lake (which I didn't know was filthy until I moved here)
Screen Name Redacted 2/27/2024 04:31 PM	It's got small town charm without the right wing politics
Screen Name Redacted 2/27/2024 04:57 PM	Schools, safety

Screen Name Redacted 2/27/2024 06:28 PM	School district
Screen Name Redacted 2/27/2024 07:09 PM	We moved to Camas for the high performing schools and fantastic outdoor hiking. Protect the parks!
Screen Name Redacted 2/28/2024 08:59 AM	Two biggest factors that brought my family to Camas from San Diego. 1) My family is nearby in Washougal 2) The schools have a reputation for being top notch.
Screen Name Redacted 2/28/2024 06:52 PM	Outdoors
Screen Name Redacted 2/28/2024 09:06 PM	I have lived in Camas for almost 30 Years because it was a great small town.
Screen Name Redacted 2/29/2024 08:38 PM	Proximity to Lacamas Park, Columbia River, and Portland.
Screen Name Redacted 2/29/2024 09:00 PM	Proximity to Lacamas park - our family hikes, mountain bikes and trail runs through the park multiple times a week. We love access to the lakes in the summer (we wish they were safe to swim in). We love that there's almost no traffic in camas and there's a vibrant downtown thats fun to walk in and attend community events.
Screen Name Redacted 2/29/2024 09:46 PM	My kids and grandkids live here and I really love the small town life. Hope it’s not over built.
Screen Name Redacted 3/01/2024 07:51 PM	great environment, green space, parks, hiking trails, library
Screen Name Redacted 3/01/2024 09:44 PM	It’s a safe and clean community
Screen Name Redacted 3/02/2024 07:37 PM	Schools; Lacamas Lake Park and Heritage Park; quality and consistency of neighborhoods; small-town feel; moved for work then fell in love with it and stayed; better than the other nearby choice, Washougal; clients recommended it, so we moved to Camas from the Bay Area; outdoors and access to nature; moved from another mill town, Aberdeen, WA; reduced the commute to my job at PDX Airport; all of the choices, Camas was the best; my husband's work colleague

	lived in Camas and told us to check it out.
Screen Name Redacted 3/04/2024 02:05 AM	It was a small community with a sense of pride.
Screen Name Redacted 3/06/2024 05:58 PM	Small town, recreation, schools
Screen Name Redacted 3/06/2024 06:24 PM	Access to outdoor activities and Lacamas lake. Beautiful downtown area.
Screen Name Redacted 3/06/2024 06:36 PM	1:Love the trail network and views. 2: Higher-end homes. 3: Favorable WA state tax structures 4: Charming downtown.
Screen Name Redacted 3/06/2024 07:49 PM	Beautiful scenery, parks and recreation, safety, sense of community, high quality of life
Screen Name Redacted 3/06/2024 08:09 PM	Schools, outdoor parks and recreation, the ability to participate in local government and make a difference, the community we've built, schools, schools, schools, community, being connected and feeling involved.
Screen Name Redacted 3/06/2024 08:05 PM	great schools, opportunity to participate in government and the environment, parks and outdoor space
Screen Name Redacted 3/07/2024 01:11 AM	Quiet and slower paced, feels safe, doesn’t have a lot of the issues facing Vancouver, emphasis on nature
Screen Name Redacted 3/07/2024 09:17 AM	Great schools, friendly community, safe and beautiful environment.
Screen Name Redacted 3/07/2024 09:33 AM	The school system (we moved from California)
Screen Name Redacted 3/07/2024 09:38 AM	Good schools, grew up here, safe.
Screen Name Redacted 3/07/2024 10:04 AM	Mostly because of the downtown -- the shops, galleries and small businesses feel like a community. When you walk into a store, as

	often as not they greet you by name. It's also just beautiful in every season, with all those mature trees.
Screen Name Redacted 3/07/2024 10:11 AM	It is so nice to not have to get on the freeway to get involved in community. I appreciate the family events in the Hometown field. The tree line streets and the lit up nights are enchanting.
Screen Name Redacted 3/07/2024 10:29 AM	Odyssey middle school is the singular reason we chose camas. It's an extraordinary program
Screen Name Redacted 3/07/2024 11:41 AM	It’s a family oriented town and it’s pretty. We also fell in love with a church here before we moved to Camas.
Screen Name Redacted 3/07/2024 12:51 PM	Safe, good schools, beautiful area
Screen Name Redacted 3/07/2024 01:27 PM	Love downtown
Screen Name Redacted 3/07/2024 01:44 PM	The quality of life- we have an incredible balance of “small town”, natural amenities, proximity to larger city options and great small businesses.
Screen Name Redacted 3/07/2024 04:01 PM	School district & safe feeling community
Screen Name Redacted 3/07/2024 07:09 PM	Schools and cleanliness
Screen Name Redacted 3/07/2024 07:16 PM	Small town community feel, great schools and trails, safety
Screen Name Redacted 3/07/2024 09:16 PM	I chose to live in Camas for the beautiful natural areas and quality public schools.
Screen Name Redacted 3/08/2024 09:15 AM	school district, community feel like DCA events, beautiful nature like Lacamas and Round lake trails

Screen Name Redacted 3/08/2024 12:32 PM	Good schools, Lacamas Park, beautiful views, Lacamas Lake
Screen Name Redacted 3/08/2024 12:49 PM	The schools, the location close to pdx airport and portland.
Screen Name Redacted 3/10/2024 08:13 PM	I moved here for the small-town feel, abundance of trees and trails, and low amount of traffic.
Screen Name Redacted 3/11/2024 03:15 PM	Family nearby, PDX metro is convenient for working remotely but traveling when needed, love PNW
Screen Name Redacted 3/11/2024 08:30 PM	To raise kids in a safe community, with good schools
Screen Name Redacted 3/11/2024 10:21 PM	I grew up in Camas, my family is here and I love living and working in the downtown.
Screen Name Redacted 3/12/2024 12:45 PM	I've lived in the community for approximatly 52 of my 56 years. The proximity to PDX while not being in the big city is perfect.
Screen Name Redacted 3/12/2024 02:43 PM	Good schools, great community feel, love our downtown shops and restaurants
Screen Name Redacted 3/14/2024 09:17 AM	Safe community, lots of community events, hiking trails and parks, great schools, lake activities
Screen Name Redacted 3/14/2024 10:58 AM	School district and overall safety
Screen Name Redacted 3/15/2024 08:13 PM	Originally, because it was close to work, and we liked the location. Now its because we still like the location, and our backyard permaculture "food forest" produces tons of food for us.
Screen Name Redacted 3/16/2024 06:19 PM	We moved to the area due to work, but chose Camas because it was a small, safe town with an old-style downtown.
Screen Name Redacted	Family here and the good public schools

3/16/2024 06:30 PM

Screen Name Redacted
3/16/2024 06:51 PM

I love both the small town feel as well as the proximity to a big city. I love the parks, the ease of being in nature. It feels like a mostly safe, close community.

Screen Name Redacted
3/16/2024 08:19 PM

Close to ocean,mountains and airport

Screen Name Redacted
3/16/2024 08:36 PM

It is a great town. I live and work in Camas.

Screen Name Redacted
3/16/2024 09:32 PM

School district

Screen Name Redacted
3/16/2024 11:41 PM

Moved here for the SCHOOLS - staying for the beautiful trails, amazing downtown community, and deepening social connections.

Screen Name Redacted
3/17/2024 01:24 AM

Love the location and small town feeling.

Screen Name Redacted
3/17/2024 07:22 AM

Small town feel

Screen Name Redacted
3/17/2024 08:14 AM

Safety, cleanliness, nature access

Screen Name Redacted
3/17/2024 08:39 AM

We chose to live her for the schools, proximity to a larger city with a small town feel.

Screen Name Redacted
3/17/2024 08:49 AM

When we moved here, it was a small, pretty town with a few restaurants and shops, close to major cities. The schools also had a good review for our growing family. That's what brought us here.

Screen Name Redacted
3/17/2024 09:01 AM

Schools, excellent police, location.

Screen Name Redacted
3/17/2024 10:29 AM

We love the small town feel, the great school system, and the support of small businesses.

Screen Name Redacted 3/17/2024 10:29 AM	I like how it’s a small town with beautiful nature and events like Wheels and Wings and First Friday, but it’s next to the medium town of Vancouver and the large town of Portland.
Screen Name Redacted 3/17/2024 10:40 AM	School system and the darling downtown area
Screen Name Redacted 3/17/2024 01:45 PM	Small town with character.
Screen Name Redacted 3/17/2024 05:10 PM	Good schools. Close to parks and trails.
Screen Name Redacted 3/17/2024 05:27 PM	It's a small town, great place to raise a family, feels safe but also close to metropolitan area.
Screen Name Redacted 3/17/2024 05:43 PM	Since of community. Businesses in town owned by fellow Camas citizens. Quality of life, small town feel.
Screen Name Redacted 3/17/2024 08:22 PM	Trails... and the shrinking historical downtown core and shrinking landscape.
Screen Name Redacted 3/18/2024 02:54 AM	I’ve lived here off and on for 30 years. I love it
Screen Name Redacted 3/18/2024 09:51 AM	Small safe community with great schools
Screen Name Redacted 3/18/2024 11:49 AM	It was for the schools
Screen Name Redacted 3/18/2024 11:54 AM	Quieter than the surrounding areas. I feel safer here. I found the best house (privacy)
Screen Name Redacted 3/18/2024 01:45 PM	Camas has the best schools in PDX metro area. Camas is safe and we love the small-town community feeling.
Screen Name Redacted 3/19/2024 10:13 AM	Great school, lots of green spaces, cute downtown

Screen Name Redacted 3/20/2024 05:25 AM	Nature, affordability, school districts, parks, community.
Screen Name Redacted 3/20/2024 03:19 PM	Love to mountain bike at Lacamas Park
Screen Name Redacted 3/20/2024 03:29 PM	Charm sense of community Wanting to work where you live
Screen Name Redacted 3/20/2024 07:26 PM	Family friendly community, good schools, close to Portland, airport and extended family.
Screen Name Redacted 3/22/2024 07:12 AM	I moved to Camas in the 90s.Within that time,Camas has turned into a city,that is now nothing that it was.Honestly if we did not have our home specifically where it is,as well as what it is, we would not own a home in this town.
Screen Name Redacted 3/22/2024 09:01 AM	nice, clean, town, close to shops (costco walmart) but also lots nature
Screen Name Redacted 3/25/2024 10:09 PM	We moved to Camas to raise our kids in a smaller city.
Screen Name Redacted 3/26/2024 09:46 AM	10 - 15 minute commute to work Quality schools Trails, green space and parks Real downtown, not just strip malls
Screen Name Redacted 3/26/2024 11:07 AM	Safety, schools, cleanliness
Screen Name Redacted 3/26/2024 04:18 PM	Good schools, affordable housing, close to Portland, natural beauty.
Screen Name Redacted 3/27/2024 03:45 PM	§ People knowing/supporting each other § Close-knit downtown business community § Great schools § Family Friendly § Close to nature (paths, lake, parks) § Clean and Safe § Don't see a homeless problem (new residents) § Downtown acts as living room – expands social fabric § Events bring people downtown, and they come back for the businesses § Compact, walkable, accessible (balanced with proximity to nature, but access to 205/14/PDX airport) § Authentic historic charm (architecture, mill town history, "Hallmark movie") §

	Library programing, Youth Sports programming § "We pass all our bonds"
Screen Name Redacted 4/03/2024 08:44 AM	Because it’s a nice small town
Screen Name Redacted 4/03/2024 09:08 AM	Camas has been special to me. I grew up in Camas 1947 to 1969, lived on Prune Hill 1976 to 1991; in Fern Prairie 1991 to 2002. My Grandpa had a Business College in Camas from 1939 to 1964; my parents had a clothing store from 1947 to 1972; Dad was involved in the business community, and held advisory positions for the school and city. Great activities growing up in Camas, first Little league teams; Babe Ruth teams; fun at Crown Park; swimming at the Camas Pool, saldy now gone!! It’s sad to see buildings destroyed, for what some feel is “improvement"?? The old Church that was recently destroyed was a historic building that should never have been destroyed. Camas is unique for it’s visual atmosphere includes old buildings to be treasured and maintained!! The downtown Post Office is one of those treasures!! My vision of Camas, is the Camas I grew up in, and I shudder at the thought of the growth of Camas that seems to be happening. S Slow the growth, before Camas totally loses it’s identity!!
Screen Name Redacted 4/03/2024 10:07 AM	I grew up in Camas & Washougal. It was a beautiful and peaceful area with an abundance of open, green space providing a healthy habitat for people and wildlife. Then the money-hungry developers arrived.
Screen Name Redacted 4/03/2024 10:24 AM	I love the little city feel. I love the tails, parks, and the school district.
Screen Name Redacted 4/03/2024 10:43 AM	Schools
Screen Name Redacted 4/03/2024 11:02 AM	I grew up here and liked the small town and associated close knit community.
Screen Name Redacted 4/03/2024 12:34 PM	I grew up here. My parents grew up here. My grand parents moved here when they were very young. For me it's just home! I lived for a while in the Seattle area, and in the mountains of Montana, and on Oahu. But this is home.

Screen Name Redacted 4/03/2024 04:45 PM	I chose to live here because I was looking for property in the camas washougal property. I grew up in washougal in the gorge. I loved our smaller towns back then and it feels safer here.
Screen Name Redacted 4/03/2024 05:13 PM	Born here
Screen Name Redacted 4/03/2024 06:10 PM	I don't live in Camas, but in western North Carolina. However, I lived in Camas for the first 23 years of my life and off and on after that until 1981 when I moved away permanently, only visiting now and then.
Screen Name Redacted 4/03/2024 10:03 PM	Great small town feel. Caring community.
Screen Name Redacted 4/03/2024 11:32 PM	I’m 4th generation Camas!!! My roots are here!
Screen Name Redacted 4/04/2024 02:26 AM	I have lived in Camas for over 55 years. The small town was calm, safe, and friendly. Housing was affordable, schools were great, and the land was beautiful.
Screen Name Redacted 4/04/2024 07:30 AM	It is my hometown. My family has been here for years! However...you all seem to be in favor of pushing locals out
Screen Name Redacted 4/04/2024 08:05 AM	Camas schools, being near family, lots of parks and outdoor spaces.
Screen Name Redacted 4/04/2024 08:11 AM	Schools
Screen Name Redacted 4/04/2024 08:23 AM	Small community that is great for families
Screen Name Redacted 4/04/2024 08:34 AM	I grew up in Camas and it’s where I raised my family. I know maintaining a small town mindset is difficult as the city grows but the feeling of close community is why we stay.
Screen Name Redacted 4/04/2024 08:58 AM	Cuz it's a beautiful old town feel, LOVE the older CLASSIC buildings with our towns history so vibrant.

Screen Name Redacted 4/04/2024 09:54 AM	Originally, because of the schools for our children and because there was a separation from Vancouver. Now, because it feels like home and has maintained it's "small town" appeal.
Screen Name Redacted 4/04/2024 11:51 AM	Camas is a fantastic place to live ! Small town appeal but still has plenty of things to see and do ! We found an affordable house in a beautiful country atmosphere, and have been here for over 20 years. Hate to see things changing but it's inevitable. That's what progress is. Does Camas need progress ? My opinion.....to a certain degree. But not if it's going to destroy everything of historic value in this wonderful community. That's a big part of the charm and appeal of Camas....it's not BIG CITY !!!
Screen Name Redacted 4/04/2024 01:01 PM	We chose to live in Camas because it was near my husband's work and it was supposed to have the best schools (2006). I would not choose Camas for the schools today.
Screen Name Redacted 4/04/2024 01:15 PM	I live and work in Camas because of the kind community filled with people who appreciated common sense approach to problems. Moved here in 2008 and it has changed and NOT for the better.
Screen Name Redacted 4/04/2024 01:39 PM	It’s always been a unique town with outstanding charm and appeal.
Screen Name Redacted 4/04/2024 01:44 PM	The small town feel
Screen Name Redacted 4/04/2024 03:32 PM	Rural small town feel
Screen Name Redacted 4/04/2024 06:13 PM	Small, quaint town.
Screen Name Redacted 4/04/2024 06:58 PM	3rd generation resident. We built this town, but now our presence and opinions are neither desired nor required.
Screen Name Redacted 4/04/2024 07:26 PM	I liked the small-town feel and the tree canopy downtown. I loved the lakes and rivers. I like the quaint old Mill houses. I liked that I could do shopping, medical visits, yoga, groceries all right downtown.

Screen Name Redacted 4/04/2024 07:36 PM	Walkability, schools, beautiful downtown, library, lgbtqia+ safe
Screen Name Redacted 4/04/2024 11:03 PM	Because it is safe, I want my children to grow up in a lovely community, and the school district is of the highest quality.
Screen Name Redacted 4/05/2024 10:37 AM	The schools and safe neighborhoods
Screen Name Redacted 4/05/2024 11:41 AM	Small town with no over development.
Screen Name Redacted 4/06/2024 07:48 AM	The small town atmosphere, with so many small businesses. We are a community deliberately striving to avoid being incorporated into a huge, faceless metro.
Screen Name Redacted 4/06/2024 02:58 PM	My husband grew up hear.
Screen Name Redacted 4/06/2024 11:45 PM	Small town, friendly community that is not far from a Metropolitan city
Screen Name Redacted 4/08/2024 09:20 AM	A wonderful, thriving small town with access to some of the best nature in the world. And fairly low density living, which needs to be preserved in future planning.
Screen Name Redacted 4/12/2024 10:29 AM	I grew up here, my family and friends live here. I love the area and my job here.
Screen Name Redacted 4/12/2024 01:45 PM	The charm of the community, great schools, small town and community centric events.
Screen Name Redacted 4/12/2024 03:40 PM	We've retired here which allows us to live comfortably in Washington State (our home state for 30+ years) while also being close to our daughter, son-in-law, and granddaughter who live in Portland. This is a beautiful town that is so nicely walkable. We regularly (daily almost) use the walking trails of the large Lacamas Creek Park; so great! Downtown is also walkable for us (a short 4 blocks or so) from our wonderful neighborhood in our remodeled 1937 house. Finally, so close to the airport!!

Screen Name Redacted 4/12/2024 05:02 PM	good schools, access to outdoors, safe, relatively affordable
Screen Name Redacted 4/12/2024 05:38 PM	Close to Portland and the airport but far enough away it feels safe, clean, and family friendly.
Screen Name Redacted 4/12/2024 08:46 PM	Love the small-town feel and approachability of the downtown core and nature trails.
Screen Name Redacted 4/12/2024 09:08 PM	Nice and homey without too much suburban sprawl
Screen Name Redacted 4/13/2024 04:49 AM	Small town feel, quaint shops in town, the lakes and surrounding beautiful parks and trails, crown park. Close to airport. Nice genuine people.
Screen Name Redacted 4/13/2024 06:19 AM	Small town community pride, availability of easy access parks and trails, school system quality, safe neighborhoods.
Screen Name Redacted 4/13/2024 07:03 AM	Parks, lots of family centered events, schools, convenient to everything.
Screen Name Redacted 4/13/2024 03:33 PM	Small town feel, but has so much and close to bigger cities and airports. I like the downtown area, very friendly, every thing close and lots of small businesses.
Screen Name Redacted 4/13/2024 04:36 PM	I bought a home here when prices were cheap and nobody wanted to live here.
Screen Name Redacted 4/13/2024 05:05 PM	We have young kids; appreciate the commitment to quality education from the city and community. We enjoy the quiet clean local feel that Camas provides.
Screen Name Redacted 4/13/2024 08:05 PM	Small town close to river and large city
Screen Name Redacted 4/14/2024 11:03 AM	Camas is a quiet, clean community with an abundance of open space parks for outdoor activities.

Screen Name Redacted 4/14/2024 11:11 AM	Walkability! Camas is one of the few places in Clark County that a person can navigate almost entirely on foot. We have great trails and need more! Walking and biking contribute to public safety (basically citizen patrols) and keeps our residents healthier and more connected.
Screen Name Redacted 4/14/2024 05:39 PM	Grew up here and came back after working in Oregon. Sad to see what has happened to this historic city and the changes leadership is making without thought to the citizens or qualities in this town we love. Unfortunately I realize filling out a survey will not have an impact on leaders who have heard concerns with deaf ears. As long as money and progress is dangled in front of their faces, they will continue to ruin the aspects of this city we appreciate and come back home to.
Screen Name Redacted 4/14/2024 07:17 PM	The schools.
Screen Name Redacted 4/15/2024 06:40 AM	Born and raised here since 1961. Many Many friends and family friends. small town community. Love the closeness of Hiking, the mountains. Lose to city and medical and high speed internet.
Screen Name Redacted 4/15/2024 10:39 AM	Love the small town! This feels so much safer than a larger city (Portland).
Screen Name Redacted 4/15/2024 10:53 AM	WA state personal income tax structure. The charm of downtown. Safety of community. Proximity to Portland. Green space.
Screen Name Redacted 4/15/2024 02:26 PM	quaint small downtown; schools/parks/etc increase the resale value of my home
Screen Name Redacted 4/15/2024 02:56 PM	Small and nice downtown
Screen Name Redacted 4/15/2024 04:36 PM	I choose to live in Camas because it has a small town feel and largely lacks the urbanized strip mall business sections. It is quiet at night and low traffic. I love hiking the trails and visiting the parks. People are friendly and do not seem to be in a hurry. The schools are great and I love the library. Downtown by the mill is a perfect place to stroll

	and not feel overwhelmed by a big city feel. We moved here last year from eastern Washington and I wanted to be in Camas because it is outside the city and I hope it stays that way.
Screen Name Redacted 4/15/2024 05:23 PM	Schools and green space
Screen Name Redacted 4/15/2024 06:59 PM	Grew up here and love the town. Because of the great schools, moved back so my kids could get a great education and everyone is friendly.
Screen Name Redacted 4/16/2024 09:10 AM	Quality of life! A family-friendly environment with good schools, safe neighborhoods, parks and trails, quiet (little air traffic and limited vehicle thoroughfare). Proximity to the river, access to freeways for commuting, as well as getting to the airport, or into Portland. We don't want to live in Portland, so we do not want Camas to become anything like Portland!
Screen Name Redacted 4/16/2024 09:34 AM	Parks and trails, lake, close to undeveloped land-we like being close to rural areas.
Screen Name Redacted 4/16/2024 03:59 PM	It used to be a small town, safe community. Now the city allows homeless people to live downtown, i.e. Carmen, and they don't do anything about it!
Screen Name Redacted 4/16/2024 06:51 PM	I enjoy the access to nature, the community feel, and the events that our put forward for families.
Screen Name Redacted 4/16/2024 08:21 PM	Initially I moved to the area because of my job, which was in Vancouver. Because of tax reasons, I wanted to live on the WA side. I chose Camas because of the short commute, schools had a good reputation, and I liked the livability of the area.
Screen Name Redacted 4/17/2024 08:06 AM	Small community, nature, less traffic
Screen Name Redacted 4/17/2024 12:10 PM	We have chosen Camas for the quality of life it provides (Close to a large city - Portland - , close to the airport, quaint downtown, close to the Columbia Gorge)

Screen Name Redacted 4/17/2024 02:49 PM	A walkable vibrant downtown with a lot going on, and easy access to the countryside.
Screen Name Redacted 4/17/2024 05:10 PM	Love the access to recreation. The probability that you may run into someone you know at the store. The pride in the town activities and name.
Screen Name Redacted 4/17/2024 05:48 PM	It’s safe and beautiful!
Screen Name Redacted 4/17/2024 05:58 PM	Great schools! All of the green areas, with beautiful trees and plenty of walking/hiking/bike riding paths, interspersed throughout our growing city.
Screen Name Redacted 4/17/2024 09:07 PM	Quiet, small town feel, good schools
Screen Name Redacted 4/18/2024 07:28 AM	Community. The hiking trails. Nature at our back door is amazing.
Screen Name Redacted 4/18/2024 09:31 AM	Good schools and easy access to nature
Screen Name Redacted 4/18/2024 09:52 AM	We wanted a safe, family friendly, town.
Screen Name Redacted 4/18/2024 02:06 PM	Beautiful history, beautiful preserved natural areas, beautiful people
Screen Name Redacted 4/18/2024 03:33 PM	Views, privacy, quiet community
Screen Name Redacted 4/19/2024 05:56 PM	Smaller town with services, trails are wonderful, nice downtown, nice library.
Screen Name Redacted 4/19/2024 07:24 PM	Quiet area.
Screen Name Redacted 4/20/2024 10:55 AM	I grew up here, and decided to move back here to raise my kids because of the excellent schools, safe community, beauty, and

	hometown pride. I love that it's close to bigger cities but retains its small town feel.
Screen Name Redacted 4/20/2024 06:40 PM	Central location, close to highways, good views of Columbia river, good weather, good people, safe
Screen Name Redacted 4/20/2024 07:25 PM	my sister lives in Portland. I never thought I could afford to live here, but had some good luck - then did a crazy thing - bought a house I saw on the net for nearly 900 grand. Had never been to Camas. I love it.
Screen Name Redacted 4/20/2024 08:25 PM	Nice community. Not crowded outdoors. Downtown
Screen Name Redacted 4/22/2024 09:05 AM	The Camas area is a great location. Close to all the amenities you could ever need if you go West. Close to all the outdoor activities you could ever want if you go East.
Screen Name Redacted 4/22/2024 12:10 PM	Walkability, good schools, quiet town, good weather, trail system, lakes, awesome library, shopping district downtown, community events.
Screen Name Redacted 4/23/2024 05:00 PM	Character -- the surroundings, the people, the history. It is reminiscent of some of the smaller coastal towns where I grew up (as they existed then).
Screen Name Redacted 4/23/2024 09:08 PM	Small town vibe, open spaces, proximity to nature and hiking.
Screen Name Redacted 4/23/2024 09:20 PM	I live here because of how walkable and bikeable camas is. Camas is a rare example of a city that relatively held on to its urban fabric.
Screen Name Redacted 4/26/2024 07:36 AM	library, access to natural and less populated hiking and walking areas, rivers & lakes, green!
Screen Name Redacted 4/27/2024 12:34 PM	Good schools and access to hiking
Screen Name Redacted	Family has been here since the 1800s

4/27/2024 05:02 PM	
Screen Name Redacted 4/29/2024 10:59 AM	I can own a nice home here, the nature is beautiful, the schools are great.
Screen Name Redacted 4/29/2024 12:38 PM	Beautiful location. Wonderful people. Hiking trails. A concern for the public's input.
Screen Name Redacted 5/02/2024 03:06 PM	good schools, good community, lakes, close to PDX airport, not too crowded
Screen Name Redacted 5/02/2024 03:30 PM	It's quiet, safe and schools are great
Screen Name Redacted 5/02/2024 09:31 PM	There is a nice balance of green space, well paying jobs, and lots of potential to grow into a model, well-connected community.
Screen Name Redacted 5/02/2024 10:20 PM	Schools
Screen Name Redacted 5/03/2024 08:07 AM	Parks and trails, library
Screen Name Redacted 5/03/2024 08:23 AM	Schools and public safety
Screen Name Redacted 5/03/2024 08:42 AM	Proximity to the Gorge, mountains, and outdoor recreation; access to the trails on the Columbia and Washougal rivers, and Lacamas/Round/Fallen Leaf Lake; affordability of housing; proximity to PDX and Portland; good schools
Screen Name Redacted 5/03/2024 03:27 PM	Community, parks and trails
Screen Name Redacted 5/03/2024 03:28 PM	Quality of life, small community
Screen Name Redacted 5/03/2024 04:05 PM	retiree, gladly left congestion of Portland, OR 5 yr. ago for contented living in the Camas/Washougal corridor. Grew weary of paying 10% income tax to Oregon! Camas is nicely sized and Very Clean.

Screen Name Redacted 5/03/2024 04:05 PM	I bought a house in 2015 when it was more affordable than Vancouver. Now it’s not affordable to live here.
Screen Name Redacted 5/03/2024 04:05 PM	It is where our daughter lives. We love the downtown area.
Screen Name Redacted 5/03/2024 04:07 PM	Because it’s a wonderful place
Screen Name Redacted 5/03/2024 04:37 PM	Cost of living, quality of schools, natural beauty, a lake (bummed to learn it was contaminated after moving)
Screen Name Redacted 5/03/2024 05:41 PM	Schools Parks Small town feel Great food and stores
Screen Name Redacted 5/03/2024 06:03 PM	1. I was able to buy a solidly built home, old and in need of repair, but so solidly built I can play my piano in the middle of the night yet the neighbors don't hear me! 2. Walkability. Nature trails are within 3 blocks of my house, and go on for over 12 miles; sidewalks (and many bike lanes) make exercise safe and enjoyable. 3. Great community spirit: meaningful volunteer activities, shared pride in our hometown, the Farmer's Market, a vibrant independent library, friendly small businesses.
Screen Name Redacted 5/03/2024 06:01 PM	The school district at the time (2019) and the small town atmosphere with the natural beauty surroundings.
Screen Name Redacted 5/03/2024 09:16 PM	Small town vibe, beautiful surroundings, convenient to Portland and downtown Vancouver, great schools, recreational opportunities
Screen Name Redacted 5/03/2024 09:55 PM	Beautiful downtown, proximity to Portland and the Columbia Gorge, safety
Screen Name Redacted 5/04/2024 09:19 AM	We moved here in 1992 when we found an affordable home. We love the area and also can’t afford to move anywhere else if we want to downsize in our retirement.
Screen Name Redacted	Schools, Fisher Investments job, hiking trails, downtown restraints

5/04/2024 09:47 AM	and shops
Screen Name Redacted 5/04/2024 04:41 PM	Quality of Life -- walkability, trails, schools, downtown and other local services & amenities, proximity to major metro areas (Vancouver and Portland), green spaces and tree canopy, PNW climate, access to lakes & rivers, mountain views....
Screen Name Redacted 5/04/2024 05:28 PM	Access to parks and trails, access to downtown
Screen Name Redacted 5/04/2024 05:30 PM	The trail networks is number one Schools
Screen Name Redacted 5/05/2024 08:40 AM	Location close to Gorge/Mt Hood, good schools
Screen Name Redacted 5/05/2024 09:13 AM	The school district and access to outdoor recreation.
Screen Name Redacted 5/05/2024 12:39 PM	Family. I use to love the small town feel and the endless view of untouched land.
Screen Name Redacted 5/05/2024 03:21 PM	I love the green areas, the wildlife and fields close to downtown, the small town atmosphere
Screen Name Redacted 5/05/2024 04:34 PM	Safe and quaint town!
Screen Name Redacted 5/05/2024 06:11 PM	Raised kids here… love the area
Screen Name Redacted 5/05/2024 09:37 PM	My partner is a 5 generation Camas resident. We choose to live here because his family is close.
Screen Name Redacted 5/06/2024 02:01 PM	I Love the small town feel and sense of safety we enjoy.
Screen Name Redacted 5/06/2024 03:27 PM	I’ve lived here all my life.

Screen Name Redacted
5/07/2024 08:24 PM

It’s a safe community with good schools.

Screen Name Redacted
5/10/2024 01:55 PM

It has been our home for 25 years and we love the dedicated space to nature and trails. Please continue to protect and expand our green spaces as we move forward.

Screen Name Redacted
5/11/2024 02:20 PM

Camas and the surrounding areas provide a place to live that is both beautiful and ideally situated (ie close to the airport, Portland, the Gorge, Mt. Hood, etc).

Screen Name Redacted
5/12/2024 07:25 AM

Schools, close to nature , close to PDX

Screen Name Redacted
5/12/2024 06:47 PM

We have been here a pretty long time and watched Camas grow. It's a really good place to be for so many reasons including the outdoors, the accessibility and the overall quality of life.

Screen Name Redacted
5/13/2024 04:33 PM

My wife's best from from grade school lived here and we visited. We decided this would be a great place to retire.

Screen Name Redacted
5/13/2024 09:22 PM

Safe attractive residential neighborhoods.

Optional question (341 response(s), 26 skipped)
Question type: Essay Question

Q2 What makes Camas, including our historic downtown, special today? What should we strive to preserve or enhance?

Screen Name Redacted
2/20/2024 02:02 PM

Small town feel; the architecture, small businesses, and green space paths. High amount of tech employment base. Access to airport. Access to nature. School system excellence.

Screen Name Redacted
2/09/2024 07:21 PM

City council absolutely needs to govern better with consideration of ALL residents and peoples who pay property tax to the city of Camas. This is not currently represented.

Screen Name Redacted 2/09/2024 09:12 PM	Downtown Camas is a jewel among gems. Every time I have friends or family come from out of town we routinely visit the shops and restaurants in downtown Camas and don't really go to Vancouver or Portland. We need to continue to build on downtown and it's infrastructure, so that this type of hospitality attraction can continue for years to come.
Screen Name Redacted 2/10/2024 07:55 AM	The wide variety of shops and dining, the trees and lights and all the fun activities.
Screen Name Redacted 2/10/2024 09:40 AM	Downtown with it's small businesses, lakes with hiking trails
Screen Name Redacted 2/10/2024 11:47 AM	I love the older buildings in downtown with the lighted trees. It is a great area to come and walk and shop.
Screen Name Redacted 2/10/2024 11:14 PM	The Antique Shop, old theater, and Lacamas Lake.
Screen Name Redacted 2/11/2024 10:27 AM	We should strive to preserve the safe and walkability of the community along with a high density of a community lifestyle enhancing businesses. Also the access to nature and trails and lakes.
Screen Name Redacted 2/12/2024 10:02 AM	The downtown corridor is the foundation of Camas, rooted in the history of the mill. Honoring the history of Camas as a mill town and all the business that started from that is important. I think DCA did a great job with the walking tour/signs which tell key historical businesses/people. I think the key in the long term future is in the clean up and eventual transition of the existing mill. Someday this mill will go and with it is an opportunity to still tell the historic Camas legacy, while bringing modern development and opportunity in a prime location of downtown
Screen Name Redacted 2/12/2024 02:44 PM	Character. Old but well maintained buildings, nice landscaping, unique shops, good food.
Screen Name Redacted 2/12/2024 02:59 PM	Downtown is well maintained from a beauty/cleanliness stand point and I enjoy the retail options. Parks are safe and clean, but could use a refresh. Roads are pretty well maintained and fixed when there are issues. The Brady corridor road improvements turned out great. I would like to see more maintenance to clear roads quicker during

	winter weather and more road enhancements to improve walkability on older country roads (i.e. McIntosh and the southern end of Brady).
Screen Name Redacted 2/13/2024 08:43 AM	It's special because of the focus on keeping the original facades of the buildings.
Screen Name Redacted 2/13/2024 08:52 AM	All of the things listed in #1 above. But I'll ad ... keep giant apartment buildings & big box, national chain stores, out of the downtown core. Don't let the urban/suburban sprawl, industrial development & traffic nightmare become Camas/Washougal, as it has in the once iconic small towns of Gresham & Troutdale, directly across the river.
Screen Name Redacted 2/13/2024 09:11 AM	Local businesses, walkability, the many community events (first Friday, farmer's market, etc).
Screen Name Redacted 2/13/2024 09:37 AM	The 1st Fridays and the liberty theater.
Screen Name Redacted 2/13/2024 09:42 AM	Proximity to the river and the mountains. Open (undeveloped) land.
Screen Name Redacted 2/13/2024 09:42 AM	Preserving small businesses.
Screen Name Redacted 2/13/2024 10:00 AM	Everything that is already there!! The design of the buildings to the beautiful feel it gives. There is not allot to enhance other then making sure the maintenance is kept up.
Screen Name Redacted 2/13/2024 10:42 AM	Small town feel, traffic is not bad, downtown is fun, all the forested areas within the city limits. These should all be preserved .
Screen Name Redacted 2/13/2024 10:52 AM	My favorite things about Camas are the trails and parks around the lake and the thriving downtown. The Northshore plans to create a larger trail system and connect all the trails will make the lake area even better. Maintaining the charm of downtown while expending the core out onto adjacent streets will make the downtown better too.
Screen Name Redacted 2/13/2024 10:55 AM	small, walkable downtown

Screen Name Redacted 2/13/2024 12:18 PM	It’s less special since the “elected” officials ignore our wants.
Screen Name Redacted 2/13/2024 12:47 PM	Small Town Feel, Great Library, Unique Small businesses
Screen Name Redacted 2/13/2024 12:49 PM	Preserve the heritage and hardworking culture of the past. It's a small town that doesn't give up!! Let's strive for a cleaner and more appealing town for visitors and locals. Clean up the streets and continue to make it a desirable place to be in.
Screen Name Redacted 2/13/2024 01:27 PM	The potential. It has everything to be something truly special.
Screen Name Redacted 2/13/2024 02:09 PM	I would strive to preserve the natural beauty of the town in addition to downtown.
Screen Name Redacted 2/13/2024 02:59 PM	Old growth forests. Trails and parks. Small family owned businesses. Areas for youth to gather and be active. Create a local music venue for youth and adults.
Screen Name Redacted 2/13/2024 06:00 PM	Small businesses
Screen Name Redacted 2/13/2024 07:02 PM	Diversity celebrations
Screen Name Redacted 2/13/2024 07:34 PM	Don’t over develop. Don’t allow commercial companies in, stay local and preserve the history and natural beauty.
Screen Name Redacted 2/13/2024 07:53 PM	Beautiful tree-lined streets and historic buildings with unique local businesses.
Screen Name Redacted 2/13/2024 09:21 PM	Useful stores (Lutz, Bookish, Periwinkle) that help me get my tasks accomplished (housework, gifts) without having to drive to Vancouver.
Screen Name Redacted 2/13/2024 09:29 PM	The small town feel

Screen Name Redacted 2/13/2024 11:33 PM	Community events Mill Mixed income residential Youth sports
Screen Name Redacted 2/14/2024 05:29 AM	I do think having so many trails basically right in town is very unique, please continue to preserve / expand the trail system and connect different trail areas. The downtown is adorable, it just needs to keep doing what it's doing.
Screen Name Redacted 2/14/2024 08:06 AM	The community still feels quaint and approachable, but it is quickly growing to a size where community involvement and hometown pride will feel meaningless. Vancouver has already turned into this.
Screen Name Redacted 2/14/2024 09:39 AM	Old fashion values.
Screen Name Redacted 2/14/2024 12:05 PM	Parks, trails, and open spaces, with a dynamic library as a part of fabric of the community.
Screen Name Redacted 2/14/2024 05:16 PM	The buildings are historic and quaint. There are no homeless people. A variety of businesses. However you need 2 more coffee shops and some more cafes. To enhance it, I'd recommend requiring businesses to be open for a portion of Sunday.
Screen Name Redacted 2/15/2024 08:30 AM	Preserve the small town vibe. All the restaurants, shops and avenue of old trees add a unique charm to Camas. Preserve small town vibe- limit excessive growth, that our infrastructure can’t maintain. Our roads are overloaded and downtown Camas events, like Boo Bash, Christmas tree lighting are almost impossible to access. There’s not enough parking, so we need to arrive hours early to attend. Preserve our trees. They add such value to the city. Preserve the look of the old buildings. Revamp the mill into a shopping / lifestyle center like the Bend Mill District. Preserve our trails. Clean up the lakes, and stop motorized boats/ jet skis, that make so much noise and prevent non-motorized boats and swimmers from being safe.
Screen Name Redacted 2/15/2024 09:16 AM	We enjoy the history of the buildings from the Antique store to the old post office.
Screen Name Redacted 2/15/2024 09:16 AM	We need to enhance the downtown with more modern developments such as take down the paper mill and build a new Camas waterfront

with contemporary shops and dining. We can still preserve the old downtown just have the new downtown Camas at the waterfront connect to the old historic downtown Camas. Many cities do this such as Dublin, Ohio with their new downtown Dublin connected to the old history downtown Dublin.

Screen Name Redacted
2/15/2024 09:26 AM

The people and shops. You need to somehow get control of the 'church' property back. It's a shame that so much of that amazing street is now empty or a church. I am a Christian but this isn't the best use for historic buildings and losing prime real estate and good restaurants is so disappointing.

Screen Name Redacted
2/15/2024 09:33 AM

The downtown is very charming and a highlight of the area. The tree lined streets and hanging baskets in the spring make the downtown beautiful. The retail stores are varied and offer a lot of options for residents and visitors. However, when you peel back the layers, there aren't a whole lot of places to keep you downtown. For instance, we only have a handful of restaurants families and friends can gather. The church has bought up valuable storefront space and took a pizza restaurant with it. If we can't get more restaurants, what about a food truck park? Restaurants can make Camas more of a destination.

Screen Name Redacted
2/15/2024 09:39 AM

Quitting being greedy SOBs and preserve! Ridiculous that this is even a question.

Screen Name Redacted
2/15/2024 09:46 AM

The small local businesses are special and add character. Preserve the Family oriented community.

Screen Name Redacted
2/15/2024 09:44 AM

The small town feel. You can go anywhere and run into someone you know. The members of the town really care about each other. This has been truly shown in how the town has thrived even through COVID. The parks and trails are amazing. Continuing to work to preserve and improve these is very important. All of the activities throughout town through out the year.

Screen Name Redacted
2/15/2024 09:44 AM

Locally owned businesses. Downtown Camas Association events.

Screen Name Redacted
2/15/2024 09:52 AM

Walk-ability, diversity of shops, restaurants, and entertainment. I hope that more spaces are available/affordable for small shops, restaurants and entertainment venues. I love the community events hosted/supported by the DCA. I would like more parking options, or

	more communication regarding transportation/shuttle options for community events, i.e. First Friday, October-fest, Car Show, Christmas tree lighting, etc.
Screen Name Redacted 2/15/2024 09:58 AM	The downtown development has made shopping downtown very inviting. I would like to preserve the small town atmosphere
Screen Name Redacted 2/15/2024 10:02 AM	Please preserve the historic buildings, small town charm, trees, and nature trails.
Screen Name Redacted 2/15/2024 10:06 AM	Not many small towns left and it feels good ti be part of the community. preserving historical buildings and culture is important for the future generations
Screen Name Redacted 2/15/2024 10:08 AM	Keep the great downtown association that is driving business.
Screen Name Redacted 2/15/2024 10:18 AM	I love that downtown has local companies. I think this is the future of malls and strip malls across the country. People want to support local and it's such a good thing. I also love how walkable downtown is, and that it is pedestrian centric, not car centric. America's roads (stroads) are designed for cars, not people, and it is so unfortunate and dangerous. Having a pedestrian centric downtown is so much safer and provides a much better experience.
Screen Name Redacted 2/15/2024 10:18 AM	the small shops are part of the feel. I like the events and parade in the summer. the general area is nice with parks and walking trails. Parking is always the big problem downtown.
Screen Name Redacted 2/15/2024 10:29 AM	Preservation on the friendly and safe community is so important. The look and feel of our historic downtown is essential.
Screen Name Redacted 2/15/2024 10:36 AM	Its fun to have a local theater, and small locally owned shops. Parking spaces are too small for modern day large vehicles. More places to eat, less salons..
Screen Name Redacted 2/15/2024 10:41 AM	What makes it special is its juxtaposition to water - to Lacamas Lake and the Columbia/Washougal rivers. We should strive to enhance the downtown, especially by reclaiming the land destroyed by the Mill over the years and hold GP accountable for remediating ALL

	properties and the underlaying soil/sediment/groundwater owned by GP to the highest land use classification, residential.
Screen Name Redacted 2/15/2024 10:43 AM	The brickwork and tree-lined lane - main street is gorgeous anytime of year and I'd love to see that continue. The art throughout the downtown area is also lovely and greatly enhances the feel of it. The theater is especially wonderful to have, and I frequent many of the local businesses including the hardware store, truly scrumptuous, mesa, kop chai and others.
Screen Name Redacted 2/15/2024 10:48 AM	We enjoy the trails and access to nature on walks or on bicycles.
Screen Name Redacted 2/15/2024 10:50 AM	Its ease to get to, great places to eat and drink and proximity of one place to the next is very nice Should strive to keep the small town feel. No big buildings, no big corporate block take overs (ex, the new church taking up a whole block)
Screen Name Redacted 2/15/2024 10:52 AM	The history is still seen throughout our town while we continue to grow and have more modern amenities. I would love to continue preserving the history while growing to meet our community's needs.
Screen Name Redacted 2/15/2024 10:59 AM	I like the shops and restaurants, the farmers markets. I like the trees, flower baskets, and statues.
Screen Name Redacted 2/15/2024 10:58 AM	Downtown. A vision for the mill is critical, and should be mixed use with housing
Screen Name Redacted 2/15/2024 10:56 AM	It is cute and charming
Screen Name Redacted 2/15/2024 10:59 AM	continuing preservation of historic downtown preserving walkability safety, parking ease.
Screen Name Redacted 2/15/2024 11:17 AM	small town feel with great shops, movie theater, live music and restaurants, community events and unique themed gatherings
Screen Name Redacted 2/15/2024 11:30 AM	The vintage buildings with their upgraded, locally owned shops and restaurants. The trees and plantings help immensely but the narrow

	street makes it particularly inviting to walk along 4th. Please try to add landscaping to the side streets, 3rd, 5th and 6th.
Screen Name Redacted 2/15/2024 11:45 AM	Don’t change to much
Screen Name Redacted 2/15/2024 11:49 AM	The small town feel. Shops are owned and operated by locals. It has a unique vibe. Doesn't feel like every other place.
Screen Name Redacted 2/15/2024 12:41 PM	It’s unique history and charm and beautiful natural beauty of the area.
Screen Name Redacted 2/15/2024 12:44 PM	What's special are all those independently owned businesses along Fourth Ave. The downtown core is so very pleasant because of all those tall, leafy trees and the well-maintained plantings and flower baskets. There's also just a good mix of different things, which means you can easily spend half a day or even a day shopping interspersed with restaurant-hopping. It's wonderfully walkable.
Screen Name Redacted 2/15/2024 12:53 PM	Embrace the new cultures moving into the community.
Screen Name Redacted 2/15/2024 12:56 PM	Small town feeling and locally-owned businesses.
Screen Name Redacted 2/15/2024 01:07 PM	Preserve the small town feel
Screen Name Redacted 2/15/2024 01:10 PM	A balance of cute small businesses, nice places to eat and clean and safe parks and recreation area. Strive to preserve the cleanliness and safety.
Screen Name Redacted 2/15/2024 02:08 PM	Beautiful Crown Park is so underutilized and lacking updates. A bathroom would be nice. The parks here are lovely. They need to be upkept better. We were promised a splash pool when they arbitrarily tore out the pool. That’s been several years ago and nothing.
Screen Name Redacted 2/15/2024 02:16 PM	All downtown activities , Small town feel, great shops, great schools, lots of hiking and park land.

Screen Name Redacted 2/15/2024 02:16 PM	Community things! Like first friday, farmers markets, etc. So fun!
Screen Name Redacted 2/15/2024 03:14 PM	Charming
Screen Name Redacted 2/15/2024 03:56 PM	I like the downtown feel with the shops
Screen Name Redacted 2/15/2024 04:23 PM	The warm welcoming family feel. People still say hello and our downtown business are friendly and inviting.
Screen Name Redacted 2/15/2024 04:40 PM	Small family owned businesses, historic buildings, and honoring the history of how camas came to be. Lets preserve the nature we have here. Round Lake, Fallen Leafe Lake and Lacamas Lake parks, Washougal River. Please prevent any further development on these natural sites. Preserving nature is key to making it livable here.
Screen Name Redacted 2/15/2024 05:20 PM	Special because it's a great mix of people, a safe place for families, and has a small town community feel.
Screen Name Redacted 2/15/2024 05:39 PM	It is a tight knit community Let’s keep it that way
Screen Name Redacted 2/15/2024 06:46 PM	The originality of Camas art, businesses and streets. Please preserve some of the original charm. Not just brew pubs and burger joints. Keep flowering baskets, first Friday’s, Girls night out, add 5k, events, art walks. Add Sassy Saturdays and other fun activities.
Screen Name Redacted 2/15/2024 07:46 PM	Balanced city with parks, library, retail, theater, restaurants, and residential. Preserve the downtown area but improve the entrance on 6th into downtown.
Screen Name Redacted 2/15/2024 11:23 PM	There seems to be a shared feeling of enjoyment and belonging when I'm downtown and cross paths with others, even if we don't know one another. I invite friends and family from out of the area to join in one of the special downtown events, and they feel like they've been welcomed to our block party
Screen Name Redacted	It's quaint...lets keep it clean and the crime low.

2/16/2024 12:20 AM

Screen Name Redacted
2/16/2024 05:07 AM

Small town, preserve the restaurants and shops.

Screen Name Redacted
2/16/2024 08:08 AM

The people whe have been here the longest seem to want to keep our Camas hometown feel. I am not a fan of out of towners moving in and wanting to change everything. Our school district is awesome, 4th Avenue should be walkable with stations that are permane from early spring through the end of Farmer's market or Boo Bash. Then all events could take place there with not do many spardic Street closures.

Screen Name Redacted
2/16/2024 08:40 AM

The small-town feel of Camas and the mix of small neighborhoods and rural community is one of my favorite parts of Camas. I think the town needs to preserve some of the rural areas and not just convert it all to subdivisions. Camas also needs to preserve and invest more in expanding open space and green areas, primarily natural areas and natural walking paths. With the growth we expect in the coming decades, we need to expand access to open space and natural areas.

Screen Name Redacted
2/16/2024 09:47 AM

Something for everyone. Preserve the history of the town.

Screen Name Redacted
2/16/2024 11:53 AM

nice people, pleasant, clean, safe, pretty. downtown is charming. Lacamas Lake is a treasure. Christmas festival is enjoyable.

Screen Name Redacted
2/16/2024 12:34 PM

Downtown should be enhanced by encouraging tax paying enterprises to set up in an environment that encourages community, growth and diversity of commerce. Real access to the entire community via trails, roads and public transit should be encouraged.

Screen Name Redacted
2/16/2024 01:44 PM

(see above for 1st question) Communities need to grow of course but Camas needs to do this while keeping the small town feeling. The cohesion in downtown is a real draw for not only locals but people outside the area as well.

Screen Name Redacted
2/16/2024 04:54 PM

The buildings, shops and restaurants

Screen Name Redacted

Nice walkable downtown, trails, usually pass school levies, festivities

2/16/2024 05:18 PM	downtown. Preserve downtown especially the movie theater, preserve park and open space.
Screen Name Redacted 2/16/2024 06:17 PM	Thanks to the city leaders, the downtown has been maintained as its historic self, camas should preserve that and not let it turn into a bunch of multilevel high rise apartment buildings to pack population into that area.
Screen Name Redacted 2/17/2024 08:19 AM	Great ambiance and flowers. Keep flowers and greenery.
Screen Name Redacted 2/17/2024 09:23 PM	Preserving the liberty theatre, library, the look of downtown Camas: lights, landscaping, sidewalks, monthly first Friday’s and other events throughout the year. The parks and trails are phenomenal. Great school support.
Screen Name Redacted 2/18/2024 09:07 AM	My favorite parts of downtown are the library and the theater. They signify the history of the town and community. Lutz’s is fantastic too—very hometown.
Screen Name Redacted 2/18/2024 09:38 AM	Signage that shares the history of our city with newcomers. I also enjoy places to mingle with a cup of tea, coffee, wine, and not just door to door spas.
Screen Name Redacted 2/18/2024 04:15 PM	Downtown
Screen Name Redacted 2/19/2024 08:42 AM	The mill history, murals/plaques, and a very dedicated and active library (with bees!) are special. I would love to enhance our knowledge about the history of the downtown-adjacent neighborhoods.
Screen Name Redacted 2/19/2024 11:53 AM	Outdoor recreation (parks, lakes, etc)
Screen Name Redacted 2/19/2024 02:23 PM	Preserve and protect our small businesses! Ensure development and growth doesn't adversely impact this vital part of what makes our community "us".

Screen Name Redacted 2/20/2024 02:25 PM	• Strong sense of community • Camas Farmer's Market • Many family friendly events, unique and inclusive • Iconic Main Street charm and beauty • Tree canopy, downtown and throughout town • Award winning library and programming • Downtown is cozy and inviting • Downtown is walkable—so much contained within a few blocks • Safety downtown and throughout Camas • Liberty Theatre—quality of programming and experience • Live music in multiple locations in downtown on the weekends; other events throughout the week in the bars/restaurants (tastings, bunco, karaoke, trivia, murder mysteries, etc) • Undertone of friendliness in downtown and throughout town • All of Camas is cleaner than average city • Quality stores, restaurants and services downtown—great mix for our size • Merchants collaborate with each other • Our community supports our downtown and wants to engage with our businesses • Surprising art scene: organic, authentic, variety of media styles, engaged artists • Many art focused events • Public art in downtown—engaging and fits within our aesthetic and scale • Downtown amenities—benches and seating areas, art, bike racks, signage • Our public schools • Our trail systems/parks; recreation areas • There is a Main Street Program that has and continues to intentionally revitalize downtown
Screen Name Redacted 2/20/2024 09:33 PM	Community events. Well maintained landscaping and store fronts. Locally owned businesses that service all age groups.
Screen Name Redacted 2/21/2024 10:35 AM	Our historic downtown is so cute! Fun activitites, small businesses, nice people. The library is amazing! Please keep it small and local.
Screen Name Redacted 2/21/2024 05:11 PM	I love the small town feel of Camas. I hope we can improve what we have without becoming too big or commercial.
Screen Name Redacted 2/22/2024 01:22 PM	Business friendly and very walkable historic downtown. I wish it was just more pedestrian friendly from downtown camas to Crown Rd. Many people walking on Crown Rd to Lacamas Creek Trail to downtown camas and that area does not feel very safe for all the pedestrians. I would like to see more large sidewalks and walking paths as a pedestrian who walks on crown rd to downtown camas often.
Screen Name Redacted 2/23/2024 09:58 AM	Walkability and food & shopping options downtown
Screen Name Redacted 2/24/2024 08:28 PM	Downtown camas is straight out of a hallmark movie! All the stores and walking the streets makes you feel like you're the main character

	in a small town movie. I'd love for there to be more restaurants and other unique stores added in the downtown strip, and possibly adding on to make it longer! Definitely preserve the library and post office, and keep all the older buildings as long as possible! It adds to the charm. I think the city could enhance the landscaping around the town, and adding lighting around camas.
Screen Name Redacted 2/26/2024 08:36 AM	Please stop adding more housing development before building the appropriate infrastructure. Fix the roads first. Putting the cart before the horse will never end well. And for some reason this trend continues to happen. Maybe revamp the planning commission .
Screen Name Redacted 2/27/2024 09:54 AM	Keep it small. Keep it walking friendly, but put it back to two lanes by safeway. Have the police actually give speeding tickets on 6th by the ball fields. Alot of people do 50 to 60 so they can be first to the stupid roundabout. Keep the homeless away. The mess they bring is disgusting.
Screen Name Redacted 2/27/2024 10:39 AM	We moved from Bend and feel that even though Bend is much larger it has really figured out how to have a small town community vibe. It puts a large portion of its' budget into parks and rec and and the schools (teachers, admin & especially the counselors) really show they care and put the kids and community first. Everyone lives in and contributes to the community. We haven't really felt that here. We feel Camas has such a unique opportunity with Lakes, Trails and historic downtown , however it's really not maintaining or utilizing them well. Clean lakes should be top priority. If we eliminate motorized vehicles on the lake it would make it less stressful on the ecosystem and more enjoyable for people to enjoy. We love paddling and kayaking on the lake with the kids and their friends but many times my kids have been knocked off by wave runners and speed boats circling us like sharks. Needless to say it makes it much less enjoyable and more difficult for kids, beginners and older adults to enjoy. We are fortunate to border the Columbia which is perfect for those vehicles so it wouldn't really be a loss for people who would like to participate in motorized activities .Also seems that since some people were interested in a community pool we could work on cleaning the lakes and maybe even have swimming areas & install inflatable features like slides, etc in the summer. We are so happy to see that work is being done to improve the trailhead on 3rd street. Thank you.
Screen Name Redacted 2/27/2024 11:58 AM	The character of the neighborhoods and the fact that there are still farms and open spaces. It's old AND new; not cookie cutter.

Screen Name Redacted 2/27/2024 02:25 PM	Quaint family friendly outdoor shopping and eating and events.
Screen Name Redacted 2/27/2024 04:18 PM	Local businesses and events
Screen Name Redacted 2/27/2024 04:31 PM	Don’t turn it into a crowded, noisy place! Keep the old charm
Screen Name Redacted 2/27/2024 04:57 PM	Cute old buildings. Stop taking down cute older ones and instead focus on getting rid of the 80s ones like the old Rivermark bank building if something needs to be taken down.
Screen Name Redacted 2/27/2024 06:28 PM	Preserve the small town feel
Screen Name Redacted 2/27/2024 07:09 PM	Unique shops & good food! Camas city pride.
Screen Name Redacted 2/28/2024 08:59 AM	I enjoy the cute downtown feel.
Screen Name Redacted 2/28/2024 06:52 PM	Open space
Screen Name Redacted 2/28/2024 09:06 PM	Actual homes, used to have little traffic.Strive to stop turning us into Vancouver
Screen Name Redacted 2/29/2024 08:38 PM	Lacamas Park. Historic downtown. Building/maintaining more trails to get citizens healthy and happy in nature.
Screen Name Redacted 2/29/2024 09:00 PM	Lacamas park is a pure gem and we love the lakes. Please preserve these wonderful areas and continue to work on the algae bloom issues in the lakes. Historic downtown is special because of it's focus on pedestrians over cars which facilitates enriching community events.
Screen Name Redacted 2/29/2024 09:46 PM	The cute town town area. Crown park is beautiful and should have attention.

Screen Name Redacted 3/01/2024 07:51 PM	charming downtown, We like the events in the summertime, Camas days, antique shows etc.
Screen Name Redacted 3/01/2024 09:44 PM	To have more options for cultural event. Theater, live music, musical, festival.
Screen Name Redacted 3/02/2024 07:37 PM	People talk to one another, unlike Salmon Creek where we used to live; connectedness; play park (run out of a local church, where a lot of moms and kids got to know one another; sociableness of our neighborhood, Lake Pointe; mom connections; convenience of downtown Camas; Heritage Trail and Round Lake trail network; green spaces; you recognize a lot of people when you're out; Downtown Camas merchants and staff; beauty; it's the total package: schools, downtown--you don't have to sacrifice anything; safety; community steps up to help each others; connections; cute, quaint, has trees; driving down Lake Road; most people own their homes; neighborliness; people have your back
Screen Name Redacted 3/04/2024 02:05 AM	We have a quaint historic downtown. The shortage of parking for events keeps us away from enjoying it. Parking is needed!
Screen Name Redacted 3/06/2024 05:58 PM	Natural spaces, good well-staffed schools, charming downtown
Screen Name Redacted 3/06/2024 06:24 PM	Great schools, good parks near Lacamas lake, nice downtown area. Please don't let Journey church take over the whole downtown area. Downtown is quaint but it's in need of more restaurants and specialty stores. We need to draw more foot traffic.
Screen Name Redacted 3/06/2024 06:36 PM	1:Privately owned business vs big chains and franchises everywhere, especially downtown. 2:Love the beautiful trees downtown and some buildings have character.
Screen Name Redacted 3/06/2024 07:49 PM	Charming atmosphere, independently owned businesses, convenient location. Strive for more diverse, higher caliber restaurants and bars/lounges.
Screen Name Redacted 3/06/2024 08:09 PM	Downtown: Strong community pride, shops, well-cared for. Bringing visitors downtown--it has a great feel; the big, mature trees make it

	feel really nice. Variety of businesses, including restaurants, movie theater; feels very family-friendly; feels safe.
Screen Name Redacted 3/06/2024 08:05 PM	park space, city adding green space, tree canopy
Screen Name Redacted 3/07/2024 01:11 AM	Love the old buildings and that everything doesn't look “cookie cutter” downtown. Please preserve and enhance nature and wildlife.
Screen Name Redacted 3/07/2024 09:17 AM	Small town feel with unique small businesses
Screen Name Redacted 3/07/2024 09:33 AM	We really do like the downtown area and the lakes/walking trails
Screen Name Redacted 3/07/2024 09:38 AM	downtown is charming Camas is hanging on to the small town feel that I loved growing up.
Screen Name Redacted 3/07/2024 10:04 AM	The library is incredibly special. Small businesses like Lutz Hardware are hard to find -- they're always friendly, and they always go the extra mile to find what you need. I LOVE Camas Antiques. It is definitely my happy place. Most times I visit, I buy things, but even when I don't, I leave feeling uplifted. Camas street fairs are unbeatable.
Screen Name Redacted 3/07/2024 10:11 AM	The Historical placards, and old buildings really add to the flavor of the town. The little statues of animals are a bit of whimsy and greatly appreciated.
Screen Name Redacted 3/07/2024 11:41 AM	Downtown Camas has unique old buildings and several nice shops/ restaurants. It has a quaint and charming feel, should be maintained.
Screen Name Redacted 3/07/2024 12:51 PM	Tear down the papermill and build a waterfront. It’ll bring in more businesses to the area and help our local economy. Build more modern buildings like a new library, contemporary downtown shopping.
Screen Name Redacted 3/07/2024 01:27 PM	all the people

Screen Name Redacted 3/07/2024 01:44 PM	The charm of downtown to me lies in the historic appearance, the trees, and our amazing small businesses.
Screen Name Redacted 3/07/2024 04:01 PM	the DCA is critical in creating a welcoming atmosphere which invites participation, but does not create artificial pressure. The regular newsletters, First Friday activities, and community events show how passionate and engaged the DCA members are, and encourage others to get involved as well. I value connection with my neighbors and knowing that all parents are aware of activity and will communicate in order to keep our kids safe so they can feel like they are playing on their own and gaining independence. I would love to see proactive planning to address the drug and houseless crisis that are stretching toward our town and could impact that sense of safety.
Screen Name Redacted 3/07/2024 07:09 PM	More promotion of small business. Additional community centered spaces and parks.
Screen Name Redacted 3/07/2024 07:16 PM	Small town feel, good community/schools, clean parks and trails, local businesses
Screen Name Redacted 3/07/2024 09:16 PM	I enjoy the events downtown, but they do get sort of redundant. I love the seasonal decor.
Screen Name Redacted 3/08/2024 09:15 AM	school district, community feel like DCA events, beautiful nature like Lacamas and Round lake trails, small independent businesses, lots of little eateries, local theater, library, etc. small town feel.
Screen Name Redacted 3/08/2024 12:32 PM	The downtown is charming. The trees and other plantings must be preserved to retain this charm.
Screen Name Redacted 3/08/2024 12:49 PM	Its a great city with small town charm and pride, don’t take all the open space and build on it. Takes away from the charm
Screen Name Redacted 3/10/2024 08:13 PM	Please preserve the old buildings that give our town the character that keeps it from looking like “any other town.” Please maintain our trees, trails, and pedestrian-friendly traffic levels
Screen Name Redacted 3/11/2024 03:15 PM	walkability, small town vibe, green trees, the sense of community, Natalia's cafe, bookstore, library, kid's stores and the movie theater all

	create an awesome homey vibe
Screen Name Redacted 3/11/2024 08:30 PM	For downtown specifically, I love the events for families and it's great to see small businesses downtown. We could use more options for food/drinks. Downtown is cute, clean, walkable, safe.
Screen Name Redacted 3/11/2024 10:21 PM	Our stores and merchants are so friendly and there is always something fun going on.
Screen Name Redacted 3/12/2024 12:45 PM	Keep from making it like California 2.0.
Screen Name Redacted 3/12/2024 02:43 PM	The lovely parks, downtown shops and restaurants, library and schools
Screen Name Redacted 3/14/2024 09:17 AM	Local stores and community activities. Less church owned buildings would be great...
Screen Name Redacted 3/14/2024 10:58 AM	Safety, great school and absence of homeless people
Screen Name Redacted 3/15/2024 11:29 AM	Small Town feel, *Small businesses, *Green space paths, *Access to nature,*School system excellence
Screen Name Redacted 3/15/2024 08:13 PM	Events downtown, and downtown itself. Decent (though incomplete) trail network. Camas lily fields, though they are getting degraded from invasives, development, and "bad instagrammers" who trample the plants. Pretty good community feel.
Screen Name Redacted 3/16/2024 06:19 PM	The movie theater, the antique store, the trees, the library, and the farmer's market. We also like the variety of restaurants downtown, places to get a hair cut. We don't go to the most expensive restaurants or the wineries. Places for people to sit and visit (benches, and I think there used to be a gazebo? in the downtown area are nice. We also liked the outdoor seating for restaurants allowed on the sidewalks or parking spaces during covid. Camas Days with the parade and the annual car show are also our favorite annual events.

Screen Name Redacted 3/16/2024 06:30 PM	Nice downtown, small town feel, easy and free parking. Save the downtown post office and other older buildings and trees. Sorry to see that church go and too much development
Screen Name Redacted 3/16/2024 06:51 PM	I like that there are t really any corporate entities. It’s walkable, easy to park. I love unique stores like Poppy & Hawk. I wish there were more like it.
Screen Name Redacted 3/16/2024 08:19 PM	Green trees,local business, quality food and drinks. No big shopping plazas please,not too many tourists too.
Screen Name Redacted 3/16/2024 08:36 PM	There are great restaurants and nice stores. Preserve a safe water system. Don't turn a contaminated pump on.
Screen Name Redacted 3/16/2024 09:32 PM	Schools
Screen Name Redacted 3/16/2024 11:41 PM	First Fridays are amazing, don't change a thing. Would love to see consistent source of information for everything going on around town - seems like I'm always the last to know when there's a special event coming to town.
Screen Name Redacted 3/17/2024 01:24 AM	The little few blocks of our old town and the business located there.
Screen Name Redacted 3/17/2024 07:22 AM	The commitment to building a vibrant business community that draws citizens of Camas as well as tourists to our downtown.
Screen Name Redacted 3/17/2024 08:14 AM	The trees and design of historic downtown are so charming and having shops and restaurants down there continue is crucial. We should preserve the downtown and continue to expand the specialty shops and restaurants. We also need to preserve the walking trails near the lakes as it makes camas so special!
Screen Name Redacted 3/17/2024 08:39 AM	We are proud to bring visitors. Feels safe, charming.
Screen Name Redacted 3/17/2024 08:49 AM	The downtown area is beautifully landscaped and maintained, it has a good variety of restaurants and shops and an affordable theater, a lovely library. Preserve the diversity of stores, the theater, the small

	town feel. It's sad that we have not preserved the small town. There are far too many people and the roads are crowded.
Screen Name Redacted 3/17/2024 09:01 AM	A small town environment is important for our youth.
Screen Name Redacted 3/17/2024 10:29 AM	The small and family-owned businesses, good restaraunts and shops. We were drawn to the town not being over-developed, which has been changing unfortunately.
Screen Name Redacted 3/17/2024 10:29 AM	The Main Street including its trees and foliage. The shops owned by local, small-town owners rather than a bunch of chains.
Screen Name Redacted 3/17/2024 10:40 AM	I love the community events. There's always something going on. The DCA has done a fabulous job making the town welcoming and beautiful.
Screen Name Redacted 3/17/2024 01:45 PM	The mix of businesses including a theater.
Screen Name Redacted 3/17/2024 05:10 PM	Love all the restaurants and beer places.
Screen Name Redacted 3/17/2024 05:27 PM	Downtown Camas needs to remain historic. It does not need more housing, it needs parking, walkable paths, places to sit and enjoy.
Screen Name Redacted 3/17/2024 05:43 PM	Our downtown expand streets beyond 4th with trees love the feel of 4th
Screen Name Redacted 3/17/2024 08:22 PM	Taking the charm out of Camas isn't good for anyone. There's literally no point having a DCA if the purpose is to strip away the things that make Camas unique. This includes historical buildings, like the octagon church. Putting up a high rise apartment with little character and no parking spaces will make it more difficult for people to want to stay downtown.
Screen Name Redacted 3/18/2024 02:54 AM	Preserve

Screen Name Redacted 3/18/2024 09:51 AM	Safe walkable downtown
Screen Name Redacted 3/18/2024 11:49 AM	Love the mill. Don't lose the feel of a mill town!
Screen Name Redacted 3/18/2024 11:54 AM	Like everyone I've met - the "small town feel" and TREES! Camas needs to hang on to open spaces, views, RESIST ALL DEVELOPMENT - the roads are becoming too busy, and most of all protect the TREES! People love to visit Camas because it "feels" like a hip, 1950's town - if you put sky scrapers around the main street it will not attract visitors or inhabitants. Right now Lacamas lakes are at risk and the rest of the hiking areas - which are being overused.
Screen Name Redacted 3/18/2024 01:45 PM	Camas is very walkable with wonderful trails and safe streets and sidewalks. Downtown Camas and Crown Park neighborhoods are very walkable and community oriented. We love First Fridays, farmer's market, Crown Park movies/concerts, egg hunt and summer kid's activities. We miss the Crown Park pool and look forward to the water feature/splash pad being installed soon.
Screen Name Redacted 3/19/2024 10:13 AM	Great school, the walkable downtown area, the hiking trails
Screen Name Redacted 3/20/2024 05:25 AM	Stop allowing churches on Main St., we fell in love with down town, but Journey is destroying it by trying to take up more space. Fully support them anywhere but the Main Street down there. Protect the trails.
Screen Name Redacted 3/20/2024 03:24 PM	Open space and trails. public safety. Tree canopy. Quiet. proximity to gorge Public ambulance model. Quality and accessibility of schools. Clean, well-kept. Accessibility to PDX, and airport. WA tax, amenities of big metro. Charming downtown, walkable. Small businesses. Library programming. Job opportunities. Historical mill town- jobs and investment. Work ethic, Community pride. Volunteer culture. Focus on youth and opportunities. Responsive and approachable city staff. City size and culture. Municipal service providers. High tech buy-in, finance, educated community. Community events. Family-oriented. Small-town feel. Proximity identity.
Screen Name Redacted 3/20/2024 03:29 PM	Old fashioned charm of Downtown can’t be replicated, beautiful historic architecture Ridgeline lighting and trees The relationships, and the connections we make The limited height of the buildings Lots

	of fun events! Public safety, people feel safe and secure, clean Family focused, excellent schools Good support for small business owners Nice parks and trail systems Many artists, lovely public art, art that fits our scale Walkability Flower baskets Cohesiveness, planned and intentional Liberty Theatre, Camas Hotel, Farrell building (Camas Antiques building)—all buildings to preserve, matter to our town Good restaurants Small and subtle features like public art, gazebos and benches
Screen Name Redacted 3/20/2024 07:26 PM	It's charming, the historical buildings, restaurants, coffee shops, library, cinema, post office, boutiques.
Screen Name Redacted 3/22/2024 07:12 AM	Camas is quickly turning from special to pathetic. The masses of homes,Now apartments especially apartments in downtown without having builders pay for road improvements,impact for utilities , schools,services.
Screen Name Redacted 3/22/2024 09:01 AM	Want to see my vibrant shops and restaurants while preserving historic small downtown feel. Love the quirky activities, first fridays, themed festivals, garden festivals, camas days etc. Love how clean it is. Keep residential and commercial areas separate. Don't put large commercial buildings right next to residential areas.
Screen Name Redacted 3/25/2024 10:09 PM	I think the city still offers a feel of community that is lost in some places. I like that there are trees and green spaces.
Screen Name Redacted 3/26/2024 09:46 AM	Downtown - quality and uniqueness of shops and restaurants, street trees and flowers, walkability Trails , green space and parks including large trees
Screen Name Redacted 3/26/2024 11:07 AM	Love the food options, cute shops like Poppy and Hawk. Safe atmosphere. Strive to preserve the safety and cleanliness. Continue to keep homeless off the streets of Camas. Enhance dining options, family friendly shops and events.
Screen Name Redacted 3/26/2024 04:18 PM	It's a Cute downtown. We need to preserve our great public schools.
Screen Name Redacted 3/27/2024 11:46 AM	What makes Camas Special? Parks Nature Open Spaces Community Pride Walkability Friendly people Schools Tree-lined streets Special Events History of good planning Downtown Library Lakes Good

	football team Great location/transportation corridors What should we strive to preserve? Tree canopy High-quality education Lakes Community center Nature/trails Sense of community Arts Sports Safe/Quiet Historic look and feel of Downtown Small business friendliness Inclusiveness
Screen Name Redacted 4/01/2024 11:31 AM	· Schools XXXXX · Location · Reasonable commute to jobs · Open spaces XXX · Proximity to international airport XXX · Liberty Theater (downtown entertainment hub) · Connected community & neighborhoods “you can’t leave your house without running into a neighbor” · Natural beauty/trails/lakes XX · Many opportunities to get involved in community · Comfortable/quiet · Affordability
Screen Name Redacted 4/03/2024 08:44 AM	It’s small and nice.
Screen Name Redacted 4/03/2024 09:08 AM	Downtown Camas needs to be preserved for it's historic feel!! Be careful to stop destroying historic buildings without a great deal of community input!! Stop the growth around and near LaCamas Lake. The Lake is a mess, and needs much attention, new homes should not be added to the problem. I would hope part of the paper mill could be maintained since there would be no Camas history without the presence of the mill in Camas. Stop small lots, and keep open areas, and keep areas that could be used for farming. Limit any annexation.
Screen Name Redacted 4/03/2024 10:07 AM	Please preserve what little green space and wildlife habitat still remains. We don't need more concrete, blacktop, apartments, etc. The planned Everett St. "improvements" are an example of the poor decisions being made ... putting small businesses out of business. The small businesses downtown are a significant reason for the charm and ambience of the area. "Pave paradise, put up a parking lot"... it's a shame.
Screen Name Redacted 4/03/2024 10:24 AM	Just the whole look of downtown should be preserved. Camas Days where they close off the roads and have a big city party.
Screen Name Redacted 4/03/2024 10:43 AM	Local businesses like bookish
Screen Name Redacted 4/03/2024 11:02 AM	The down town area is nice. Reduce traffic and congestion.

Screen Name Redacted 4/03/2024 12:34 PM	It's special when things are preserved as much as possible. I think with the exceptional push for growth caused by an exceptional demand, then we should be asking for more than usual in return. 1) Do everything possible to SLOW the process down, giving extra time for preservation of natural spaces. 2) make sure the infrastructure is in place BEFORE anything else happens. 3) Demand and get a quid pro quo. For everything given up for growth, something else is preserved that might otherwise be lost.
Screen Name Redacted 4/03/2024 04:45 PM	I love historic camas. I think less new buildings and keeping camas smaller is better. I also do not think we should extend the city boundaries by the airport. More country less highly populated neighborhoods. More trials and walking biking areas, more parks. Stop developing in camas. I want smaller town not city.
Screen Name Redacted 4/03/2024 05:13 PM	Everything
Screen Name Redacted 4/03/2024 06:10 PM	The memories of places I loved that are lost and gone forever. Don't turn all the remaining open space into massive houses on tiny lots.
Screen Name Redacted 4/03/2024 10:03 PM	The preservation of small town history. New buildings should fit the history style if small town. Not modernized monstrosities.
Screen Name Redacted 4/03/2024 11:32 PM	The beauty of Camas needs to be preserved. Quit building developments with houses on top of each other. Save our trees and hurry up and fix crown park (I took the survey years ago)!
Screen Name Redacted 4/04/2024 02:26 AM	I am having a hard time finding a response to the first question. We should strive on protecting our land, our natural resources, and STOP building large developments on every open field. Our community needs safe places for teenagers And family’s to go to, such as, skating rinks, bowling alleys, or game rooms.
Screen Name Redacted 4/04/2024 07:30 AM	Camas is a small mill town...even though the mill is nothing like it used to be...it is where are roots are as a town...no need to go and make it something new. Preserve the history, preserve our trees, forest, space and small town feel
Screen Name Redacted 4/04/2024 08:05 AM	The many local shops in downtown make it very special. When we first moved here there were a lot of outdoor dinning spaces that used

	parking spaces in downtown. I miss that. In the summer the outdoor space was beautiful and gave even more charm to downtown.
Screen Name Redacted 4/04/2024 08:11 AM	Businesses
Screen Name Redacted 4/04/2024 08:23 AM	Small town feel
Screen Name Redacted 4/04/2024 08:34 AM	The improvements to the downtown core have been such a joy to watch and participate in! Let’s continue to be mindful of our history as we grow and change. Not everything old needs to be torn down and replaced with shiny new buildings.
Screen Name Redacted 4/04/2024 08:58 AM	Preserve the history of our fun town, the classic small town feel. The people, community, nature, trails, green spaces all need to be saved.
Screen Name Redacted 4/04/2024 09:54 AM	Camas is special because it has maintained the small town vibe. When I drive through the narrow downtown streets it me how little it has changed over the years I have lived here. I don't think that should ever be allowed to change.
Screen Name Redacted 4/04/2024 11:51 AM	It's closeness to the Columbia River Gorge Scenic Area. Our historic Downtown should be preserved AT ALL COSTS !! It is part of what makes Camas so special. The events downtown are so enjoyable. Being able to see other Camas residents enjoying Downtown together....as a community should. Enhance the small town appeal of this city ! Don't destroy it !
Screen Name Redacted 4/04/2024 01:01 PM	The old buildings with nice architecture. Green spaces to walk and play. The lake, although it's a mess right now and needs to be fixed.
Screen Name Redacted 4/04/2024 01:15 PM	The DCA is a mean girl clique. Top to bottom it lacks ‘community’. Benefits those that are deemed worthy, won’t even implement suggestions from people that cost little no money if it isn’t from people who are in the circle.
Screen Name Redacted 4/04/2024 01:39 PM	The lake, hiking trails, downtown and classic feel of the mill.

Screen Name Redacted 4/04/2024 01:44 PM	Camas needs to preserve it's small town character and NOT build high density apartments on top of retail buildings. KEEP HIGH DENSITY HOUSING OUT OF DOWNTOWN CAMAS !!
Screen Name Redacted 4/04/2024 06:13 PM	Don’t build any more apartment/condos. Re purpose historic buildings. Explore using 5th avenue for more shops and events. Maybe planting more trees on 5th avenue would bring more shade for this.
Screen Name Redacted 4/04/2024 06:58 PM	Good local events like farmers' market and mothers' day plant sale
Screen Name Redacted 4/04/2024 07:26 PM	Plant trees that will grow tall on 5th street. Enhance areas for small shops and businesses.
Screen Name Redacted 4/04/2024 07:36 PM	Strive to preserve commerce in downtown, encourage climate-resistant solutions in future development, maintain roads, improve pedestrian safety, improve water runoff/flooding in old neighborhoods
Screen Name Redacted 4/04/2024 11:03 PM	The small town feel. Camas has such an adorable downtown, I love the shops, restaurants, and coffee options.
Screen Name Redacted 4/05/2024 10:37 AM	More affordability and diversity would be great
Screen Name Redacted 4/05/2024 11:41 AM	Historic downtown should be left alone . No high density housing. Improve the infrastructure downtown. You need to stop over developing every open space to make more tax money. Quit annexing more area, you cannot even effectively service the area you already have!
Screen Name Redacted 4/06/2024 07:48 AM	The small town feel is important. People know their neighbors and support the local businesses. Perhaps most importantly, Camas feels safe. You aren't constantly watching your back here, like in Portland.
Screen Name Redacted 4/06/2024 02:58 PM	DO NOT TEAR DOWN ANY MORE HISTORIC BUILDINGS!!!!!!! EVER!!!! Every old building is special and needs to be saved and protected for future generations.

Screen Name Redacted 4/06/2024 11:45 PM	The most special thing is that it's far enough from Portland
Screen Name Redacted 4/08/2024 09:20 AM	the Downtown vibe, access to parking. LaCamas Lake and park. Also, driving on the north side of the LaCamas Lake is a special experience, and one that cannot be duplicated. Its special and needs to be preserved.
Screen Name Redacted 4/08/2024 09:52 AM	Walking trails and parks. Small town feel. Proximity to city and culture. Walkable downtown, the character, no empty stores, people are invested. Welcoming environment for all ages. Monthly events, something for everyone, including kids. Grocery stores and library are in accessible locations. First responders and police are the best, and their partnership with schools is appreciated. Access to hiking trails. The people. Safety. The beer. Consistently pleasant. People care about their property. Downtown is really important. People are very friendly. The dog park is very social and offers social opportunities. Tight knit business community, everyone is very supportive of each other.
Screen Name Redacted 4/08/2024 12:48 PM	• People knowing/supporting each other • Close-knit downtown business community • Great schools • Family Friendly • Close to nature (paths, lake, parks) • Clean and Safe • Don't see a homeless problem (new residents) • Downtown acts as living room – expands social fabric • Events bring people downtown, and they come back for the businesses • Compact, walkable, accessible (balanced with proximity to nature, but access to 205/14/PDX airport) • Authentic historic charm (architecture, mill town history, "Hallmark movie") • Library programing, Youth Sports programming • "We pass all our bonds"
Screen Name Redacted 4/12/2024 10:29 AM	Small businesses with community desired products/services, walkable trails that feel safe, limited large apartment complexes in favor of beautiful individual family homes, walkable downtown areas that's safe.
Screen Name Redacted 4/12/2024 01:45 PM	The frequency of community events and available events to attend. The older buildings certainly provide charm that would be missing if they were removed. Even the historic and older houses in the area contribute greatly to the community's feel.
Screen Name Redacted 4/12/2024 03:40 PM	Slow traffic in lovely tree-lined street. Great restaurants and shops but these should be added to even more. By remodeling and

	restoring, keep the old buildings and, thus, the historic feel.
Screen Name Redacted 4/12/2024 05:02 PM	Charm in historic downtown. I would like to see the character preserved. Our parks and outdoor spaces are also quite impressive.
Screen Name Redacted 4/12/2024 05:38 PM	We love the historic buildings, hanging flowers and big trees that line the downtown.
Screen Name Redacted 4/12/2024 08:46 PM	Walkability, small local businesses, and the events that draw people to participate.
Screen Name Redacted 4/12/2024 09:08 PM	The greenery and small business shops, lack of large corporations
Screen Name Redacted 4/13/2024 04:49 AM	The down area consists of old historic buildings. The 2 shops on 4 th, Camas Antique store and the Camas Hotel, remind us of the past that goes back well over 100 years, and I think showcasing that is vital. Even the mill has a history of its own. Oh I forgot, the liberty theatre and library are historic too.
Screen Name Redacted 4/13/2024 06:19 AM	Simple, accessible, vibrant but not too busy with people, parking is fairly easily regardless of event. Strive to enhance grocery shopping experience.
Screen Name Redacted 4/13/2024 07:03 AM	It has a unique collection of shops, great restaurants, and is very walkable. I do feel like churches taking over downtown space might change the vibe though.
Screen Name Redacted 4/13/2024 03:33 PM	Small town feel, small businesses, community events, park district is great, wonderful friendly feel.
Screen Name Redacted 4/13/2024 04:36 PM	The mill. This town would be NOWHERE without the mill at the epicenter. Everything Camas has /is can be traced to the mill. We do our forefathers a disservice to bad mouth the mill and its history. It’s disgusting to hear the high school now call themselves the Makers instead of the Papermakers. To come from another state and want to change this towns history is extremely narcissistic.
Screen Name Redacted	small, local shops/restaurants, and the local theatre is fantastic. The

4/13/2024 05:05 PM

downtown looks very clean and friendly and has a wonderful family feel. There's a large variety of parks and playgrounds that are all close and clean and wondeful for our family to hang out at.

Screen Name Redacted
4/13/2024 08:05 PM

The downtown is distinctively unique and should stay that way

Screen Name Redacted
4/14/2024 11:03 AM

Clean, quite with an abundance of preserved outdoor space. The downtown area is very pretty and quaint.

Screen Name Redacted
4/14/2024 11:11 AM

Camas lucked into a classic walkable core downtown before exclusionary zoning took over. Please don't ruin our downtown with more traffic. We must keep vehicle traffic at low speeds and increase access to downtown by walking, biking, or rolling. 2 of my adult family members don't drive and two more with they could reduce their driving if access was safer.

Screen Name Redacted
4/14/2024 05:39 PM

What makes it special is the hard working men and women who made this town what it is. Green spaces. Limit urban growth. Please please stop growing the city boundary. We have space within city limits to grow if needed but the more we sprawl and entice folks from elsewhere to push bigger streets, more traffic lights, etc. The more we become the suburb of LA these people are trying to move away from.

Screen Name Redacted
4/14/2024 07:17 PM

Camas is nice because of the good schools, greenery/parks/playgrounds/trails, cute downtown. There are no big box stores and it’s not cookie cutter which is a good thing. Keep it small and improve sidewalks and add crosswalks for all the kids here trying to enjoy what it has to offer.

Screen Name Redacted
4/15/2024 06:40 AM

preservation of main street buildings, the mill. that look and feel .

Screen Name Redacted
4/15/2024 10:39 AM

Small businesses are the heart of camas. It is important to continue to support our local small box stores. The post office and library are especially important landmarks. While the Mill isn't nearly as large and productive as it once was, this is a big part of Camas history and at least the interpretive lobby should be maintained.

Screen Name Redacted
4/15/2024 10:53 AM

The downtown is adorable! Keep investing in it with local businesses and expand the tree-lined streets. It could use more diverse

	businesses. It is heavy on galleries, churches, and stores catering to 'parents.' More businesses to attract the youth would be good. The addition of churches in the downtown is not helping to make it feel diverse and attractive to tourism.
Screen Name Redacted 4/15/2024 02:26 PM	quaint, small, friendly
Screen Name Redacted 4/15/2024 02:56 PM	Keeping the downtown clean and keeping the town small
Screen Name Redacted 4/15/2024 04:36 PM	You should strive to preserve the small town community feel where people feel safe, friendly and unique. Keep it small please, it doesn't need to be like the Vancouver waterfront. We don't need more cookie cutter strip mall buildings. The historic downtown is perfect the way it is, even with the mill. This is a special place that is quiet and out of the way, focused on recreation and families. We can go to Vancouver for everything else.
Screen Name Redacted 4/15/2024 05:23 PM	Local businesses and tree-lined charm.
Screen Name Redacted 4/15/2024 06:59 PM	The brick buildings, the shops, it's very quaint. Strive to keep it that way and preserve it by making the entire city a national historic site.
Screen Name Redacted 4/16/2024 09:10 AM	The family-friendly environment NEEDS to be preserved. Preserve the quality of schools, as well as parks, lakes, and greenspaces as much as possible. Limited high density - we do not want to see large, multistory apartments or office towers. Keep the small town feel - single family homes, vibrant downtown - with restaurants, shops, and small businesses. Cleanliness and safety are important - we want Camas to feel safe for families.
Screen Name Redacted 4/16/2024 09:34 AM	Small town feel of downtown, lots of activities (outdoor, Liberty theater, downtown shops, close to gorge), history with mill.
Screen Name Redacted 4/16/2024 06:51 PM	I like the small town feel, family friendly and walkability nature of it. I'm disappointed that the city chose to allow an entire block to be purchased by a church to decide what to do with a prime location. I don't mind them having a presence but to take probably the most important section of all of downtown to then decide what is available to to our community shouldn't be allowed by just one entity. I like the

	diversity that the town has and this takes away from it.
Screen Name Redacted 4/16/2024 08:21 PM	I found that Vancouver never felt like it had a feeling of community; Camas does. It has that small town feel that happened to grow a bit bigger. We should preserve that as Camas continues to grow.
Screen Name Redacted 4/17/2024 08:06 AM	Preserve as much historical character as possible while keeping buildings safe and comfortable. Keep downtown open, not packed in or it becomes uncomfortable to visit
Screen Name Redacted 4/17/2024 12:10 PM	What makes Camas special: It is a stable environment: Families who have moved here stay here. What should be preserved/enhanced: Quality of education provided by Middle and High-Schools
Screen Name Redacted 4/17/2024 02:49 PM	Old bulidings and trees, lack of strip malls, small independent businesses, great parks and green spaces with good hiking/walking
Screen Name Redacted 4/17/2024 03:57 PM	Quality of schools. Parks and green space; heritage trail, lake access, crown park, trail connectivity, and river access. Community events. Pride. Downtown flower baskets. Climate. Access to services and healthcare. Great EMS response times. Strong law enforcement. Safety. DCA. Chamber of commerce. Collaborative leadership. Care for where they live. Library programming. Small town charm.
Screen Name Redacted 4/17/2024 05:10 PM	Love that it's always had a small town feel and hope that as we continue to grow we don't stray too far from that.
Screen Name Redacted 4/17/2024 05:48 PM	It’s clean and beautiful and people clearly care about kids.
Screen Name Redacted 4/17/2024 05:58 PM	Everything I listed in #1, plus our beautiful library, the downtown area (with exceptions I’ll list later), Lacamas Lake (with exceptions I will also list later).
Screen Name Redacted 4/17/2024 09:07 PM	Small town feel. Clean look. Green and flowers
Screen Name Redacted 4/18/2024 07:28 AM	The small town feel. Don’t let big box stores kill small businesses. Keep the old look and feel of downtown.

Screen Name Redacted 4/18/2024 09:31 AM	Strong sense of community, downtown Camas is a place we enjoy going to
Screen Name Redacted 4/18/2024 09:52 AM	We enjoy that the historic downtown is clean. We'd like to see small and local business prioritized and giving them affordable rent. Rather than large businesses or churches. The friendly residents and family focus, with city events geared towards families are the best.
Screen Name Redacted 4/18/2024 02:06 PM	Sense of community.
Screen Name Redacted 4/18/2024 03:33 PM	I like the library. The rest of the building are outdated and need to be replaced.
Screen Name Redacted 4/19/2024 05:56 PM	Preserve the culture of the downtown, preserve the theater, the library.
Screen Name Redacted 4/19/2024 07:24 PM	I like the parks and downtown area.
Screen Name Redacted 4/20/2024 10:55 AM	Downtown Camas is so cute. It also always has a bit of a magical feel to me. The older buildings are certainly a critical part of that vibe. I love its walkability. I also think that the library is particularly important. I always stop in when I'm downtown.
Screen Name Redacted 4/20/2024 06:40 PM	Preserve and enhance walkability to everywhere, shops, neighbors, parks. Downtown has European town feel with all things within walking distance, focused on pedestrians and interaction with neighbors.
Screen Name Redacted 4/20/2024 07:25 PM	downtown is delightful. keep it that way it is - looks like you're going back in time. the flowers, trees, wonderful.
Screen Name Redacted 4/20/2024 08:25 PM	Keep the charm
Screen Name Redacted 4/22/2024 09:05 AM	It is not special right now. It has the potential to be special though.

Screen Name Redacted
4/22/2024 09:35 AM

The library - independent ownership. Green spaces and parks. Walkable and bikeable downtown. Strong school system. DCA. Library and parks and rec programs. Safety. Urban and rural. Mountains. Small businesses - Grains of Wrath and Natalia's Liberty theatre. Downtown.

Screen Name Redacted
4/22/2024 12:10 PM

Love the downtown charm and public library, farmer's market, first Fridays. Please preserve these. Love the neighborhood feel and the number of pedestrians and cyclists. My bipoc and lgbtqia children feel safer here than most smaller cities/towns.

Screen Name Redacted
4/23/2024 05:00 PM

I would love to see the many community events that bring people together (First Fridays, Farmers Market, etc.) continue. Growth is inevitable, but maintaining the friendly, relaxed, small-town character is critical. I would prefer to have a limited number of those multi-level complexes we're starting to see on 6th St. In the areas I grew up in, they've built too many and irreversibly changed the character of those communities. Love the idea of expanding the downtown out to include surrounding streets.

Screen Name Redacted
4/23/2024 09:08 PM

Downtown has a quaint small town feel, which is very charming.

Screen Name Redacted
4/23/2024 09:20 PM

I think the walkability is the greatest strength. I would try to enhance the city’s density by allowing for more mixed use zoning, especially in the crown park neighborhood.

Screen Name Redacted
4/26/2024 07:36 AM

the history of Camas is centered on downtown. The town was formed around the mill industry which is why roads built oriented to mill and such. At some point the mill needs to go, but the history is important & should be used as educational opportunities. The older & repurposed buildings help preserve the character and new DCA educational signs help hint into the past. Would love to see more

Screen Name Redacted
4/27/2024 12:34 PM

The forest and hiking trails within city limits is one of Camas's most valuable features, the city should strive to expand and enhance them. And the schools.

Screen Name Redacted
4/27/2024 05:02 PM

Small town feel, great old post office, library, trees. Safe to walk the streets, lots of Greenspan for quality of life

Screen Name Redacted 4/29/2024 10:59 AM	Bustling businesses, shops and restaurants! We need more high rises with shops and stores underneath apartment/condo type living. Also, needs to be more pedestrian and cyclist friendly. The sidewalks are really old and narrow. We need to add larger walkways and bike lanes all the way down to the Lacamas Creek Trail and up SE Crown Rd as well.
Screen Name Redacted 4/29/2024 12:38 PM	Keep the streets narrow and the businesses small. Maintain the hanging flower baskets.. they're stunning! The town remains small and friendly with many activities.
Screen Name Redacted 5/02/2024 09:40 AM	Cutest downtown, little town atmosphere. Public space and parks. Historical element - preserve the core. Prepare for growth. People come for the feeling and small-town vibe. Unique shops. Cleanliness, well-maintained, well-planned. Strong history of growth projections, which has preserved the home feel. PPL. Access to nature and lakes. Great place to raise kids. Uniqueness of Mill.
Screen Name Redacted 5/02/2024 09:43 AM	walkability, greenery, local businesses
Screen Name Redacted 5/02/2024 03:06 PM	quiet residential community with lots of nature
Screen Name Redacted 5/02/2024 03:30 PM	There’s not much bringing me to downtown
Screen Name Redacted 5/02/2024 09:31 PM	The walkable, small town feel is great, and the city seems to want to maintain lots of green space for citizens.
Screen Name Redacted 5/02/2024 10:20 PM	Diverse family friendly food and entertainment options plus shopping.
Screen Name Redacted 5/03/2024 08:07 AM	Historical buildings, walkable space, small retail and dining spaces are what make downtown Camas a fun place to hang out.
Screen Name Redacted 5/03/2024 08:23 AM	Cohesive feel to the community. Camas should continue to enhance areas of largest citizen agreement.

Screen Name Redacted 5/03/2024 08:42 AM	It's cute, historic, and walkable. More restaurants and dining would mean more reasons to go downtown or meet others out.
Screen Name Redacted 5/03/2024 03:27 PM	It’s picturesque. Lots of cute shops. Could enhance food options
Screen Name Redacted 5/03/2024 03:28 PM	Character - cute, non-chain shops, well maintained buildings, walkable streets
Screen Name Redacted 5/03/2024 04:05 PM	This area has an ABUNDANCE of parks and walking paths! Yrs. gone by, the Mill made Camas-town smell, undesirably. By the time I moved here: Camas no longer "smelled." YAY Camas library is a stand-out!
Screen Name Redacted 5/03/2024 04:05 PM	Much is made of the historical aspect but the city continues to let the historical infrastructure degrade. Spend the money bringing it up to code before it becomes a greater issue / emergency.
Screen Name Redacted 5/03/2024 04:05 PM	The community is very active and plans a lot of fun events. Definitely preserve the small town feeling.
Screen Name Redacted 5/03/2024 04:07 PM	The waters and trails, aswell as downtown and the wooded areas with no homes on them
Screen Name Redacted 5/03/2024 04:37 PM	Downtown is great. Preserve restraunts and bar diversity (acorn and oak!) Worried about church owning a whole block.
Screen Name Redacted 5/03/2024 05:41 PM	Parks and trails
Screen Name Redacted 5/03/2024 06:03 PM	See above.
Screen Name Redacted 5/03/2024 06:01 PM	The natural beauty, open spaces, parks, outdoor recreation. It would be amazing to turn the mill into a a cool shopping area once it isn’t running anymore.
Screen Name Redacted 5/03/2024 06:31 PM	walkability, connectivity to trails

Screen Name Redacted 5/03/2024 09:16 PM	Investments and priority placed on small business success, parks
Screen Name Redacted 5/03/2024 09:55 PM	Maintaining a clean and safe downtown, incorporating the historic charm and displaying signage about the towns history. Events are great. Events like First Fridays aren't unique to cities and towns, but Camas takes so much pride in the community, it just feels like home when attending one.
Screen Name Redacted 5/04/2024 09:19 AM	The architecture and the trees:
Screen Name Redacted 5/04/2024 09:47 AM	Shops and restaurants, hiking trails, schools. Should strive to enhance these, as well as more outdoor and indoor recreation
Screen Name Redacted 5/04/2024 04:41 PM	Walkable, human-scaled development downtown. Street trees. Please preserve and enhance pedestrian and bike access, limiting influence of automobiles. Camas parks and trails are wonderful -- please protect and improve ped/bike access to parks and trailheads.
Screen Name Redacted 5/04/2024 05:28 PM	Building and vibe, community feel
Screen Name Redacted 5/04/2024 05:30 PM	Enhance walkability and connection to the river. Camas could also get rid of the mill so that we can get back our views and connection to the riverfront.
Screen Name Redacted 5/05/2024 08:40 AM	Walkable downtown. Need more connected pathways for walking and bikes.
Screen Name Redacted 5/05/2024 09:13 AM	Good variety of community events throughout the year, as well as community ed and parks and recreation opportunities. Enhance quality of parks (e.g. consistently having bathroom facilities, public parking, pedestrian access). Preserve small businesses downtown and preferably extend operating hours so it's easier to shop small businesses.
Screen Name Redacted 5/05/2024 12:39 PM	Our natural resources must be protected. Keep our water clean for drinking and recreation. Preserve all the old buildings and homes. The

	downtown post office needs to be preserved. It's a beautiful building.
Screen Name Redacted 5/05/2024 03:21 PM	4th Street with its numerous small shops, galleries and eateries, beautiful trees and cozy sidewalks. Some of the side streets could be enhanced in the manner of 4th St.
Screen Name Redacted 5/05/2024 04:34 PM	Small-town feel. No chain stores. Everyone very friendly.
Screen Name Redacted 5/05/2024 06:11 PM	We need to focus on roads and development of the northshore area with a variety of live work areas. So many great options. Check out Northwest Crossing area in Bend, Oregon
Screen Name Redacted 5/05/2024 09:37 PM	The small town feel is something to be valued. I love that I can walk downtown and run into familiar faces. Business seem to be involved in the community and I believe that it is important that they continue to contribute to the community in a positive manner. I believe it is imperative to preserve our natural spaces. The lake, the trails, and the parks.
Screen Name Redacted 5/06/2024 02:01 PM	The streetscape is a beautiful, colorful and trendy setting with streetside dining opportunities. I believe the street and curbs have been cut lifted or repaired for so many years that a thorough repair and finish needs to be done on all concrete curb sidewalk, and asphalt surfaces.
Screen Name Redacted 5/06/2024 03:27 PM	Make it so you don't have to be a millionaire to live her.
Screen Name Redacted 5/07/2024 08:24 PM	It has a small town feel with modern amenities.
Screen Name Redacted 5/10/2024 01:55 PM	Camas is special as it has largely kept out the large box stores and restaurants from downtown. Small business is the way to go.
Screen Name Redacted 5/11/2024 02:20 PM	Camas provides a wonderful variety of green spaces, including forested areas as well as parks and trails. The natural beauty should be preserved and not decimated to make way for development. Preserve the "quaintness" and the small town feel that Camas currently exudes.

Screen Name Redacted 5/12/2024 07:25 AM	Unique shops , great library, small town
Screen Name Redacted 5/12/2024 06:47 PM	We seem to focus only on the downtown. While it's quaint it is well beyond being the focus of a city of our size. Many people live far away from the downtown. Some of the businesses are in constant turnover. We should strive to enhance the downtown but we also need to set a vision on the next generation of special and historic parts of Camas, which means we start to build them today.
Screen Name Redacted 5/13/2024 04:33 PM	A livable scale, a walkable downtown, natural resources. All of these need to be balanced against growth.
Screen Name Redacted 5/13/2024 09:22 PM	Local businesses, no corporate franchises. More focus on arts
Screen Name Redacted 5/15/2024 12:24 PM	Trails and mountain biking. Connectivity to PDX and surrounding areas.+ Greenspace.+ Not heavily built out/ very chill and peaceful. Not a lot of crime. Unique downtown/historic look. Water/rain. Hills. Clean. Community events. Lakes and parks+ Low crime/safety. Trails. Churches. Friendly people. Great schools. Public safety/1st responders. Food trucks in neighborhoods. Ecosystem in back yard/ lots of wildlife. Camas pride. School athletics. Topography/geographic location. Views/the gorge. Don pedros and other restaurants. Cold winter/warm summer. School funding. Trees and wide roads. Community education programs and services.

Optional question (348 response(s), 19 skipped)
Question type: Essay Question

Q3 What about Camas, including our historic downtown, would you like to change in the future? What can improve?

Screen Name Redacted 2/20/2024 02:02 PM	Housing diversity; increase medium and high-density housing. Connecting/expanding walking path system. Re-energizing high tech employment in town (reverse job losses from Sharp, HP, UL Labs, etc.) Improve telework infrastructure via high-speed internet/public data access. Improve access to regional transportation to better support business travel (commuter bus to airport and train stations) More secondary neighborhood small retail centers with groceries, coffee, and small shops in Grass Valley, but NOT sprawling minimart areas. Create walkable/architecturally nice areas. Dedicated food

	truck park with covered eating areas especially adjacent to other infrastructure like parks.
Screen Name Redacted 2/09/2024 07:21 PM	Create a better parking plan at the rate growth is being allowed. I had to find a different church due to lack of parking and no longer patron restaurants in Camas. Reasonable parking is no longer available. Preserve the history of Camas and why it was even founded. The young people need to know and be able to experience some of why Camas exists.
Screen Name Redacted 2/09/2024 09:12 PM	We need better infrastructure downtown. We need better streets sidewalks. We really need a central gathering. Place like a town Square or town Park that ties third, fourth, and fifth together. And eventually sixth, especially as more development happens.
Screen Name Redacted 2/10/2024 07:55 AM	We need a big parking garage. I vote for buying the lot that belongs to the mill across from Grains of Wrath. Allow the mill employees free parking and charge everyone else. It would pay for itself in no time and then it would be a source of revenue for the town.
Screen Name Redacted 2/10/2024 09:40 AM	I would like to see more sidewalks outside the downtown area, and maybe a park on the North shore of the Lacamas lake.
Screen Name Redacted 2/10/2024 11:47 AM	Downtown should not be changed at all!!! The improvements that were suppose to be made to Crown Park should happen already. Lacamas lake needs to be cleaned up and properly maintained to stop the toxic algae that grows every year.
Screen Name Redacted 2/10/2024 11:14 PM	Water quality in lakes
Screen Name Redacted 2/11/2024 10:27 AM	We need expand safe walkable areas and higher density areas for community gatherings and lifestyle enhancement. Create separate zoning for industrial or “strip mall” like development away from residential areas. Keep as much of chain stores and restaurants outside of camas.
Screen Name Redacted 2/12/2024 10:02 AM	walkability-- sidewalks are nice, but in the future it would be nice to see 4th Ave as a pedestrian only plaza. 4th Ave already feels too small for cars that are passing through and with as many pedestrians that cross it can be dangerous

Screen Name Redacted 2/12/2024 02:44 PM	Honestly, not much. There are some old buildings that need some TLC but other than that, I like the way it is.
Screen Name Redacted 2/12/2024 02:59 PM	Prioritizing a refresh/enhancements of existing parks, roads, and infrastructure before new development. Specifically, I'd love to see road/sidewalk improvements on McIntosh and southern end of Brady Rd to connect communities to the new Columbia Palisades development and to be able to handle the increase in traffic. I'd also love it if we could refresh some of our park play structures so that I don't have to drive to Vancouver so often for park play.
Screen Name Redacted 2/13/2024 08:43 AM	Add more restaurants, cafes, wine bars.
Screen Name Redacted 2/13/2024 08:52 AM	More green spaces & pedestrian walk ways.
Screen Name Redacted 2/13/2024 09:11 AM	It would be amazing to have a park with a playground within easy walking distance of downtown. Also a dog park! Be very thoughtful about future housing development and how it will impact infrastructure, schools, environmental, etc. I think it would be wise to also try to entice larger employers to come to the city so more people can live amd work within the city limits.
Screen Name Redacted 2/13/2024 09:37 AM	I wish the church didn't own the whole block. Fun places for kid and teens to hangout.
Screen Name Redacted 2/13/2024 09:42 AM	Make the entire downtown core a pedestrian zone (as can be found in European cities and towns). We'd need to develop some parking plazas around the periphery.
Screen Name Redacted 2/13/2024 10:00 AM	Stay on track with what the people want for the future, Stop the Condo generic look building that has started and make the building fit the historic look and feel or it will be lost forever. When the mill clean up comes don't fill the area with more buildings use the space for actual gathering areas and the overflow of the events that are downtown. If we get much more the infrastructure is not going to support all the influx in wanting to bring more homes to the area. Try supporting who is already here it is hard to even go enjoy the lakes anymore.

Screen Name Redacted 2/13/2024 10:42 AM	Very slow growth will preserve it all.
Screen Name Redacted 2/13/2024 10:52 AM	Continue to encourage businesses to develop in the downtown area.
Screen Name Redacted 2/13/2024 10:55 AM	Walking/Biking is very disjoined. 500 is the primary road and should connect downtown to the lake/park. We need a nice grocery store. Right now the only option is QFC, which is almost in Vancouver - Trader Joes or Zupans would be a great addition! The downtown area needs more restaurants and community areas that are open to bring regular business to the stores. A large portion of the main blocks are closed most of the time. The mill is an eye-sore
Screen Name Redacted 2/13/2024 12:18 PM	I would like to end the ugly box condos and preserve what little is still standing in our town.
Screen Name Redacted 2/13/2024 12:47 PM	Better Access to Sport Facilities and Access to said facilities...example, turf fields, swimming center, community workout facilities, generally improvement of recreational opportunities (see Tualatain Hills Park and Rec Center). Road improvements (sidewalks, bikel anes, less potholes and delayed maintenance). Improve over crowding of schools at all levels. Better maintenance of exisiting parks. Stop adding more development without adding necessary resources (schools, parks, roads) etc...to accommodate growth.
Screen Name Redacted 2/13/2024 12:49 PM	I'd like to see more new development opportunities. Let's bring in new businesses and eateries. Make the town more walkable.
Screen Name Redacted 2/13/2024 01:27 PM	More density and apts/condos. Less parking lots and more retail/dining space. Community gathering center. Finally, mill redevelopment.
Screen Name Redacted 2/13/2024 02:09 PM	I would like to see less development.
Screen Name Redacted 2/13/2024 02:59 PM	Stop creating developments with such narrow streets kids can't even play, buses and emergency vehicles can barely fit, and families have no parking.

Screen Name Redacted 2/13/2024 06:00 PM	More multi family housing. Revamp mill area and utilize space differently.
Screen Name Redacted 2/13/2024 07:02 PM	Parking, add dog park, make it affordable for small businesses to have space
Screen Name Redacted 2/13/2024 07:34 PM	Support the police. Keep the community safe and clean at all costs.
Screen Name Redacted 2/13/2024 07:53 PM	Adding more businesses (not churches) in the downtown streets and planning for the eventual mill closing.
Screen Name Redacted 2/13/2024 09:21 PM	No more sprawl. Smart downtown planning, gradually increasing density, with smart management of car traffic.
Screen Name Redacted 2/13/2024 09:29 PM	A downtown that has a broader footprint, integrated housing with businesses.
Screen Name Redacted 2/13/2024 11:33 PM	Community events should be expanded beyond downtown to assist with growth. The mill should be mostly demolished but a small portion used as a museum. Allow for low income programs to thrive like boys and girls club instead of removing. Many people depended on those resources
Screen Name Redacted 2/14/2024 05:29 AM	I think the two intersections at 6th and Adams and 6th and Dallas are not safe - I regularly see people almost get into accidents at both of them because they expect them to both be 4-way stops. Also I wish there were a few more dining options downtown - some more like casual lunch options, or maybe a small drugstore or a bakery - more ways to get your everyday shopping done while walking around so you don't have to drive elsewhere.
Screen Name Redacted 2/14/2024 08:06 AM	Downtown is beautiful. The tenant mix is perfect. We HAVE to slow down on residential development. Let’s concentrate on fixing our lakes, lack of infrastructure and another high school that will actually “See and Serve ALL students”.
Screen Name Redacted 2/14/2024 09:39 AM	More family events in and around parks and Lacamas Lake.

Screen Name Redacted 2/14/2024 12:05 PM	Downtown-- improve the infrastructure (trees, sidewalks, cross-walks, utilities) along with improved parking opportunities, safer pedestrian-automobile interactions. City-wide, with existing trails their connectivity needs improvement, as well as new trails construction as community grows. Also preserve open space and habitat - reduce opportunity for wildfires to impact them as well as to property owners structures.
Screen Name Redacted 2/15/2024 08:30 AM	The mill- see first answer. Clean up the lake. Create a trail right around long lake.
Screen Name Redacted 2/15/2024 09:16 AM	We would love to see the town be more inclusive. We feel that the town only caters to the "rich" and leaves the average person out. For example, the events that take place usually involve going from store to store - places that have gotten so snobby and out of hand!
Screen Name Redacted 2/15/2024 09:16 AM	It needs to be refreshed with a new modern library, fire department, and more shops buildings with contemporary modern architecture like the Vancouver waterfront or how the Firstenburg library looks. We need a new downtown Camas at the waterfront that connects to the historic one, or replace the old library and older downtown buildings with more modern stores and library.
Screen Name Redacted 2/15/2024 09:26 AM	Also, you do need to bring back some short term parking spots. Having to lug 20+ lb bags of dog food blocks is ridiculous. Please put a few 10 minute spots on Cedar Street. This would be good for the bagel shop too.
Screen Name Redacted 2/15/2024 09:33 AM	I would like to see more walking/biking paths that can get residents to downtown and the Lake. Everything requires a car, but when the weather is beautiful, we all want to be out doors on the trails and lake. So many cars and few parking spaces make it a nightmare for the City. If the city focused on utilizing parking areas with trails/paths for residents and visitors to use, it might make the roads safer and more pedestrian/bike friendly. Sort of what Leavenworth had for it's visitors.
Screen Name Redacted 2/15/2024 09:39 AM	This is fucked. If you don't like what is here, then fucking move somewhere else.
Screen Name Redacted	Youth centers are needed and teen leadership social building.

2/15/2024 09:46 AM

Screen Name Redacted
2/15/2024 09:44 AM

Build another high school and probably middle and elementary as well. There are so many families moving here and not enough space in the schools. Class size is a huge issue and there is not space to create more classes. It is unfortunate that Journey Church has control of such a huge chunk of the downtown. They do a lot of great things, but they also limit future possibilities.

Screen Name Redacted
2/15/2024 09:44 AM

*We need a swimming pool! *Do something with the building at 4th & Cedar. So sorry the church owns it & it doesn’t seem to be benefiting the community. Prime location.

Screen Name Redacted
2/15/2024 09:52 AM

Better communication regarding shuttle options for downtown events.

Screen Name Redacted
2/15/2024 09:58 AM

No suggestions

Screen Name Redacted
2/15/2024 10:02 AM

3rd ave - would be nice to have more trees

Screen Name Redacted
2/15/2024 10:06 AM

More communication within the community, more acceptance of new families

Screen Name Redacted
2/15/2024 10:08 AM

Reduce the large foot print of the church downtown. We need more businesses on our great main street.

Screen Name Redacted
2/15/2024 10:18 AM

I'd like to see Camas become more pedestrian centric over time. There are areas of Camas that are really sketchy still. For example, there is a section of 3rd ave heading into Washougal that we, and apparently most pedestrians, avoid due to safety issues. As you head over the river on the 3rd heading out of downtown, the road splits into 4 lanes for apparently no reason (it is 2 lanes in downtown and then 2 lanes shortly after in Washougal), and the speed limit increases to 45. There is a sidewalk on one side of the road, but it is very narrow, and there is no safety divider to protect pedestrians. I see kids on that sidewalk relatively often going to the skatepark, and it makes my skin crawl watching them because one of these days, someone will hit a pedestrian on that road and kill them. That is the definition of a Stroad and it is dangerous. I don't see adults or folks walking their dogs to the river trail because of that stretch of road. It is such an unfortunate

	spot seeing how pedestrian centric downtown is. I'd love to see Camas build on the safety of downtown and change the few Stroads in town, including this stretch, to be a lot safer. On this road specifically, there is no reason the road needs to open up to 4 lanes. It starts as 2 lanes and then ends in 2 lanes short after the 4 lane section. This is not benefiting anyone. I'd love to see the speed limit go down, because there's no reason to speed up right before the river walk trail, keeping it slower will go a long way. But specifically, I'd like to see this stretch of road take more after downtown. Let's decrease it to 2 lanes, and then create parking along the street for that river walk and a sidewalk on the other side. This would make the walkability of Camas so much better to our local natural amenities and it will show Camas' dedication to keeping our roadways safer for families.
Screen Name Redacted 2/15/2024 10:18 AM	continue to encourage small and diverse business in downtown. improve the parks. parking downtown, hard to do and not distract from the feel. The issues with the lake need to be completed, not just studied. there must be solutions.
Screen Name Redacted 2/15/2024 10:29 AM	I would like to see forward thinking on how people are going to move in and out of the downtown area. The Everett Street corridor is getting some improvements in the future, but we need to be mindful about those improvements and know that more and more people are moving to this area and that area will bottleneck very easily today. Just a truck stopping in the road for a little bit by the lake market can shut down the entire round about very quickly and stall out many people. I also think we need to be focus on the future of education. Relying on old traditional education models need to go. We need to fully support our project based schools and make way for more innovative education models. Support publicly funded language immersion, Montessori education. Offer more education models for more diverse learning.
Screen Name Redacted 2/15/2024 10:36 AM	better parking. More food choices. Clear out all homeless. Better security at night against vandalism to small businesses. Do something with all the property from the Mill that is no longer used.
Screen Name Redacted 2/15/2024 10:41 AM	Improve the outcome of the DRAFT RI workplan that does the bare minimum to address decades of waste disposal and potential contamination from a variety of known toxic chemicals the plant has used or produced and discharged.
Screen Name Redacted	Having the church local church buy out an entire block of downtown

2/15/2024 10:43 AM	feels like an encroachment that is likely to continue. I would certainly like to see it contained whatever that my look like as it is limiting to other organizations wanting to start small businesses. The church already doesn't contribute taxes and although they do not represent 1/6th of the population of Camas, they now own 1/6th of Mainstreet. It will not feel like a historic downtown if this continues.
Screen Name Redacted 2/15/2024 10:48 AM	Camas needs improved pedestrian and bicycle access on NE Everett St. between NE 23rd Ave and Lake Rd. This may alleviate some parking issues at Round and Lacamas Lakes if more people could safely walk or ride their bikes to the lakes.
Screen Name Redacted 2/15/2024 10:50 AM	More small town places to eat. We previously had a terriyaki spot and a pizza spot that promoted easy cheap meals not only for people that work in down town but people that want to come down and experience camas and not pay an arm and a leg for a burrito and beer
Screen Name Redacted 2/15/2024 10:52 AM	The crosswalks on 3rd and 6th avenue has been very dangerous and I have had quite a few encounters were I look both ways, one car stops so I begin to cross but the other side is not paying attention and have come very close to hitting me. I have also seen it happen a lot to people crossing the street, especially during big event days in Camas that happen at night when it is dark. If we could get the crosswalk signs that flash when a person is crossing the street at major crosswalk areas (Birch, Cedar, Everette), that would significantly increase the safety of both the drivers and the pedestrians.
Screen Name Redacted 2/15/2024 10:59 AM	I feel that people are staying in campers off of 6 near the shell station. The homeless is coming through to our neighborhoods now.
Screen Name Redacted 2/15/2024 10:58 AM	Input from residents. You only care about the mill, legacy interests and developers. No one trusts you.
Screen Name Redacted 2/15/2024 10:56 AM	Take down the paper mill ! Add more parking lots
Screen Name Redacted 2/15/2024 10:59 AM	Not going through with, or modifying the Everett St Corridor project so it doesn't take away parking and somehow enhances parking safety at Acorn & the Oak Restaurant. Please do not add another roundabout at 35th.

Screen Name Redacted 2/15/2024 11:17 AM	Expand the former and some-day former Mill property and make it mixed use residential, commercial and usable green space for public recreation but keep the old-town character and feel (convert parts of the old Mill to brewery/restaurant/concert/small conventions space like Edgefield
Screen Name Redacted 2/15/2024 11:30 AM	The future the mill property needs thoughtful planning to add its blocks to the core, carrying on the streetscape and LOCALLY OWNED small businesses, with varied living options thrown in.
Screen Name Redacted 2/15/2024 11:45 AM	Community event Free concerts
Screen Name Redacted 2/15/2024 11:49 AM	Continue investment in the downtown core. Would like to see more shops/restaurants and other business that make it fun to spend an afternoon shopping and eating (no more things like State Farm offices please). It would also be nice if there were more uniform signs and such that gave it a more cohesive feel. Definitely could use more night life. The old Westly Ford property would be a prime spot for someone to do something cool.
Screen Name Redacted 2/15/2024 12:41 PM	Keep it local and unique
Screen Name Redacted 2/15/2024 12:44 PM	I'm not keen on how much property Journey Church owns in downtown; it should be left to individual business owners. Businesses I'd like to see: Frozen yogurt or ice cream -- please! -- bubble tea and a high-end bakery similar to Grand Central or St. Honore in Portland.
Screen Name Redacted 2/15/2024 12:53 PM	There should be more Restaurant options . Be more culturally diverse.
Screen Name Redacted 2/15/2024 12:56 PM	More places to eat!
Screen Name Redacted 2/15/2024 01:10 PM	am noticing more transient people or homeless people in the area. If that continues and we become more like our neighboring communities we will no longer want to live in the area or shop/dine in downtown camas

Screen Name Redacted 2/15/2024 02:08 PM	Parkin g is a big big issue for downtown. Also it seems very odd that two blocks of development are owned by the church with one building still remaining empty.
Screen Name Redacted 2/15/2024 02:16 PM	I was against taking out the pool. I thought we were at least going to get a splash pad playground there. Instead, we got nothing. Am very unhappy about all that. Need more okay things like that for the younger folk. Also, very unhappy with our leadership for slipping in that new tax last year. Myself, and many others, are not going to forget that come voting time.
Screen Name Redacted 2/15/2024 02:16 PM	More nice restaurants (like feast 316, Tommy Os, Nuestra mesa) and a kid's clothing store! I know there is the used clothes but that doesn't fit our family's needs.
Screen Name Redacted 2/15/2024 03:14 PM	ATM for Bank of America We need an outdoor public swimming pool!!!!
Screen Name Redacted 2/15/2024 03:56 PM	Add more shopping with better hours
Screen Name Redacted 2/15/2024 04:23 PM	Better pedestrian crossings from 3rd is my main concern.
Screen Name Redacted 2/15/2024 04:40 PM	I would like to have focus on preserving natural beauty and slow down development of cheap strip malls. Lets focus on quality of development. I would also like to see more hotel options near or at Downtown.
Screen Name Redacted 2/15/2024 05:20 PM	The mill property redevelopment should add to the downtown, more parking downtown, better playgrounds and sports fields, maintenance of existing trails.
Screen Name Redacted 2/15/2024 05:39 PM	More higher end restaurants
Screen Name Redacted 2/15/2024 06:46 PM	Do not charge for parking. That’s part of the charm. Keep the two way streets. Keep the events and add more.
Screen Name Redacted	1.Remove the paper mill buildings and improve the entrance into

2/15/2024 07:46 PM	downtown. 2. Improve traffic control on 3rd Ave near Garfield. After the new stripping was done several years ago with the free right turn onto Garfield, the traffic is constant up Garfield because traffic doesn't need to stop and makes it very difficult to cross Garfield from the side streets. 3. Add more trees since residential development has taken so many out. 4. Parks need some serious attention with ivy and other invasives out of control, 5. Deal with water quality issues with LaCamas and Round Lake. 6. Fire/Ems costs sound out of control.
Screen Name Redacted 2/15/2024 11:23 PM	Parking Parking Parking (Is it okay to park antime in the lot north of Grains of Wrath?!?)
Screen Name Redacted 2/16/2024 12:20 AM	Perhaps have more community activities, like an every Friday night street fair.
Screen Name Redacted 2/16/2024 05:07 AM	Less churches and more restaurants. I want to keep my money here instead of driving to Vancouver or Portland. On Sundays, it is hard to park w/ the church patrons taking all the parking.
Screen Name Redacted 2/16/2024 08:08 AM	Parking needs to be addressed, cars park right up to stop signs, angle parking in front of GOW block your vision trying to pull out onto 5th Ave. All landscaping downtown on vision clearance area's should be ground level.(all tamjupiners should be removed, accidents waiting to happen) First Friday events are awesome and draw a great crowd.
Screen Name Redacted 2/16/2024 08:40 AM	I think that Camas really needs to improve its transportation and safety infrastructure. Many of the roads lack sidewalks and bike lanes, despite all the development and new houses that are being built. I think that Camas needs to prioritize establishing walking and biking connections throughout the city, connecting areas that are currently walkable and bikeable (like downtown and within some of the newer subdivisions) to the rest of Camas (e.g., non-car transportation arteries connecting new developments such as Green Mountain area to the rest of Camas downtown area).
Screen Name Redacted 2/16/2024 09:47 AM	There should be more for kids to do, especially middle-high school age. Less businesses that require you to be into alcohol/drinking.
Screen Name Redacted 2/16/2024 11:53 AM	I wouldn't change anything. I would discourage people from trying to change it too much.

Screen Name Redacted
2/16/2024 12:34 PM

Water quality within Camas should be a high priority. Nothing adds value like a pristine body of water. Having our own little Lake Tahoe would be worth the whining of folks who don't want to give up outdated and dangerous methods of keeping a lawn green. Additionally, placing an emphasis on keeping downtown focused on thriving commercial spaces will make Camas a better place to live and visit.

Screen Name Redacted
2/16/2024 01:44 PM

The city needs a 'welcome package' for new homeowners. This should include a city map, how Camas utilites work - sewer and water charges esp, some special coupons for newcomers, etc. When we moved here only Lutz sent us a special coupon. Everything else mentioned here we had to find out on our own. Since The City of Camas handles things differently than other parts of Clark County, this information be very helpful and clear confusion for new homeowners for very little cost. As for the historic downtown - keep up the good work! Also, the weekly Camas small business newsletter is very informative and is done very well!

Screen Name Redacted
2/16/2024 04:54 PM

Close street for walking through and festivals and provide a new parking structure

Screen Name Redacted
2/16/2024 05:18 PM

We need another high school above all else. Then another middle school. The downtown church takes up most of the block tax free. I'd like to see small business thrive there instead.

Screen Name Redacted
2/16/2024 06:17 PM

As above I would leave the downtown as historic, add to the camas urban growth boundary Accommodate the growth.

Screen Name Redacted
2/17/2024 08:19 AM

Parking and xaccess.

Screen Name Redacted
2/17/2024 09:23 PM

We could really use a dog park…or two! Cleaner water in Lacamas and Round Lakes.

Screen Name Redacted
2/18/2024 09:07 AM

Make Main Street pedestrian only. It will create a better space to gather and socialize. Outdoor dining and seating areas where the parking spaces are. Cross street traffic would be allowed, but not East/West traffic. I've seen this in Europe and it's amazing.

Screen Name Redacted 2/18/2024 09:38 AM	Include more gathering spaces, for meeting others for a bite. Small restaurants, places to gather for breakfast, lunch, happy hour, dinner, or dessert after a movie.
Screen Name Redacted 2/18/2024 04:15 PM	Traffic and stop building new homes
Screen Name Redacted 2/19/2024 08:42 AM	I would love to see the mill become a more beautiful or interactive part of the landscape. I know GP is holding onto mill operations with white knuckles to avoid a cleanup, but imagine covering its walls in murals or, eventually, converting the inside into apartments! I also think we could improve our food offerings and activities for teenagers downtown. Would love to see healthy fast food (like salads or grain bowls), the return of pizza, etc. I think teens could use someplace to go be teens - it's hard to get to a mall from here if you can't drive. Finally, I love Camas, but we would all benefit from a more diverse population. Right now the city is over 75% white. I'd like to see us examine why that is and how we can promote a more inclusive city.
Screen Name Redacted 2/19/2024 11:53 AM	Road bike infrastructure (more bike lanes). Cleaning up lacamas lake.
Screen Name Redacted 2/19/2024 02:23 PM	Make the downtown core walkable (vehicle free), with ample parking around it.
Screen Name Redacted 2/20/2024 02:25 PM	• Improved area or permanent cover for the Camas Farmer’s Market —larger, covered, shadier • More options for teens—activities, stores, food options • More/safer sidewalks and bike lanes • Traffic slower on 3rd Ave! So dangerous to cross. • Crossing visibility on 5th Ave at Birch • 6th & Adams intersection • A community pool accessible to all where learning to swim is a mandatory course through public schools • Extend aesthetics and amenities and lighting of 4th Ave to 3rd, 5th and 6th • Better/more downtown parking • Central gathering space in downtown with performance area and outdoor eating area • Need good deli/bakery • Kitchen store with classes • Pizza place with good management • Quality resale store for adults • Men’s clothing store • Boba shop • Affordable teen clothes • Comic book/pop culture/record store • Better electrical in downtown for events • Underground infrastructure upgrades in downtown • Safer, walkable pedestrian areas in downtown • More or improved parking in downtown • More restaurant options • More trees on 3rd, 5th and 6th • Bulb outs on 3rd and 5th to slow traffic/improve safety • Crossing lights on 3rd (if still main downtown thoroughfare) • 4th Ave car free pedestrian only area. • A central gathering space • Permanent

	covered farmer's market location with adequate electrical and water • Downtown infrastructure can accommodate the growth we need • More housing downtown and throughout town for all income levels • More activities to do downtown after 6pm • Progress and growth while keeping the sweet hometown feel • We have a community center with swimming pool accessible to all • Heritage tree program/tree City • 27 acres to the north of 6th leaving downtown developed and well and artfully connected with historic downtown creating synergy and vibrancy for both. Good flow between both • The mill property has been cleaned up and the plan for mixed use, green space, performance/gathering area and housing has been formalized and on its way to execution • An executable maintenance and preservation plan for downtown is used by City • Downtown is a thriving local and tourist destination where businesses thrive and the community absolutely loves to come to and be a part of. Downtown is used by all parts of Camas. Flow from North Shore has been figured out and all of Camas is connected and united.
Screen Name Redacted 2/20/2024 09:33 PM	Nothing comes to mind.
Screen Name Redacted 2/21/2024 10:35 AM	I love it just the way it is! Parking is becoming more challenging.
Screen Name Redacted 2/21/2024 05:11 PM	I would love to see more small businesses and unique restaurants.
Screen Name Redacted 2/22/2024 01:22 PM	More walkways, more pedestrian friendly sidewalks up Crown Road to downtown camas. Many people walking there but does not feel safe for walkers.
Screen Name Redacted 2/23/2024 09:58 AM	Maintain parks better.
Screen Name Redacted 2/24/2024 08:28 PM	I think some roads need to add stoplights/roundabouts to replace stop signs. -add more streetlights throughout the town —improve playgrounds on all our parks. The kids (and parents) are bored, and the play equipment on ALL the playgrounds in camas need a revamp. The kids need a much bigger space of play equipment to climb and play on, and consider putting a covering (shade) over the playgrounds to be able to use during the rainy season. Also safety at parks are a big issue. If there could be more fencing or landscaping between the park and the road that would help a lot! -adding more clear signage to where things are around town. -adding city garabage

cans outside! This will help so much with all the litter around town! - More preparedness around snow days. The snow should not paralyze an entire town if we know it's going to snow every year. The city needs to fund more plows, and ice melt and be ready for the snow so the children don't miss school, and families can't go to work. -Cleaner water resources in the lakes -More parks and rec programs for littles. There is almost no programs in the area for babies, and toddlers/children under 5. Adding more classes, sports and activities would be amazing! -more speed limit signs throughout the neighborhoods to enforce slower speeds. And also more police visibility and enforcing speed limits. —more shopping options! Another grocery store (Trader Joe's, target, Whole Foods), and more clothing store options in the camas area. -Finally, a city funded indoor playground/ sports complex. This is 100% doable and a big need in our community. This could be like firstenburg center with an indoor pool, gym and other amenities, but I think it should include a very very big indoor playground. Here is a link for a reference: https://www.plymouthmn.gov/departments/parks-recreation/plymouth-community-center/indoor-playground

Screen Name Redacted
2/27/2024 09:54 AM

Needs better parking. Better police enforcement of speeding !

Screen Name Redacted
2/27/2024 10:39 AM

1. Sidewalks/Bike Lanes: We feel that sidewalks and bike lanes are of utmost importance to the community. We live off Sierra and don't feel that it's safe for our kids to walk or ride their bikes to school on Lake Rd and Everett St. 2. Clean Lakes and Trails around them. Lacamas Lake & the park around has such potential to be a wonderful community hub but it's not really maintained and set up as such, and there are so few community events held outdoors there. It would be great to have more nicely maintained grassy areas around the lake for people to congregate and play. (Love the Lodge, the events there are great!) 3. Historic Downtown: It's disappointing that so much of it is owned by the church. To us that is not historic and not enhancing or enticing. A downtown with lots of local shops, galleries, bakeries, great cafes and restaurants is what needed to boost the entire downtown. The loss of the Camas Slices is really huge. A downtown without an incredible Pizza place or 2 is really a big loss for the town. We hope a great place, or 2 or 3 come in soon. 4. Columbia Access Downtown: We are a town on the river. It would be wonderful for the downtown to expand to front the river and have wonderful trails, shops, bakeries, restaurants, artwork etc there. (Like The Old Mill District in Bend) 4. More Community Opportunities/Classes/Camps/Volunteer Opportunities/Support for middle school and high school kids 5. We LOVE the Library. Would love to see more interactive events for it.

Screen Name Redacted 2/27/2024 11:58 AM	I'd love to see safety improvements in roads, including pot hole repairs, but no more round abouts. What could improve- planning! Absurd projects like RV "resorts", which are going to become back door routes for housing, should be stopped. Do actual affordable housing. It'll yield pride in ownership and tax revenue. Be smarter about subdivisions - we don't need so many at the expense of open spaces and farm land. Otherwise, we're just Vancouver.
Screen Name Redacted 2/27/2024 02:25 PM	No more mill.
Screen Name Redacted 2/27/2024 04:18 PM	We need actual businesses not one block entirely owned by a church on the main strip. We need to change the language in the zoning to keep that from happening on the next block. The lake needs to be clean. This is such a draw and now a HUGE drawback to a community with no pool We need to get the community rec center to do more classes as well. Other states have cities with a park district. Look at great cities park district classes and event
Screen Name Redacted 2/27/2024 04:31 PM	Listen to small businesses and the community when they say they don't want something. It's appalling how the community is blatantly ignored!
Screen Name Redacted 2/27/2024 04:57 PM	Building more community, maybe creating more parking. Would also like to see some upgrades to our playgrounds/parks and have some water features added.
Screen Name Redacted 2/27/2024 06:28 PM	Do not run business out just for the sake of "progress"
Screen Name Redacted 2/27/2024 07:09 PM	We should remove the turn left option driving down NE fourth Ave turning left onto NE Adams St. The light turns red on Adams st when no one is there and creates traffic buildup. Community filter on our drinking water and protect our lakes. Put a walking / biking train around the entire Lacamas Lake!
Screen Name Redacted 2/28/2024 08:59 AM	I would like to see some more growth. More businesses, parks, special events that incentivise me to visit downtown and to stay in downtown. Too often I visit downtown for one thing, and then I leave.

Screen Name Redacted 2/28/2024 06:52 PM	Better protected bike lanes protected from traffic.
Screen Name Redacted 2/28/2024 09:06 PM	Stop building apartments, fix existing sewer lines inatead of swnding us letters to only flush toilet paper, eurin, and I wont even say the last word.some find it rude. Also.Fix the roads.housing is taking over.we used to have a great small town, waiting for more lights, also more roundabouts, turning camas into Downtown Vancouver.I am glad we have out home without kissing our neighbors.look across the lake so sad.Yet charge impact fees ect.we don't want to pay more to cover builders.
Screen Name Redacted 2/29/2024 08:38 PM	More bike lanes and bike parking. Better maintenance of lacamas Park trails. The main trail gravel is washed out and rough in sections making it dangerous for rolling ankles and difficult for using strollers.
Screen Name Redacted 2/29/2024 09:00 PM	Historic downtown is fantastic. It would be wonderful to expand it so it is larger and still prioritizes pedestrians over cars. it would be wonderful to clean up the lakes so they're safe to swim in. It would also be great to have more bicycle lanes so that it could be safe for families to cycle around the city.
Screen Name Redacted 2/29/2024 09:46 PM	Keep it up so it stays the beautiful area that it is.
Screen Name Redacted 3/01/2024 07:51 PM	Some of the buildings could use a facelift. Would love to see some of the "non historical" buildings have larger windows, be updated to be more modern so it has a better feel when inside, and so can bring better businesses like more restaurants and interesting shops, cafes. Some of the buildings are so dark and depressing and that's why the businesses fail because it's not pleasant to be inside dark old buildings.
Screen Name Redacted 3/01/2024 09:44 PM	Have more community parks , bike lanes and amenities services.
Screen Name Redacted 3/02/2024 07:37 PM	More pickleball courts, including covered courts and dedicated pickleball-only courts; ADU rules--while they help with density and provide small-sized homes, their location can compromise look and feel of the neighbordhood (such as the one on NW Dahlia Drive that just went up); keep funding the Downtown Camas Association (DCA); provide more affordable housing, so we're not just a city of wealthy; continue asking for community input--the City is doing a great job!;

	manage compulsory growth
Screen Name Redacted 3/04/2024 02:05 AM	More parking! No more downtown housing.
Screen Name Redacted 3/06/2024 05:58 PM	Slow down on housing developments so our infrastructure can adjust to the growth
Screen Name Redacted 3/06/2024 06:24 PM	I'd like to see some parks in the eastern part of Camas. The overbuilding on Friburg-Strunk is disheartening - especially the hideous huge building on the corner of NE13th (Godwin) and Friburg and the proposed gas station. Very disheartening to have giant warehouses in an area with high end homes. We could use a grocery store there, a rec center would also be appreciated. The church property for sale on Godwin near the Heritage Trail should be bought by the city and turned into a nature area. Camas needs to think about the future - instead of these big corporate complexes that are hard to fill and warehouses - why not build a multi-purpose area - a shop and live - sort of place. A destination that will draw people. Parks and recreation needs to expand.
Screen Name Redacted 3/06/2024 06:36 PM	1:Maintain and enhance architectural standards for development. 2: Roadside landscaping and maintenance needs significant improvement--irrigation, plantings, invasive species removal. Roads need resurfacing more frequently.
Screen Name Redacted 3/06/2024 07:49 PM	Better road and roadside maintenance, reduction of invasive plants, and enhancement of open space environments.
Screen Name Redacted 3/06/2024 08:09 PM	More parking downtown; when adding denser housing, put more downtown--business downtown deserve that, will help other biz flourish as well. As Camas grows, let's maintain or grow greenspaces--parks, lake; make sure we don't lose sight of their importance. Getting the big, empty ex-headquarter buildings filled is important to the overall health of Camas.
Screen Name Redacted 3/06/2024 08:05 PM	support downtown businesses by including more housing
Screen Name Redacted 3/07/2024 01:11 AM	Better parking downtown. Not wiping out so many trees. Getting very expensive.

Screen Name Redacted
3/07/2024 09:17 AM

Demolish Georgia Pacific and invest in outdoor space with restaurants, walking paths and additional small businesses

Screen Name Redacted
3/07/2024 09:33 AM

Anytime my husband and I are able to go out later at nights (when we have a babysitter), downtown camas feels like a ghost town. Also, in the summer, it's very hard to find parking near the lake and walking trails. We tried twice last year and then gave up.

Screen Name Redacted
3/07/2024 09:38 AM

development is getting a little crazy. a development by my house received a green light - with SO Many crammed in houses, even though several neighboring residents asked for alterations.

Screen Name Redacted
3/07/2024 10:04 AM

I would like to raze the paper mill and build out some amenities on the waterfront. On a smaller scale, I'd love to see more mid-price, family friendly restaurants in downtown. I still sorely miss Twilight Pizza: It was a good midpoint price range, the food and service were always amazing, and the atmosphere was so comforting and welcoming. Nuestra Mesa is, of course, excellent, but I'd like to see two or three more midprice options. I think we need a good, all-round, sit-down bakery, like Grand Central but locally owned. And for heaven's sake, get an ice cream or frozen yogurt place downtown.

Screen Name Redacted
3/07/2024 10:11 AM

I really think downtown Camas could use a food, truck corner or parking lot. Anytime there is an event there, you would have to go into a restaurant and sit for an hour or so, and pay very high prices. I have longed to go to a place where you can just pick up, a reasonable priced item and eat as you walk along the street. I usually go home early because there’s nothing to eat. I would greatly appreciate having the papermill closed down. There is still stuff spewing in the air that we don’t know what it consists of.

Screen Name Redacted
3/07/2024 10:29 AM

I'm not sure how it could be done, but having a singular church group steadily buying up downtown is absolutely going to be the downfall of the area. Losing unique shops like Camas slice has a ripple effect on the types of business and diversity of population that will visit the area. There's no parking for any of the restaurants when the church has fuctions.

Screen Name Redacted
3/07/2024 11:41 AM

Downtown Camas has become a little bit to ideological these days. It doesn’t feel quite as welcoming as it used to. Ironically, I think it’s because it is trying to be overinclusive, to the point of pandering. This

	is especially apparent in the library. I do not like to even bring my children there any more. And I am of a minority heritage.
Screen Name Redacted 3/07/2024 12:51 PM	Needs a waterfront, and contemporary shops and restaurants. Better and larger walking paths and sidewalks. Would be great to build a bridge to the Oregon side as well so less traffic on I-205
Screen Name Redacted 3/07/2024 01:27 PM	connected sidewalks
Screen Name Redacted 3/07/2024 01:44 PM	I would like to encourage more small business growth. So much of our downtown is taken up by the church where businesses for our community members could thrive. I would also like to see more diversity in businesses. And in general, Camas has a critical need for affordable housing to promote that diversity and inclusion. The water quality issue at our lake needs to be addressed. And the businesses along Everett need protection from future road expansions. Taking away all their parking is not the right answer. They are as much a part of the culture of our town as our downtown businesses.
Screen Name Redacted 3/07/2024 04:01 PM	I would love for the seasonal farmers market to be at a more convenient time for those who can't make it downtown because of a traditional work / commute schedule. I would like a simple list of available local resources when community members seek help beyond what I can provide (ie. housing, food insecurity, heating/cooling centers, utility supplement). Related, community education (partnership with the schools) on personal responsibility and empowerment to use available resources to improve personal circumstances. Improved parking, or local transportation options to the many parks, trailheads, water access points I would love to work for a local company rather than commuting into Beaverton
Screen Name Redacted 3/07/2024 07:09 PM	Natural areas around camas are blanketed with invasive English Ivy and BlackBerry bushes. These are choking out native wildlife and plants. It degrades the natural areas and reduces posible recreation.
Screen Name Redacted 3/07/2024 07:16 PM	Update parks (specifically the play structures) to accommodate family community, more businesses downtown
Screen Name Redacted 3/07/2024 09:16 PM	Camas needs more social hubs and things to do during the rainy season. I wish there was more indoor recreation options for adults and children. I wish there were community hikes and nature days like

	the ones held at Columbia Springs. I love the quaintness of historic downtown, but part of me wishes we had more modern shopping and dining like the waterfront in Vancouver or the 5th street market in Eugene. I absolutely hate that the Camas slices building was sold to the church and am not a fan of the church taking up so much prime real estate downtown. There is so much wasted space at the library and I feel like the public buildings we do have are not utilized enough. Everywhere we have lived before would have "open gym time" at the rec centers and schools where community members could use the facilities. They would also host educational and cultural activities there too. I miss having access to regular quality and free summer park programs, the programs here are sparse and seem to cater more to outsiders than they do community members. I always feel pressured to buy things when we come downtown for events, it's awkward. Camas needs to modernize a title bit
Screen Name Redacted 3/08/2024 09:15 AM	NO MORE CHURCHES IN DOWNTOWN SPACES! bring back the pizzeria or other restaurants and shops!!, also, more bus lines!!! connect us to Vancouver and Portland!!, improve water quality in wells and lakes! no more toxic algal blooms!! spend the money so we can swim all summer!, revitalize Crown Park and update the old outdated playground!
Screen Name Redacted 3/08/2024 12:32 PM	Journey church, which takes up an entire block and could be anywhere, should not be allowed to take up an entire downtown block. This area could be used for additional restaurants and shops that would entice commerce and create a more vibrant downtown community.
Screen Name Redacted 3/08/2024 12:49 PM	No community pool.
Screen Name Redacted 3/10/2024 08:13 PM	I would like to see historic building being repurposed instead of being torn down. A stop light at the intersection of 6th and Adams would be beneficial for traffic flow.
Screen Name Redacted 3/11/2024 03:15 PM	Replacing the papermill with a massive public green space; in the more near-term -- closing the main street (don't know it's name) from traffic so that we can bike and walk there, encouraging more and more varied activities that are not just spending money at shops and restaurants/cafes. Kids don't have a play area, benches could be set up in a few areas to encourage folks to hang out together

Screen Name Redacted 3/11/2024 08:30 PM	We could definitely use more dining options downtown and a space for children to play. I also think the church downtown should consider relocating to free up space for small businesses. As for the rest of camas, we need better walking paths/sidewalks for pedestrians and more parks for children that are within 10-15 min walk of any home. Lots of driving required to get to parks for kiddos isn't ideal. Being able to walk around more easily between neighborhoods would make the city feel more connected. Specifically, need a sidewalk along 16th/hood/18th by the llama farm. I've seen too many people walk along there and it doesn't seem safe. Trees - what happened to all the trees? I grew up in this area and loved all the big mature trees. So many trees have been cut down due to new developments. How can we hold developers more accountable to preserving the beauty of the natural landscape? The tiny trees that they put up are no comparison to what used to be there that made camas so desirable. The schools are good now but with all the new housing, I think people are worried of schools overcrowding and the quality of schools going down. I urge the city to be as proactive as possible to plan and forecast to ensure we can keep up with the demand for a high quality education for our children.
Screen Name Redacted 3/11/2024 10:21 PM	I think what needs improvement are the side streets. They have always been neglected and everything is always about 4th street. There are many wonderful side street stores and the downtown is tiny, so this should be doable. Every store matters, not just 4th! Flowers, benches, flags, clean up, more art, better lighting etc.
Screen Name Redacted 3/12/2024 02:43 PM	If the mill closes completely, we need to clean it up/ destruct it and put in a nice waterfront shopping and restaurant district. We also need a public pool. And more sports fields. Probably another traditional high school.
Screen Name Redacted 3/14/2024 09:17 AM	Increasing food options, adding a bakery back in
Screen Name Redacted 3/14/2024 10:58 AM	Restaurants, kids sport facilities, entertainments
Screen Name Redacted 3/15/2024 11:29 AM	More Dog Parks, Maintain walking path system Maintain 'hometown' feel of historic downtown Refocus on sports/parks - "Historically Camas always had a city pool" Better public transport especially to downtown, limiting need for additional parking Consider adding parking meters PORT Development by the river - mixed use housing/retail, expand/improve river walk Limit hirise development to

	the waterfront (eg - new condo at the 192nd bluff) For higher density housing (rental or condo), incorporate nearby amenities (grocery,restaurant, parks) - Walkable secondary retail districts in addition to downtown(eg - Grass Valley - DON"T be limited to 'mini-malls')
Screen Name Redacted 3/15/2024 08:13 PM	There is WAY too much car-dependent development, which is an utterly unsustainable ponzi scheme. See https://youtu.be/AOc8ASeHYNw?si=3E9g7It0AOQW1zqI, https://youtu.be/7IsMeKl-Sv0?si=LOwZjQvuH8HogFZH, https://youtu.be/7Nw6qyyrTeI?si=lXCQiU3WRlDGjlfI, and https://youtu.be/ORzNZUeUHAM?si=cierWsSXXEt7T1Q6. Also the city is pretty much swallowed in invasive English ivy, which the city apparently has no concerns about because they have done next to nothing to stop its spread.
Screen Name Redacted 3/16/2024 06:19 PM	I would not like to see high rise apartment buildings. It makes an area feel very urban and enclosed. We do need a public parking area that can accommodate weekend visitors.
Screen Name Redacted 3/16/2024 06:30 PM	How much of downtown is Journey Church going to own. Not a fan of this.
Screen Name Redacted 3/16/2024 06:51 PM	The church landlord situation?! What is going on with that? What is going on with that side of the street?!
Screen Name Redacted 3/16/2024 08:19 PM	I would like to have some sort of jazz festival there or some other kind of life music in summer
Screen Name Redacted 3/16/2024 08:36 PM	A city council that does things like care and do something about being sure our water is clean and safe and don't turn on a contaminated pump. Also to care about alge bloom in the lakes.
Screen Name Redacted 3/16/2024 09:32 PM	Remove paper mill and churches, add more restaurants and shops.
Screen Name Redacted 3/16/2024 11:41 PM	CAMAS. NEEDS. A POOL. Seriously, this is hands-down the hardest part about living here. I would love to see the library open on Sunday! In terms of retail options: Our town could also use a consignment shop, a pizza place, and a few more healthy-food options. Can't wait to see the Everett Corridor project results!

Screen Name Redacted 3/17/2024 01:24 AM	I'm not sure what I want to see changed...
Screen Name Redacted 3/17/2024 07:22 AM	Improve the infrastructure in downtown (water, sewer, electrical, fiber optic) and repair the streets. Expand the focus of downtown from 3rd to 5th street.
Screen Name Redacted 3/17/2024 08:14 AM	I'd like the city to stop the church from buying up all of the real estate in downtown and effectively controlling who can own a business down there and what kind of business they can open.
Screen Name Redacted 3/17/2024 08:39 AM	We need a pizza place.
Screen Name Redacted 3/17/2024 08:49 AM	Do not continue to build more. There's already too many people. You can't find parking downtown. Big events are overly crowded.
Screen Name Redacted 3/17/2024 09:01 AM	We need an affordable public pool. Shame to those who closed the old one.
Screen Name Redacted 3/17/2024 10:29 AM	First and foremost, the water needs to be cleaner. We now have to spend a considerable amount of money (after our general water bill, which isnt cheap) on water filter systems and filter replacements. Instead of other projects, this should be the main focus until resolved. In addition, I would hope that instead of building more apartments/developments, the town would focus on providing more businesses and jobs to those who live here. Many parks could also be improved for children and families.
Screen Name Redacted 3/17/2024 10:29 AM	Say no to development whenever possible. Preserve and increase natural areas, PARTICULARLY AT THE WATERFRONT. The traffic is bad enough without adding more residents to the mix!
Screen Name Redacted 3/17/2024 10:40 AM	I don't like that the church takes up such a significant amount of downtown space.
Screen Name Redacted 3/17/2024 01:45 PM	The church should not be allowed to buy more property in the downtown section.

Screen Name Redacted 3/17/2024 05:10 PM	Added public parking
Screen Name Redacted 3/17/2024 05:27 PM	Keep a portion of the historic mill and turn it into a museum that's large enough to house the Washougal museum and showcase the rest of Camas/Washougal history. Make the rest of the area a bike/walking path, places for families, pets, picnics and a view of the river. It would be the perfect place to put in an amphitheatre to host concerts. No one wants to drive down the hill or drive past the large eye sore of falling apart mill that isn't fully operational anymore. Yes, it helped the town thrive, but we need more places for families. More family entertainment. We need an entertainment center like Big Al's or Round One. A place for kids to have fun. Families are tired of leaving Camas to travel to Vancouver and Portland for things to do. Also, why not do seasonal events such as a pop up ice rink? It brings in tons of revenue which we need as a city.
Screen Name Redacted 3/17/2024 05:43 PM	We need a parking structure. There are ways to work it so it could also house a year round farmers market with covering. Suggest looking at structure in Port Angeles
Screen Name Redacted 3/17/2024 08:22 PM	Tidying up sidewalks and curbs. Preserve the post office (it could really use some paint). Codes should be put in place for new apartments being equipped with parking space and new buildings should have codes dictating characteristics of a building that can be integrated with the existing buildings. Historical buildings that are 'for sale' should be actively made known to the local community.
Screen Name Redacted 3/18/2024 02:54 AM	Nothing
Screen Name Redacted 3/18/2024 09:51 AM	We need more restaurants and variety of spots to go for entertainment downtown , less hair as. Church places on the main strip
Screen Name Redacted 3/18/2024 11:49 AM	Need an unleashed dog park somewhere. Camas and Washougal claim to be dog friendly but there are NO UNLEASED dog parks.
Screen Name Redacted 3/18/2024 11:54 AM	NO MORE DEVELOPMENT. STOP CUTTING DOWN TREES. I have been here 9 years and the population has doubled. More people should mean MORE parks and open space, but parks are being

	compromised and open space is dwindling. The ingress is at maximum. To put in more roads means less trees and that's not acceptable. We don't want a freeway running through downtown or up the canyon. Development should happen right along Hwy 14 to divert traffic away from downtown and the natural areas. Add a little shuttle bus from the 14 development and parking lots up to Camas. No more buildings above 2 stories in the downtown area and add a few small, green parks to preserve the casual feel in that area. STOP TRAFFIC on the main street from the mill to the library. Be smart about development in the blocks surrounding that area, to encourage artsy develoment - not density. Acquire more forested land for hiking and relaxing and to preserve the feel. STOP development immediately around Lacamas lakes - no one wants to "hike" with condos looking down at them. And to preserve the (already questionable) water quality. TREE ORDINANCE - save our big Sequoias and Douglas firs. Forget about "inclusion" per se, but focus on an area where ALL people would want to visit (and are welcome) because it fills them with hope and reconnects them with earth and a positive idea of America, it's NATURAL & clean, calm, safe and unique.
Screen Name Redacted 3/18/2024 01:45 PM	Downtown Camas needs to plan for growth and include denser development with buildings with ground-floor retail, apartments above (including high-end with mountain/water views) and basement secure parking (just like what is being built on 6th Street now to replace 2 churches). Please include CTRAN and public transportation planning for downtown/Crown Park as well as neighborhoods.
Screen Name Redacted 3/19/2024 10:13 AM	Connect all the walking areas, more places to eat downtown. More places with outdoor seating
Screen Name Redacted 3/20/2024 05:25 AM	Work to give incentives to take down the paper mill. It’s time has past.
Screen Name Redacted 3/20/2024 03:29 PM	Have more rental space and housing Have more parking Have safer crosswalks Have improved mass transit, connecting Camas and east Vancouver. Have shuttle services for events or transport from recreation areas Have better traffic flow Have condos and businesses on current mill property; waterfront development Have plans with developers to preserve trees, nature, and open and green spaces Develop with infrastructure in mind (infrastructure analyzed and upgrades planned now for future growth) Build an additional high school in a different area to help diffuse traffic Be a destination Have code on what business can occupy space in downtown, to ensure

	more ground level retail. No dead zones in downtown. Have increased housing at all economic levels Extend the charming aesthetic from 2nd to 7th AVE Be a place where everyone feels welcome Absorb additional mill property, both North and on the waterfront Connect with a walking/biking trail to the port Have more activities for families and teens Have a connection from the city to our trail system and lakes
Screen Name Redacted 3/20/2024 07:26 PM	More shops, restaurants and keto street parking free!
Screen Name Redacted 3/22/2024 07:12 AM	Proper impact fees charged to accommodate ridiculous tolls on utilities, roads,schools,Traffic is discouraging. Road conditions,sewer lines are ridiculous especially for existing homes that have been here for decades.We were Camas not Camas washougal.They tried for years to merge the 2 towns,yet the city has done it without voting from home owners.lets see if we can put another bar into this town.some major businesses are owned by the school district instead of being a positive within paying taxes,as well as supporting employment.UL is a rental for the School district.Sharp is now schools.what else can this town do? Where are proper cross walks.updating sewer lines in existing neighborhoods.
Screen Name Redacted 3/22/2024 09:01 AM	would love the buildings to get a facelift. modernize but don't change character of downtown. Would love to see more sidewalks on major streets especially near schools and corridors that lead to downtown.
Screen Name Redacted 3/25/2024 10:09 PM	I wish that there was more to do downtown. I would like to see more local things for our young people to do on the evenings and weekends. I would love to see more concern and intentionality about caring for the physical environment and living things. I think there could be some replanting of native plants and trees on school and city properties. I would like to see better routes for non-motorized transportation. There are times when I would like to send my kids somewhere on bikes but there are no bike lanes or even shoulder space for them to ride in.
Screen Name Redacted 3/26/2024 09:46 AM	Improve pedestrian safety - complete sidewalks and trail access. Add bike lanes separated from traffic. Restripe 6th so there is a turn lane, Increase park and trail maintenance including correct pruning of trees. Implement fire mitigation plan. Improve sidewalks downtown to reduce tripping hazards. Consider creating community town center by reducing traffic on 4th, e.g., create a pedestrian mall, only allow east-west traffic, and so on Add workforce housing with good design so it

	fits. Increase economic opportunities so people don't need to commute to Portland.
Screen Name Redacted 3/26/2024 11:07 AM	More activities for children, more dining options
Screen Name Redacted 3/26/2024 04:18 PM	Need to figure out and develop the mill if that is an option. We need more restaurants. More activity and people downtown.
Screen Name Redacted 3/27/2024 11:46 AM	What would you like to change? More mixed-use Water quality of lakes More job opportunities Preserving/expanding tree canopy No vacancies Downtown More bike trails/opportunities for riders Redo City Hall & Fire Station Future clean-up efforts @ the Mill Add Mixed=use to Mill property, clean up to mixed-use standards More sidewalks More street lights Improve connectability/walkability to services What can we improve? More housing Downtown Roadway paving Traffic safety Pedestrian/bike safety Water/sewer/storm facilities in Downtown Park/sports field improvements More resident involvement More community gathering spaces Plan for Economic Development
Screen Name Redacted 3/27/2024 03:45 PM	§ Better access to waterfront (Washougal) - waterfront redevelopment (what Vancouver has done) § More sidewalks! Near schools, Prune Hill, main thoroughfares § Housing downtown § Housing choice / variety § More neighborhood commercial to scale (hubs) § More pocket parks, dog parks § More jobs/better jobs/ career jobs for youth § More bike-ability, crosswalks, traffic diet § Improve/expand utilities and infrastructure (stormwater) § More parking downtown, especially for events ("what's reasonable for walking distance?", shuttles, accessible for elderly, disabled) § Transit § More and better connected trails § Retain community events (July 4 fireworks, farmers market) § Maintain facilities/parks/trailheads § Architectural integrity/design standards
Screen Name Redacted 3/28/2024 01:26 PM	I was very un pleasantly surprised to find the camas had allowed two bookstores within two blocks of each other recently. Camas is too small to support two bookstores, especially in the children’s arena. Within a year I predict one of them will go out of business or will begin to fail. I don’t see how this is good planning.
Screen Name Redacted 4/01/2024 11:31 AM	· Better manage open spaces · More options for teenagers downtown · Address lake algae blooms · More inclusive community (increase diversity) · New community areas outside of downtown X · Housing

	affordability and diversity X (homelessness) · Increased entertaining/dining · Expand and maintain momentum downtown · Downtown parking challenges · Infrastructure investment · Improved bike/sidewalk access · Expand lake use beyond east end · Rethink public space downtown (more public spaces)
Screen Name Redacted 4/03/2024 08:44 AM	Don’t move here from California, because your politics ruined it, and vote for the same crap. We don’t want a big town with tons of retail space or apartments. Don’t California Washington.
Screen Name Redacted 4/03/2024 09:08 AM	Keep Camas downtown intact!! All efforts possible need to be taken to preserve and maintain historic Camas buildings!!
Screen Name Redacted 4/03/2024 10:07 AM	Preserve and create more open green space!!! Quit tearing down historic buildings and replacing them with structures that do not fit in with the "historic" ambience of the downtown area.
Screen Name Redacted 4/03/2024 10:24 AM	Although I would hate to change anything about downtown and parking garage would be super nice and the church moving out of downtown would be nice so it can be more retail and restaurants.
Screen Name Redacted 4/03/2024 10:43 AM	More sports fields and better amenities for young families
Screen Name Redacted 4/03/2024 11:02 AM	Growth and development plans don't imply action to expand. A growth and development plan can be predicated on sustaining existing boundaries. Zero growth and development can be a plan as well.
Screen Name Redacted 4/03/2024 12:34 PM	Down Town Camas needs a parking structure. Like 2 stories plus a two level basement garage. Shops above, parking in the basement.
Screen Name Redacted 4/03/2024 04:45 PM	Keep it as historic as possible. New is not always better. I love all of the downtown events that camas does.
Screen Name Redacted 4/03/2024 05:13 PM	Nothing q
Screen Name Redacted 4/03/2024 06:10 PM	Re-evaluate the almost irresistible movement of local governments partnering with large business toward the destruction of natural and

	historic places in the name of progress. Make Camas local, and not just in expensive "crafts" but in agricultural produce. Don't just be a cute outpost of Portland.
Screen Name Redacted 4/03/2024 10:03 PM	Restore Crown Park to be the crown jewel it used to be. New pool or splash park. Family friendly restaurant that serves breakfast, lunch and dinner with an old town feel in the downtown area.
Screen Name Redacted 4/03/2024 11:32 PM	Please no more apartments downtown. Please keep the downtown the focal point of our community. Please keep the lake road on north shore where it is!!!!!!!!!
Screen Name Redacted 4/04/2024 02:26 AM	Keep things cleaned up. No graffiti. Stop building so many new developments Try to preserve old buildings. The beautiful church on 6th should have been preserved. I was so upset when I saw it was sold and again when it was torn down. Camas was once an ample forest, now we cannot find many areas that remind of what Camas once was. Stop developments, keep large land plots whole. Figure out a way to filter all water going into LaCamas Lake. Do not allow nearby houses to use turf or fertilizers.
Screen Name Redacted 4/04/2024 07:30 AM	Improve keeping our historic buildings and open space. Stop putting in gigantic subdivisions
Screen Name Redacted 4/04/2024 08:05 AM	I would like to have more consistent sidewalks and maybe a "lake to city trail" from Lacamas park to downtown.
Screen Name Redacted 4/04/2024 08:11 AM	Mill
Screen Name Redacted 4/04/2024 08:23 AM	More parking
Screen Name Redacted 4/04/2024 08:34 AM	I would like us to be ever mindful of economic disparity. We were, at our core, a blue collar community. While I know that has changed and many more affluent people call Camas home, let’s strive to make people at all socioeconomic levels feel welcome and included in future plans and visions.
Screen Name Redacted	Stop taking away all the historical stuff. Stop taking down the old

4/04/2024 08:58 AM	building for more HUGE ugly buildings they are taking away from the appeal of our town. Stop taking away all the trees and nature, it's taking away from the appeal of the area. The more that's taken away, the more big ugly buildings, the more us locals hate it. We loved our history, the nature, the trails and trees...now we have clear cuts everywhere with housing developments everywhere. Taking land from all the animals and causing what will be catastrophe changes to our environment
Screen Name Redacted 4/04/2024 09:54 AM	I would like to see housing expansion slow. Especially high density housing. Street design can and should be improved! Especially 18th Ave. It is the main East access to Prune Hill, yet still terminates at a stop sign on Division.
Screen Name Redacted 4/04/2024 11:51 AM	Not a whole lot ! Love it just the way it is ! I know it will change, but keep the community feel.....small town. Part of why I live here ! It's not PORTLAND !! or even Vancouver !! It's nice to come home....away from the big cities ! Stop pandering to BIG MONEY developers !! Like I said, I know things will change, just use common sense ! Something that seems non existent these days ! PRESERVE HISTORY !!
Screen Name Redacted 4/04/2024 01:01 PM	For my family, the biggest thing that needs to be fixed is the access to the lake. We like to use the boat ramps on the northeastern side (Leadbetter Rd). The ramps are broken, the parking is a mess. There is no signage telling people not to park on the ramps and although this should be common sense, they do it anyway. The city needs to spend a little money to fix it up.
Screen Name Redacted 4/04/2024 01:15 PM	Get rid of the church on Main Street. WAY too big of a footprint that does nothing to improve downtown and takes up parking. Include flags on poles of area children art work from a variety of ages to showcase our young people’s talent.
Screen Name Redacted 4/04/2024 01:39 PM	No change, why fix what’s not broken?
Screen Name Redacted 4/04/2024 01:44 PM	Keep the present buildings up to code and standing. Any new buildings have to match the building themes of present day downtown Camas. NO new apartments in downtown Camas.
Screen Name Redacted 4/04/2024 06:13 PM	Buy part of the mill parking lot off 5th and block off driving down 4th have an open walking downtown area.

Screen Name Redacted 4/04/2024 06:58 PM	Less emphasis on big money and toney, pricey kitsch and more connection with our history and local environment.
Screen Name Redacted 4/04/2024 07:26 PM	Do something about the mill. It is an eyesore coming into down. Even Washougal has plans for beautifying their downtown and making it walking friendly. The Mill is creepy, contaminated, and mostly vacant. All those buildings as you drive in on 6th are empty and ugly. And THAT is our welcome to Camas? Get the mill to start tearing down the derelict buildings and cleaning up what they don't use anymore. Georgia Pacific is no friend of Camas anymore. They are an eyesore, a hazard, and a monument to environmental destruction.
Screen Name Redacted 4/04/2024 07:36 PM	Do no allow single non-commerce entities to buy/occupy an entire block of premium retail/restaurant space downtown. Improve road conditions in the older neighborhoods. Implement climate change solutions now to avoid costly repairs in the future.
Screen Name Redacted 4/04/2024 11:03 PM	Please don’t let one church buy up all of downtown. I’d love to see a community space where classes, activities, and special events could be held during the rainy months.
Screen Name Redacted 4/05/2024 10:37 AM	Keeping roots while being open to change
Screen Name Redacted 4/05/2024 11:41 AM	Improve the infrastructure and restore the buildings. Increase parking
Screen Name Redacted 4/06/2024 07:48 AM	Nothing really, love the historic downtown area.
Screen Name Redacted 4/06/2024 02:58 PM	Nothing! Keep it like it is. Modern buildings have no place in historic downtown. Like that ugly apartment/ business building they just built not to long ago and that they are building that they had to tear down that beautiful 1912 church to make another UGLY one!
Screen Name Redacted 4/06/2024 11:45 PM	More variety of businesses downtown.
Screen Name Redacted	DT is nearly perfect, My main issue is the new neighborhoods with

4/08/2024 09:20 AM

high density. Please don't stuff the houses close together. There's already considerable traffic in our area, and with the new high-density living situations you are allowing, this will continue to get worse and worse. Camas's charm is dependent on the quaint vibe of downtown and the surrounding neighborhoods, and also the larger lots with plenty of green in the surrounding areas. Every time a new neighborhood goes in, with the houses right on each other, and narrow streets without street parking, it starts to have a Gresham and Happy Valley feel. I mean this in the most offensive way possible. I moved to Camas from Lake Oswego bacuse of the country vibes and LACK of cookie-cutter neighborhoods. In my 6 years of owning a home here, on 232nd Ave., the growth has bee too much, and an eye sore.

Screen Name Redacted
4/08/2024 09:52 AM

Preserve the trails around Lacamas Lake. Preserve the steps from the Mill Ditch. Deal with the paper mill. Have more green space and kids play areas, especially near high density housing. More sidewalks and bike lanes. Fiscally balanced. More activities for youth like bowling and roller-skating. Flashing crosswalks at 3rd and Birch. Turn 4th Ave into a pedestrian walkway/mall and have event parking nearby. Lighted parking stalls for efficient in and out. Small swimming pool for kids, but not a huge aquatics complex. A community venue for all seasons that has police and fire access. The Paper Mill is a big question mark. Lots of empty lots that could be festival parking. Multipurpose recreation facilities.

Screen Name Redacted
4/08/2024 12:48 PM

• Better access to waterfront (Washougal) - waterfront redevelopment (what Vancouver has done) • More sidewalks! Near schools, Prune Hill, main thoroughfares. • Housing downtown • Housing choice / variety • More neighborhood commercial to scale (hubs) • More pocket parks, dog parks • More jobs/better jobs/ career jobs for youth • More bike-ability, crosswalks, traffic diet • Improve/expand utilities and infrastructure (stormwater) • More parking downtown, especially for events ("what's reasonable for walking distance?", shuttles, accessible for elderly, disabled) • Transit • More and better connected trails • Retain community events (July 4 fireworks, farmers market) • Maintain facilities/parks/trailheads • Architectural integrity/design standards

Screen Name Redacted
4/12/2024 10:29 AM

We need more affordable (under 400,000) family homes with actual yard space instead of more apartments and cookie cutter housing that create traffic on roads that can't sustain it and make downtown camas events and business almost impossible to attend. We need to make sure the design of newer buildings match the esthetic of the historic downtown camas buildings. Nobody wants to see our

	beautiful downtown turned into a a cluster of modern city style buildings. Widening roads to accommodate influx of traffic caused by all the apartments and cramped housing developments only hurts home owners and business owners, and untimely will ruin our walkable areas and surrounding nature. There needs to be a better way to meet the needs of new residents without destroying what's already here. The city also needs to actually address the lake issue and make it safe. If the city is going to continue to promote it as a family and pet friendly place, they need make sure it won't kill said pets or cause people/animals to get sick. This has gone on for a ridiculous amount of years and the city already knows what the problem is. Please fix it.
Screen Name Redacted 4/12/2024 01:45 PM	More commercial opportunities (i.e. retail/food and beverage). It would also be beneficial not to allow churches to continue to absorb former commercial spaces as they are occupying some of the limited downtown space and do not contribute to local economic growth. Especially given the vast amount of people that do not partake in religious services - they create empty spaces in the community that could better serve everyone, not just attending Christians.
Screen Name Redacted 4/12/2024 03:40 PM	We don't believe downtown Camas is an appropriate place for a church. This organization should be strongly encouraged to move to a better location with the space then used for additional restaurants and shops. Maybe expand the historic hotel and/or add another by remodeling/restoring upstairs spaces in the downtown.
Screen Name Redacted 4/12/2024 05:02 PM	I would like to see more diverse offering in downtown businesses. Many of the shops and restaurants are very high end, and fall within just a few business types (fancy salons, fancy clothing stores, expensive restaurants).
Screen Name Redacted 4/12/2024 05:38 PM	Get rid of churches on the main corridor and make room for more small business everyone can enjoy. We need a pastry place, organic food, more variety. Murals on the mill and open area museum/exhibit of the history of the mill to make it beautiful enriching for preserving the history as well as preparing for the future of it.
Screen Name Redacted 4/12/2024 08:46 PM	Parking is limited and vehicle maneuverability feels tight. I wonder if it makes sense to have more one-way streets and wider pedestrian areas.

Screen Name Redacted 4/12/2024 09:08 PM	Too many churches and church owned property makes me worried about how the city will generate enough revenue that will go back into the city itself
Screen Name Redacted 4/13/2024 04:49 AM	Seeing pictures of historic Camas is really fascinating to view. If there were more opportunities to see pictures from the past that would be nice.
Screen Name Redacted 4/13/2024 06:19 AM	Our Safeway is outdated. Would love to have a market available similar to Metropolitan Market that Tacoma/Seattle has.
Screen Name Redacted 4/13/2024 07:03 AM	I think a parking structure is necessary in the future. Moderately worried about the degradation of the mill and the toxic effects of that plus the visual of an old dilapidated mill is just not appealing.
Screen Name Redacted 4/13/2024 03:33 PM	Like to see upkeep of the area, new things tried but not pushing out the old that have been with the development of the community. Balance growth and progress with our past.
Screen Name Redacted 4/13/2024 04:36 PM	We need to make decisions that allow people who were born and raised here to continue to affordably live here.
Screen Name Redacted 4/13/2024 05:05 PM	No real changes; keep Camas what it is -- resist the urban sprawl.
Screen Name Redacted 4/13/2024 08:05 PM	how about not changing anything!
Screen Name Redacted 4/14/2024 11:03 AM	The downtown area is in need of more restaurants and other attractions. A park central to downtown would be nice. It also needs to be enlarged. I think what needs to be changed in the outlining areas is all of the high density developments. Traffic is going to increase. I have seen this in other areas I have lived. Add more single family developments. Encourage families to live here.
Screen Name Redacted 4/14/2024 11:11 AM	More people, more housing, more parks, more trails! People are an asset to our community not a burden to be avoided. We need more people but we have to provide housing and transportation choices that don't negatively impact existing residents. We have wonderful public lands but they need to be better maintened and made more

	accessible. The maintenance of our trails has greatly improved in the last few years. Keep up the good work.
Screen Name Redacted 4/14/2024 05:39 PM	The push for more outside chain businesses with non local ownership is ruining the qualities of downtown we come here for.
Screen Name Redacted 4/15/2024 06:40 AM	Less congestion - negotiate with the mill to add close-in parking. Close 4th street from Adams to Dallas as pedestrian traffic only. (see Boulder, CO. as an example)
Screen Name Redacted 4/15/2024 10:39 AM	Love the historic downtown! It might be beneficial to include some foot traffic only spaces. Foot traffic is essential to the boutique shopping that is the heart of downtown.
Screen Name Redacted 4/15/2024 10:53 AM	This question is too similar to the above. Improve and enhance are pretty much the same. This is a wasted survey question -- bummer. I will try to give a different perspective to help. Regarding downtown. No more 'national chains' such as Subway, DQ, Burgerville, or Safeway. Keep the downtown dedicated to small local businesses. Incent the local real estate owners to clean up their properties. Some properties can use some upkeep. Third Ave is a main artery and lacks charm. Add it! It would've been good to put some architectural guidance to new construction. You can add new architecture that invokes an old-period charm. In essence, the old charm of Camas is very limited to a few short blocks. Regarding Camas in general. Too much development. We are losing our green spaces to roof ghettos. Enhance the rural roads --- there is more traffic on them, specifically young drivers. They need to be safer, widened, and guard rails.
Screen Name Redacted 4/15/2024 02:26 PM	the plant is an eyesore and I'd like to see decommission, consolidation plans with a timeline
Screen Name Redacted 4/15/2024 02:56 PM	Add one or two nice sit down restaurant in downtown
Screen Name Redacted 4/15/2024 04:36 PM	Downtown is amazing the way it is and draws a lot of people here. Keep the mill. I moved here to find a city just like Camas and I'd hate to see it urbanized. People should move to an area and appreciate it, not just want to change it and make it what they moved away from. I'd like the water quality to be addressed and be able to use the lake more in the summer. So if any improvements are needed, the lake could be cleaned up.

Screen Name Redacted 4/15/2024 05:23 PM	Maybe churches shouldn't buy up the entire thing?
Screen Name Redacted 4/15/2024 06:59 PM	Do not change anything downtown. Downtown is what makes Camas so special. What can be improved is more round-a-bouts and sidewalks in the older parts of town, including sidewalks on both sides of NW 18th Ave off of Division. Also fix the Division street (off of NE 6th), so it’s not so bumpy.
Screen Name Redacted 4/16/2024 09:10 AM	Continue to improve and attract small businesses to the area. Make it a destination for people in surrounding areas to come enjoy and spend their money in downtown. Continue to keep Camas from becoming like Portland. We do not want the density, the traffic, or the busy-ness of what Portland has become. Let other places build high-density housing - keep Camas feeling like a small town.
Screen Name Redacted 4/16/2024 09:34 AM	More bike lanes, limited growth compared to currently. Would like Camas to stay a smaller town. Improved cleanliness of roadways-less litter.
Screen Name Redacted 4/16/2024 03:59 PM	I don't want anything to change. In fact, I think it was awful that the church was razed to make way for tons of high rise housing and very little available parking.
Screen Name Redacted 4/16/2024 06:51 PM	As mentioned before I think it would benefit our community to have that one block section not completely be owned by one single entity. The more diverse the businesses we have here, the better it is for all. I think providing assistance to those small local shops would also be beneficial and I think looking at some sort of height/land use code for the downtown section would also be beneficial to keep the small town feel. Lastly I'm also nervous about the expansion taking over are green areas (for example north of lacamas lake).
Screen Name Redacted 4/16/2024 08:21 PM	The city government drifts to want to spend too much of the budget on things away from the core mission of the city, especially on consultants. I would like less wasted money on consultants. Sure, you might need them for expertise like engineering, but I don't see the need to spend lots of money on consultants to spin things (like marketing) for how the city wants me to vote on issues, or in marketing in general.

Screen Name Redacted 4/17/2024 08:06 AM	Better parking/walking. Keep it small
Screen Name Redacted 4/17/2024 12:10 PM	1. Make downtown Camas a pedestrian area; make it so it can be used in the evenings (street lights) 2. Develop new hiking trails (incl. several miles long ones) 3. Sidewalks on every street 4. Build a few public pickleball courts 5. Add charging stations for EV cars
Screen Name Redacted 4/17/2024 02:49 PM	I would love to see some the old mill land cleaned up and developed into more dense mixed-use to expand downtown. Better public transit would be cool to (a street car between Camas and Washougal???)
Screen Name Redacted 4/17/2024 03:57 PM	Historical downtown district. Liberty theatre/camas antiques; historical anchor. Signage/historical tour offerings. Good jobs. Small business/merchant engagement. Diversified housing and employment. Community pool. Draw more business. Expand jobs and tax base; commercial and industrial zones. More parking and housing downtown. More medical services.
Screen Name Redacted 4/17/2024 05:10 PM	No ideas at this time.
Screen Name Redacted 4/17/2024 05:48 PM	I would like to see more child friendly development happen at crown park. Whether that’s a splash pad or an updated playground of both.
Screen Name Redacted 4/17/2024 05:58 PM	Downtown Camas has been taken over by Journey Church. This prevents the use of the entire community for business purposes and has made downtown Camas less attractive to me. I rarely go down there anymore because there just aren’t enough businesses to go to. It also reduces the income for the city from business sales tax collections. I realize the city has no control over who purchases buildings downtown, but a contingent of city administrators could visit with Journey’s commercial arm and explain the problems their growth downtown has created for the city. Lacamas Lake has a terrible parking and safety problem that needs to be addressed. Swimmers, kayakers, paddle boarders, jet skis and motor boats all use the same entry/exit point which creates a serious safety issue. There is not enough parking for the amount of use the lake gets during summer months.
Screen Name Redacted	Expand core street/downtown outwards. Don’t just build new

4/17/2024 09:07 PM	architecture buildings try to keep vibe in new construction.
Screen Name Redacted 4/18/2024 07:28 AM	More walking trails. Better integration with nature.
Screen Name Redacted 4/18/2024 09:31 AM	More walkability and bikeability outside of downtown.
Screen Name Redacted 4/18/2024 09:52 AM	The fireworks situation is getting out of hand. The weather is drier and warmer and the fireworks are loud, obnoxious, and cause trauma and stress for veterans and pets. We are upset that the city has not done anything to change the fireworks rules - we'd like to see that happen ASAP.
Screen Name Redacted 4/18/2024 02:06 PM	More parking and/or public transit downtown. Events in Camas are special but difficult to attend for those not within walking distance.
Screen Name Redacted 4/18/2024 03:33 PM	Have a luxurious coffee roaster, brunch spot, private spa, small natural grocery store, a gym, retail shops from this era such as lululemon/alo, a wood fired pizzeria.
Screen Name Redacted 4/19/2024 05:56 PM	Remove the buildings of the mill and open more access to the Columbia River. Some bike lanes in the downtown area with a few bike parking areas would be nice.
Screen Name Redacted 4/19/2024 07:24 PM	I would like to have parking available for the library. The street parking is 2 hours only and it doesn’t allow me to study long hours in the library without moving my car.
Screen Name Redacted 4/20/2024 10:55 AM	Obviously, the mill is a huge part of Camas’s history, but it is a huge space now that could probably be better used in other ways since so few people actually work at the mill anymore. I know repurposing that space is a massive undertaking, but it’s something I would hope to see happen in the future.
Screen Name Redacted 4/20/2024 06:40 PM	Improve sidewalks, quality of roads (eg along SW 6th ave) so can walk safely without worrying about having to walk on the road with some people driving carelessly. Make power lines underground or away from trees so less disruption with falling trees in winter. Bring in more businesses, more businesses, jobs and residents.

Screen Name Redacted 4/20/2024 07:25 PM	I hope any pollution issues from the plant are being addressed. I'm retired, & don't get out much, so I can't be much help here. I've seen the maps for the corridor but I've never driven around there.
Screen Name Redacted 4/20/2024 08:25 PM	More independent owned restaurants
Screen Name Redacted 4/22/2024 09:05 AM	Downtown Camas needs more housing density. More midrise housing so that more people live in the same amount of space. Then there will be enough demand for more retail businesses to make money. Then when you have more people and more businesses, it will be a thriving community. Also, prioritize sidewalks and bike lanes so people don't have to drive everywhere.
Screen Name Redacted 4/22/2024 09:35 AM	Outdoor community gathering space. Parking and housing downtown. EV charging stations. More infrastructure like electricity, water, roads and buildings. Planning for Mill property and waterfront in general. Complete streets. Public transit. Connection of neighborhoods to downtown. Preservation of native plants/ Local jobs. Preservation of open space. Lake clean-up. Another high school/technical school. Dark sky compliant lighting. Pool.
Screen Name Redacted 4/22/2024 12:10 PM	Improve street safety in neighborhoods with high visibility crosswalks and medians, add sidewalk b/t the lakes and downtown on Everett. Do not let precious downtown real estate be used for single entity non-commercial use (i.e. the church that takes up a block). Improve water runoff in old Camas neighborhoods by Crown Park. Address speeding issues on neighborhood streets, especially coming down from Prune Hill into Crown Park area. Future-plan for climate change with more tree canopy and native plants in neighborhoods to help with both heat and storm water/flooding.
Screen Name Redacted 4/23/2024 05:00 PM	More restaurants with more diverse/ethnic offerings. More places for young people (especially teens and pre-teens) to hang out.
Screen Name Redacted 4/23/2024 09:08 PM	I have a huge issue with the increased presence of the church in the downtown area. This does not illustrate an inclusive and welcoming environment to those that are not religious or of that particular faith. Adding new restaurants, cafes and shops will draw more residents to the area.

Screen Name Redacted 4/23/2024 09:20 PM	I wish there was less parking and more bike and pedestrian infrastructure. I feel that the parking lot on NE 6th & NE Birch has a lot of potential if turned into something more productive like housing/commercial like the lot across the street. I feel the same way about the parking on NE 7th & NE Adam. There's so much potential if camas captures it!
Screen Name Redacted 4/26/2024 07:36 AM	driving & parking seems to be a problem. I eventually see more road closures to allow for walking through 4th Ave for instance. The roads feel too small as it is. But traffic and parking management would be key to deal with.
Screen Name Redacted 4/27/2024 12:34 PM	A walking street with outdoor restaurants would really enhance downtown. We are also a bit concerned about a large portion of the downtown being owned by a church rather than individual commercial businesses. We also believe that Camas needs a public pool.
Screen Name Redacted 4/27/2024 05:02 PM	Keep downtown a place where people can actually come down and do business with a wide range of locally owned shops. Keep homeless from begging on streets and from camping/ doing drugs in our parks and greenspaces. PRIORITIZE SAVING TREES AND HISTORICAL BUILDINGS.
Screen Name Redacted 4/29/2024 10:59 AM	We need to add more multi-use buildings with living areas up top and shopping/restaurants at the bottom. Please also make it more pedestrian friendly with larger newer walkways and bike lanes. You're already doing this for the rest of Camas so please modernize downtown Camas as well.
Screen Name Redacted 4/29/2024 12:38 PM	More places to park… but spaces located outside the downtown to encourage walking.
Screen Name Redacted 5/02/2024 09:40 AM	Traffic. Plan for the mill; think about what is next for that area. Growth management: we need to ensure there is workforce housing. Be wary of northward growth, consider increasing density in other areas. Preserve farmland. Housing prices. Transit connections to neighboring communities. We need 55+ housing and single level housing for transitional housing. The enrollment in the school district is projected to be steady, son plan for that. Continue renewal. More park spaces. Plan for all economic levels. Plan for population growth from climate change. Work together with Washougal.

Screen Name Redacted 5/02/2024 03:06 PM	clean up the lakes
Screen Name Redacted 5/02/2024 03:30 PM	More diverse restaurants. A place for comic books or board games. A record store
Screen Name Redacted 5/02/2024 09:31 PM	Getting into downtown via anything other than a car feels really dangerous. Vehicle speeds on 6th and 3rd into and out of downtown are incredibly high. Travelling between sr14 and downtown on 6th at 25mph as opposed to the 40-50mph speeds people routinely travel at would add maybe 1-2min while improving safety and access. I would impress on the city that efforts to slow traffic and restructure 6th Ave into a shared traffic mode, two-lane road would improve safety and massively improve the possibilities for mixed-mode transportation for locals into and out of downtown.
Screen Name Redacted 5/02/2024 10:20 PM	More guaranteed small business tax incentive / breaks to allow small business to plan for the future and develop a foothold in our town.
Screen Name Redacted 5/03/2024 08:07 AM	Enhance pedestrian accesibilty. Close off 4th Ave to motor vehicles between Adams and Everett and create a pedestrian mall with permanent outdoor dining opportunities. Think Boulder’s Pearl Street Mall .
Screen Name Redacted 5/03/2024 08:23 AM	Growth in residents should be lockstep with growth in transportation and infrastructure.
Screen Name Redacted 5/03/2024 08:42 AM	Reclaim the mill; take care of the water quality of the Lacamas Lake
Screen Name Redacted 5/03/2024 03:27 PM	Would like to improve food options
Screen Name Redacted 5/03/2024 03:28 PM	The Church breaks downtown up - that really should be retail. More restaurants, gourmet shops would be good.
Screen Name Redacted 5/03/2024 04:05 PM	Historic downtown is just fine as it is. It's walkable & plenty of avail. FREE parking. Aside from the 2 safeways + the BiMart, we lack presence of larger commercial stores (like Target, Fred M, etc.) Also, having to drive long dist. to Peace Hlth. med ctr in Vanc., - - longer term, it would be nice to have a multi-specialty Peace Hlth. clinic in

	this vicinity.
Screen Name Redacted 5/03/2024 04:05 PM	Cut and trim the trees. They have dangerous limbs that need trimming
Screen Name Redacted 5/03/2024 04:05 PM	I can't think of anything I would change.
Screen Name Redacted 5/03/2024 04:07 PM	Seeing better care for the downtown sidewalks which are filled with cracks and dirt
Screen Name Redacted 5/03/2024 04:37 PM	Crown Park upgrades
Screen Name Redacted 5/03/2024 05:41 PM	More parking , make it easier to park .
Screen Name Redacted 5/03/2024 06:03 PM	1. I am very concerned about the lack of grocery stores! There is only one in Camas, and it is small, overcrowded, has no competition to keep prices down, the produce section is inadequate, and most of the rest of the store is just unhealthy junk. With all the growth going on in our area, we need access to quality food in order to avoid becoming a food desert. We need an alternative, whether it be a decently-run Whole Foods (unlike the disaster on 164th St which closed a few years ago), or a New Seasons. An alternative would be to offer double the amount of space to entice Natural Grocers to move to Camas from 192nd St. Its signature store is found in Sedona, Az., and is a dream store offering whole, organic fresh foods and healthy alternatives to the processed foods that are directly related to heart disease, diabetes, strokes, and cancer. 2. We don't need more downtown parking! We need to get out of our cars and walk. Make it pleasant to do so---if only more trees had been planned for 5th and 3rd Avenue, our city could have been transformed into an even more wonderful attraction. We got 3rd St. right---how can we expand on it? Imagine a downtown that is so attractive that it becomes a destination point for vacationers to stretch their legs, have a meal, and enjoy the quirky shops we offer. 3. Have City Council outlaw and enforce fines for those who think a loud, mufflerless car is a happy car. It is not, at least for the general public. I don't know if electric cars are a good solution to our environmental problem, but if so, more charging stations might fit our future also. 4. Solve the water problem! I am appalled that City Council plans to release known high levels of PFAS-contaminated water into the community this summer. Why not enforce water rationing by especially targeting landscape watering.

	The high earners among us can afford to dial down their pretty landscapes, but the current plan to release PFAS into our drinking water is abhorrently unfair to those on a limited income, who have no way to mitigate the carcinogens that are released into our drinking water. (Side note: using unfiltered water from the tap in Camas, my attempt to grow broccoli sprouts has only produced slimy, inedible garbage. When the water is filtered, I can grow amazing sprouts. Fix the water supply!)
Screen Name Redacted 5/03/2024 06:01 PM	A beautiful waterfront would be nice. The mill is kind of an eyesore.
Screen Name Redacted 5/03/2024 06:31 PM	more walkability/bikeability downtown and connectivity between different parts of the city. We don't need more parking -- the downtown area especially already has soooo much parking. We need density, more affordability of housing/housing choice, we need connected trails/parks, more crosswalks and bike lanes throughout the city as well as sidewalks.
Screen Name Redacted 5/03/2024 09:16 PM	Better and more continuous bike lanes and ease of biking. Follow through on the lake management plan.
Screen Name Redacted 5/03/2024 09:55 PM	Push to keep historic downtown Camas as an economic center of the city. With the increased housing development, I have concern that the historical charm will not be able to withstand the growth. I would also like to see more effort going towards addressing the PFAS in well 13 (and wherever else it may have leached to), more transparency with Camas paper mill, and proactively holding up it’s connection to Earth Day through the coordinator, Denis Hayes.
Screen Name Redacted 5/04/2024 09:19 AM	More walkability. Block off the downtown section of 4th street for pedestrians only. Include those blocks on 3rd and 5th street to look like 3rd street to include more trees and benches.
Screen Name Redacted 5/04/2024 09:47 AM	More things to walk to in various neighborhoods.
Screen Name Redacted 5/04/2024 04:41 PM	Low speed limits (cars) throughout the entire city. More, better, and safer bike lanes (protected bike lanes where possible). Connecting up of pedestrian trails and sidewalks where gaps exist. Allow for housing CHOICE -- ADUs, multi-family, etc., especially within walking distance of downtown and transit lines.

Screen Name Redacted 5/04/2024 05:28 PM	River access, walk/bike trails connecting to Lacamas Park, more restaurants
Screen Name Redacted 5/04/2024 05:30 PM	get rid of the mill asap and we'll all be better for it. property taxes from that in an of itself will help boost building more trails. use Minneapolis as an example here. stop letting all the churches take over historic downtown and allow actual businesses to flourish. for all the homes currently in the MX use area by the lakes to actually have businesses so that area can revive itself into foot traffic. look to mill valley California here as an example. reduce parking minimums for businesses so that you can let the market decide what is successful
Screen Name Redacted 5/05/2024 08:40 AM	Design for biking, walking and transit. Less focus around cars and more around people.
Screen Name Redacted 5/05/2024 09:13 AM	Operating hours of small businesses downtown. Open earlier so that parents can shop after school drop off, but before other obligations.
Screen Name Redacted 5/05/2024 12:39 PM	Stop allowing allowing big developments to be built, preserve large lots and farms. Now that we know better, remove fluoride from our drinking water.
Screen Name Redacted 5/05/2024 03:21 PM	No more mega churches taking up an entire block of shopping area in downtown. Keep the post office, library and city hall where they are and AS THEY ARE. Provide more parking for the small restaurants and businesses on GP's property, if possible, or on 3rd St.
Screen Name Redacted 5/05/2024 04:34 PM	More independently owned businesses
Screen Name Redacted 5/05/2024 06:11 PM	More action ! City of Camas purchased amazing properties including the Leadbetter house. Downtown area is thriving, focus on the lake areas!!!
Screen Name Redacted 5/05/2024 09:37 PM	I would keep big box stores and corporations out of our city to preserve the small town feel. Our city is growing astronomically and every year it seems that the original Camas I fell in love with goes away. Little by little. Our taxes also seem to go up year after year. Many old timers who grew up in this city are finding it harder and

	harder to keep up with the rising taxes. Many old folks are on fixed incomes and the new residents and increasing taxes are driving people away.
Screen Name Redacted 5/06/2024 02:01 PM	I want to see the lake clean and the trail built so that I can ride bikes, walk, and float with my family on a clean lake
Screen Name Redacted 5/06/2024 03:27 PM	Stop now it’s not getting better.
Screen Name Redacted 5/07/2024 08:24 PM	The addition of a public turf soccer field would allow youth athletes of many sports to play and train year round. As far as downtown, I think it would be great to have two blocks cordoned off from cars permanently, allowing more room for dining and socializing of pedestrians. This could be similar to Church Street in Burlington, VT or River Street in Savannah, GA. Downtown Camas will need something special to draw people from the 192nd shopping and dining center once it is complete.
Screen Name Redacted 5/10/2024 01:55 PM	I would like to see a move to safe and sane fireworks. It is the only time of the year that I would rather be anywhere else than in Camas. It is hard on pets and people alike. I would also like to see Lacamas Lake cleaned up.
Screen Name Redacted 5/11/2024 02:20 PM	Outlaw fireworks altogether.
Screen Name Redacted 5/12/2024 07:25 AM	Potentially more parking , make Main Street pedestrian only ? Keep it affordable for families
Screen Name Redacted 5/12/2024 06:47 PM	We'd like to see the scope of downtown expanded perhaps to even include a connection to the 3rd street corridor towards Washougal. And we need to plan for that. When we have grown out of Prune Hill and the North Shore, downtown will be small and cramped and still old buildings. We need multiple town centers whether they're historical or new.
Screen Name Redacted 5/13/2024 04:33 PM	The mill must break cleaned up including ensuring contamination has not already, or will threaten our drinking water. The mill, much of with is no longer in use, should be the focus of new growth. Camas need government that respects neighborhoods, and relies on more internal

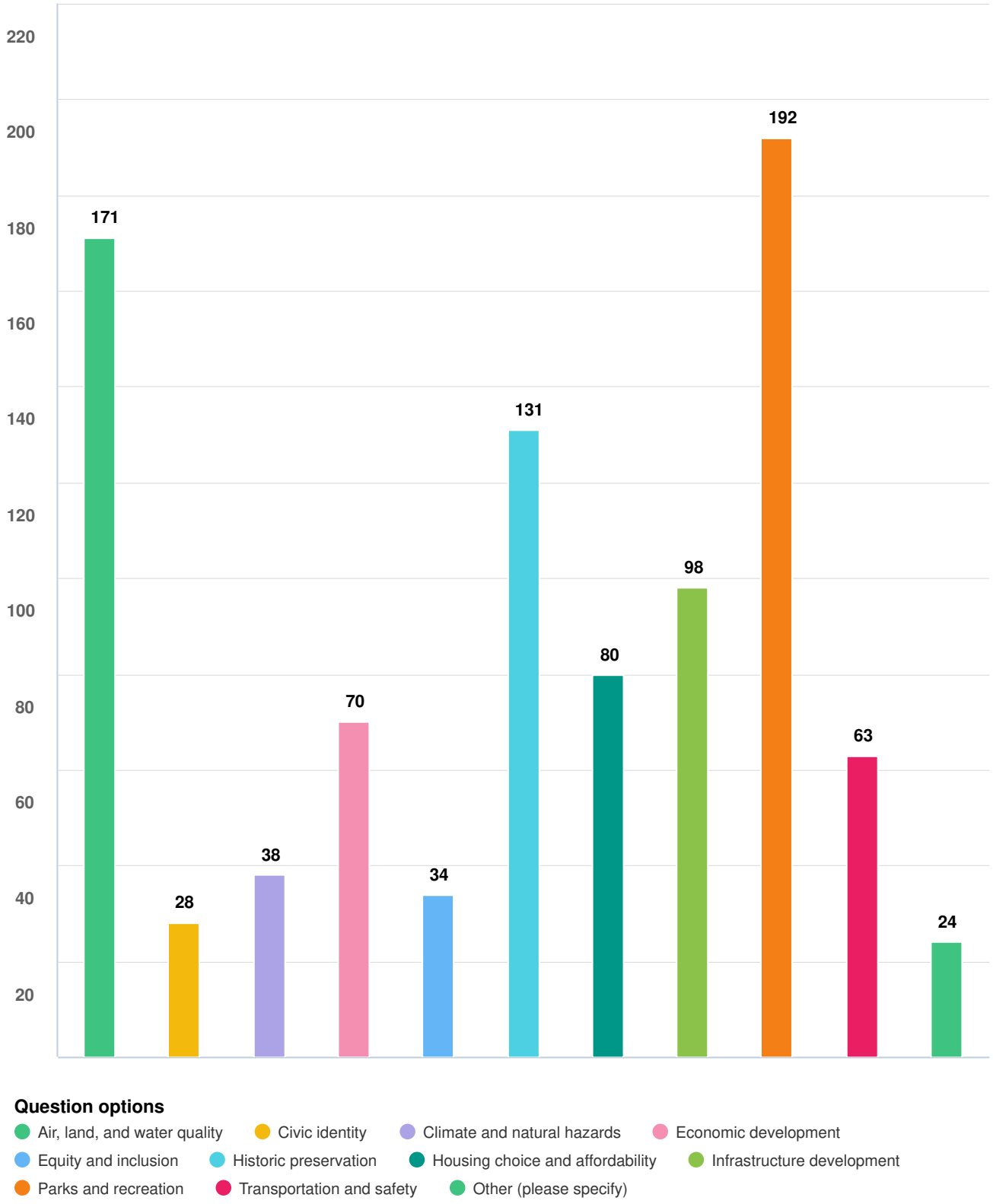
organic growth versus continued push into the forests.

Screen Name Redacted
5/15/2024 12:24 PM

Lack of connectivity/end of road. Need a car to get around. Icy roads are hazardous. Not many cheap fun things to do. Lake water quality.+ Affordable housing and housing types. Infrastructure at peak times near CHS. Traffic safety - not enough exits.+ More areas like downtown. Speed limits/street designs. Rain proof facilities. Roads/walkability/lack of sidewalks.+ Lack of bike lanes. CHS needs a pool. More trees. Dog parks. Youth activities. Emergency management and snow plows. Crown park has no pool or programs. Signs not maintained. More athletic fields - rugby pitch, ice skating rink, indoor tennis, basketball, cricket

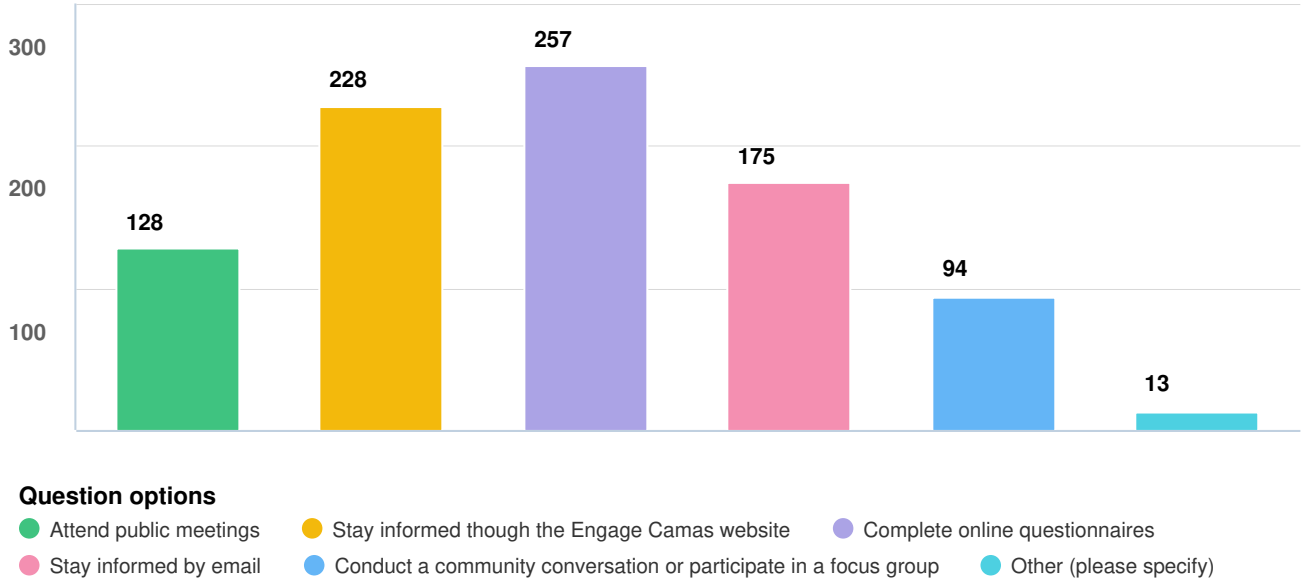
Optional question (343 response(s), 24 skipped)
Question type: Essay Question

Q4 In your opinion, what is the most important topic to address in the Our Camas 2045 process? Identify your top three priorit...



Optional question (347 response(s), 20 skipped)
Question type: Checkbox Question

Q5 In what ways would you like to participate in the process for Our Camas 2045?



Optional question (341 response(s), 26 skipped)
Question type: Checkbox Question

Q6 As Our Camas 2045 gets underway, what people, groups, or communities should we make sure to engage in order to make this an inclusive process?

Screen Name Redacted 2/20/2024 02:02 PM	Study the number and types of tech sector jobs left in town to better understand the needs of the companies to re-invigorate that sector.
Screen Name Redacted 2/10/2024 07:55 AM	I'd like to see our young people involved since they are the future.
Screen Name Redacted 2/10/2024 09:40 AM	Everyone who is willing to participate. Make it easily available and people will engage.
Screen Name Redacted 2/10/2024 11:47 AM	Make sure to communicate with residents that have been here for more than 10 years and not just the new transplants. I see a lot of changes being made to accommodate me comers without consideration to the people that have been here for years.
Screen Name Redacted 2/10/2024 11:14 PM	No one left behind

Screen Name Redacted 2/11/2024 10:27 AM	Create surveys for any residents to participate in
Screen Name Redacted 2/12/2024 10:02 AM	I'd like to see youth conversations. I am constantly blown away by the teens in our community for bringing keen insights & well thought out issues.
Screen Name Redacted 2/12/2024 02:44 PM	Gen X and Gen Z.
Screen Name Redacted 2/13/2024 08:52 AM	Local families & long time residents 1st, Big money Developers last
Screen Name Redacted 2/13/2024 09:37 AM	Local business owners
Screen Name Redacted 2/13/2024 09:42 AM	Area Agency on Aging Churches Schools Veterans
Screen Name Redacted 2/13/2024 10:00 AM	I believe any full time residents even the young adults in our schools should be given a reasonable chance to voice their opinion by surveys. Inside and outside of the city limits. It affects us all as a whole.
Screen Name Redacted 2/13/2024 10:55 AM	Parents and community-focused people.
Screen Name Redacted 2/13/2024 12:18 PM	This is a ridiculous survey since our city officials ignore all we want and act like they care. Everyone in this town live here because it’s a town, they do NOT want a city!!!!!! Get ride of the stupid equity and inclusion BS and do what people want! We used to be a nice conservative town until all the liberals moved here and want to change us into California or Portland. If you truly want to know what people want, then have a town meeting with Q&A’s in an evening after 7pm. Not mid week or early afternoon when people are working. And give plenty of time in advance unlike the sneaky last minute meetings that no one can attend or voice their opinions.
Screen Name Redacted 2/13/2024 12:47 PM	Camas Little League, Clark County Youth Football, Camas Business Owners, CREDC

Screen Name Redacted 2/13/2024 12:49 PM	Future homeowners, local builders, developers, and local church organizations. They understand and know the true problems of the town.
Screen Name Redacted 2/13/2024 01:27 PM	The youth of camas and young families.
Screen Name Redacted 2/13/2024 02:59 PM	Our future youth Downtown families Small businesses
Screen Name Redacted 2/13/2024 06:00 PM	Those with school age children
Screen Name Redacted 2/13/2024 07:02 PM	Open minded humans
Screen Name Redacted 2/13/2024 07:53 PM	The families that actually live here - including the traditional neighborhoods like Everett Corridor and downtown. Town Hall is WAY too insulated and homogenous with the same people on committees over and over again. Stop moon eyeing the developers that over-promise and underdeliver.
Screen Name Redacted 2/13/2024 09:21 PM	First Friday attendees ... They're invested in the community.
Screen Name Redacted 2/13/2024 09:29 PM	Get the message out through multiple communication means, including print
Screen Name Redacted 2/13/2024 11:33 PM	Organizations, neighborhoods, apartments, Events, employees of businesses (not just owners), Elk, schools, resource centers
Screen Name Redacted 2/14/2024 05:29 AM	I feel like Camas can be fairly economically stratified - there are so many ultra-wealthy and upper class people here that they are generally the ones more engaged in public processes. So just more engagement of those of us who are not on that end of the spectrum.
Screen Name Redacted 2/14/2024 08:06 AM	NO OUTSIDE CONSULTANTS. Decision makers need to have a dog in the fight. Outside consultants are absolutely ruining Vancouver and have already cost the city of Camas an exorbitant amount of money. This is a well educated community, tap into that resource.

Screen Name Redacted 2/14/2024 09:39 AM	All. Businesses, Families, Community groups, Churches, School, ect.
Screen Name Redacted 2/14/2024 05:16 PM	This is a dumb question. Your Jon is to make the information available to the community and whoever wants to get involved can do so. Seeking out specific people to be "inclusive" is very exclusive.
Screen Name Redacted 2/15/2024 08:30 AM	Parents of school age kids. Retirees. Existing Camas citizens.
Screen Name Redacted 2/15/2024 09:16 AM	Please include a variety of people from all economic backgrounds.
Screen Name Redacted 2/15/2024 09:16 AM	The East Asian population is the fastest growing group in Clark County, so include more of them please.
Screen Name Redacted 2/15/2024 09:33 AM	Residents, schools and businesses.
Screen Name Redacted 2/15/2024 09:39 AM	NOT RICH FUCKERS!
Screen Name Redacted 2/15/2024 09:44 AM	Council for the Homeless, community groups that serve the low income and struggling families, local merchants
Screen Name Redacted 2/15/2024 09:44 AM	All ages including senior citizens.
Screen Name Redacted 2/15/2024 09:58 AM	Volunteer orgs such as Rotary, Lions, Soroptimists; schools including students; businesses large and small
Screen Name Redacted 2/15/2024 10:02 AM	Representative demographic group
Screen Name Redacted 2/15/2024 10:06 AM	Everyone
Screen Name Redacted	There are so many white people in Camas. Make sure to include

2/15/2024 10:18 AM	voices and experiences of other groups. We absolutely need more options for multi family housing, so include the voices and experiences of the folks who are lower income.
Screen Name Redacted 2/15/2024 10:18 AM	invite all and see who comes.
Screen Name Redacted 2/15/2024 10:29 AM	Minority communities, members of unincorporated Camas.
Screen Name Redacted 2/15/2024 10:36 AM	Care about the Families that live in Camas, and sustaining our higher standard of living than most cities. People move to Camas, and yes most are about average income. And that's ok. We do not need to build a lot of apartments.
Screen Name Redacted 2/15/2024 10:41 AM	Senior citizens who are on fixed incomes, low income families/economically disadvantaged
Screen Name Redacted 2/15/2024 10:43 AM	Local residents and business owners from all walks of life and of all denominations.
Screen Name Redacted 2/15/2024 10:48 AM	Homeowners who live in the homes they own in Camas.
Screen Name Redacted 2/15/2024 10:50 AM	Engage with the people that work down here. If you can get businesses to employ people down town and get them to stick around it only strengthens the night scene and keeps people around. Try and make it inviting to have smaller food vendors and restaurants want to make camas home
Screen Name Redacted 2/15/2024 10:52 AM	Neighborhoods, the businesses, mill workers, schools, students and teachers
Screen Name Redacted 2/15/2024 10:58 AM	Everyone. This includes “newcomers” and others whose opinions you do not respect . cCity government is just a club and is not sincerely interested in what people want. How much are you paying consultants for this bogus exercise?
Screen Name Redacted 2/15/2024 10:56 AM	All Camas residents

Screen Name Redacted 2/15/2024 11:17 AM	Camas Ivy League, Camas Tree Protectors, Schools, Audubon Clubs, Land Trust, Friends of the Columbia River, Yakima and other native tribes
Screen Name Redacted 2/15/2024 11:30 AM	The Downtown Association goes without saying, but it would be good to throw the net to include other businesses and private residents who consider this their neighborhood.
Screen Name Redacted 2/15/2024 11:45 AM	News letters
Screen Name Redacted 2/15/2024 11:49 AM	People who actually live in Camas. Especially the downtown area. Also, please stop with the "inclusive" BS.
Screen Name Redacted 2/15/2024 12:41 PM	All communities in the camas area as well as businesses
Screen Name Redacted 2/15/2024 12:44 PM	I'd really love to see some BIPOC-owned business downtown.
Screen Name Redacted 2/15/2024 12:53 PM	New families moving into the community.
Screen Name Redacted 2/15/2024 12:56 PM	By engaging in online surveys and sending out emails -- you are including the newer generations of parents (with children who just started elementary school) that plan to be here for the next 18+ years. I think that's a great first step!
Screen Name Redacted 2/15/2024 01:07 PM	Schools, churches, Homeowners groups
Screen Name Redacted 2/15/2024 02:08 PM	Please include all If old Camas along with all the new camas.
Screen Name Redacted 2/15/2024 02:16 PM	Sometimes I think it doesn’t really matter. The loudest voices and people in power just get their way, no matter what we say. Example: We gat enough signatures to force a vote on last year's new tax. Yet, the powers that be weren’t going to let that happen. What is wrong with leadership? Aren’t they there to represent us?

Screen Name Redacted 2/15/2024 04:23 PM	The DCA, Chamber, businesses and the Port.
Screen Name Redacted 2/15/2024 04:40 PM	I would prioritize long time residents. They got us to where we are at today. I am not in this group either. But the newcomers should not have an outsized voice.
Screen Name Redacted 2/15/2024 05:20 PM	School groups including PTAs, PTOs, youth sports organizations
Screen Name Redacted 2/15/2024 05:39 PM	All that wish to be engaged will be
Screen Name Redacted 2/15/2024 06:46 PM	People who’ve been here before it became over populated and unaffordable to live.
Screen Name Redacted 2/15/2024 07:46 PM	People from all walks of life (teachers, retail owners, industrial managers, senior citizens, students, non-profits, professionals) and all age groups.
Screen Name Redacted 2/15/2024 11:23 PM	Clubs , businesses and organizations are easy to find and include, but I'd like to see school age kids have input, and survey people who live in controlled rent/ low rent housing. Their input on accessibility and usability is invaluable but often overlooked.
Screen Name Redacted 2/16/2024 05:07 AM	Enough people in different stages of life and ages .
Screen Name Redacted 2/16/2024 08:08 AM	First stop with the buzz words, get the people who actually want to engage and get the job done. Don't just add people so you are politically correct. I would actually like to see a committee get something done unlike the things our City has done in the past. Please stop having a meeting to decide what to have a meeting about. Hopefully something can actually get done.
Screen Name Redacted 2/16/2024 08:40 AM	Volunteer and community outdoor groups that are involved in open space trail development and nature conservation
Screen Name Redacted	The older generations as well as what kids want to see.

2/16/2024 09:47 AM

Screen Name Redacted
2/16/2024 11:53 AM

tax payers

Screen Name Redacted
2/16/2024 12:34 PM

Not everyone wants to be front and center when it comes to speaking up. Having as many channels available for input is key. Hearing the same old naysayers screaming about the way things ought to be holds back our community. Camas has changed a lot since its inception. There's no point trying to hold back and communication is the most important factor in determining the next steps that will move us all forward.

Screen Name Redacted
2/16/2024 05:18 PM

Include those of lower income, minorities and high school students interested in seeing positive changes in the high school.

Screen Name Redacted
2/18/2024 09:07 AM

All age groups including our youth. What do they want to see in the community that they are missing today? What will keep them here in the future?

Screen Name Redacted
2/18/2024 09:38 AM

Parks and recreation, and how to maintain our local parks when there is increasing use by visitors from Portland.

Screen Name Redacted
2/18/2024 04:15 PM

All camas residents

Screen Name Redacted
2/19/2024 08:42 AM

I know there are committees dedicated to helping create the vision plan, so those of course, along with the DCA and the school district. I would also suggest a focus group comprised maining of our non-white population to talk about equity and inclusion issues.

Screen Name Redacted
2/19/2024 02:23 PM

Lower income residents, small business owners, minorities. Pleas listen and hear them.

Screen Name Redacted
2/20/2024 09:33 PM

Residents, business owners, police/fire/ems agencies, students within the school district.

Screen Name Redacted
2/21/2024 10:35 AM

BIPOC people

Screen Name Redacted 2/22/2024 01:22 PM	Families
Screen Name Redacted 2/24/2024 08:28 PM	I believe every camas resident should be aware, so maybe every household gets a letter with updates and if they'd like to stay informed they can go to meetings, or sign up emails. I also believe you should talk to middle schoolers/ high schoolers about what they like and don't like about this town, and what could change.
Screen Name Redacted 2/26/2024 08:36 AM	The people that are actually paying for it - the homeowners. And actually listen to them this time.
Screen Name Redacted 2/27/2024 09:54 AM	Open town meetings.
Screen Name Redacted 2/27/2024 10:39 AM	parents, students, teachers, 20-30 year olds, business owners, retired residents, all races/genders But also look to leaders of other towns that have already navigated what you are looking to create here in Camas.
Screen Name Redacted 2/27/2024 11:58 AM	I'm not sure it matters. We don't get listened to anyway.
Screen Name Redacted 2/27/2024 02:25 PM	Schools, community groups and conservation organizations.
Screen Name Redacted 2/27/2024 04:31 PM	The people who live here already, not the future hundreds you want to jam in for money!
Screen Name Redacted 2/27/2024 04:57 PM	Parents and kids since many of the people that live here are families.
Screen Name Redacted 2/27/2024 07:09 PM	Water & lake preservation groups
Screen Name Redacted 2/28/2024 08:59 AM	Youth groups, sports, etc. For our family the biggest driver to get us out of the house is activities with the kids (currently 2 and 4)
Screen Name Redacted 2/28/2024 06:52 PM	New residents.

Screen Name Redacted 2/28/2024 09:06 PM	How about homeowners, long time home owners.
Screen Name Redacted 2/29/2024 08:38 PM	The busiest group of people...Young parents.
Screen Name Redacted 2/29/2024 09:00 PM	Families with young kids. Cyclists. Seniors.
Screen Name Redacted 2/29/2024 09:46 PM	You definitely should listen to what people are telling you at the council meetings and through the questionnaire's. Involve less construction company's. You are letting this town be over built. We want it to stay small.
Screen Name Redacted 3/02/2024 07:37 PM	[Our group did not have time to answer this question.] I'm using this space to provide email addresses for Question 7, as it wouldn't allow me to enter more than one: vmcomie@mac.com, mbhogan31@gmail.com, koty55@msn.com, lindadevine29@gmail.com, dawn@dawnworkman.com, sandra1128@hotmail.com, dirwin@comcast.net, sb3carter@gmail.com, patricia.barnard@yahoo.com, karimarie32@yahoo.com, deanna@deponceau.com, ann.sturgeon@gmail.com, jennywu71@hotmail.com
Screen Name Redacted 3/04/2024 02:05 AM	Long time residents
Screen Name Redacted 3/06/2024 06:24 PM	Include those of us that live on the eastern side of Camas.
Screen Name Redacted 3/06/2024 06:36 PM	Forestry management or beautification.
Screen Name Redacted 3/06/2024 08:09 PM	Lake Pointe Homeowners group
Screen Name Redacted 3/06/2024 08:05 PM	school groups
Screen Name Redacted 3/07/2024 01:11 AM	I can't speak to which groups are best to engage, but it would be great to know the actual community living here is being heard.

Screen Name Redacted 3/07/2024 09:38 AM	Long-term residents, students, parents
Screen Name Redacted 3/07/2024 10:04 AM	We need more BIPOC-owned businesses downtown.
Screen Name Redacted 3/07/2024 10:11 AM	It would be really special to have another choice for breakfast in downtown Camas. I end up driving to Vancouver to get good food on the weekends. Natalia is way overpriced, greasy, and too many hashbrowns. We need choices.
Screen Name Redacted 3/07/2024 10:29 AM	school district, Clark county parks, clark county food bank, WSU extension.
Screen Name Redacted 3/07/2024 11:41 AM	Maybe fliers with a QR code around town?
Screen Name Redacted 3/07/2024 12:51 PM	Families, business owners
Screen Name Redacted 3/07/2024 01:27 PM	eldery
Screen Name Redacted 3/07/2024 01:44 PM	We need more from the lower income community.
Screen Name Redacted 3/07/2024 04:01 PM	DCA, representation of Mill workers, representation from trade / service industry / 'blue color' workers. There is a need to balance the community discussions which is currently skewed to low oversight public service staff and high income overcommitted professionals.
Screen Name Redacted 3/07/2024 07:09 PM	Natural conservation
Screen Name Redacted 3/07/2024 09:16 PM	Please include the younger people! Camas needs to modernize a bit!
Screen Name Redacted 3/08/2024 09:15 AM	people of color; people of non-majority religions (Jews, Muslims, etc)

Screen Name Redacted 3/08/2024 12:49 PM	All community members, not just business owners or large corporations
Screen Name Redacted 3/10/2024 08:13 PM	A representative sample of our entire population, considering age, gender, ethnicity, work status, family size, etc.
Screen Name Redacted 3/11/2024 08:30 PM	As many people as possible!
Screen Name Redacted 3/15/2024 08:13 PM	Young people. People who visit Camas - what attracted them to visit? What repels them? People who understand what sustainable means. People who grew up here and would like to stay but cannot afford to live here. People who enjoy and care about nature.
Screen Name Redacted 3/16/2024 06:30 PM	People in Fern Prairie who will be impacted by airport development. How about trying to engage everyone.
Screen Name Redacted 3/16/2024 06:51 PM	You can hear many who are disgruntled with growth. I'm a transplant so I get it but also naturally a place like Camas will grow. I'd hope it is mindful of the environment, the history and the things that make this a great place to live. Smart, transparent decisions about growth and if it doesnt make sense, don't do it or build it
Screen Name Redacted 3/16/2024 08:19 PM	Teenagers
Screen Name Redacted 3/16/2024 08:36 PM	Water safety, algae bloom experts, environmental experts. And listen to them, take action.
Screen Name Redacted 3/16/2024 11:41 PM	Camas School District is an integral part of our community; I would be sure to engage with them so we can keep our schools top-tier.
Screen Name Redacted 3/17/2024 01:24 AM	I want to be involved.
Screen Name Redacted 3/17/2024 07:22 AM	Downtown business owners, long time citizens, school district reps

Screen Name Redacted 3/17/2024 08:14 AM	Please continue to engage with businesses that are affected by any changes such a streets widening, etc.
Screen Name Redacted 3/17/2024 08:39 AM	Schools, businesses, citizens, and even kids!
Screen Name Redacted 3/17/2024 09:01 AM	Prune hill communities
Screen Name Redacted 3/17/2024 10:29 AM	Everyone who is a resident of Camas should be involved. Notifying by mail and asking people to weigh in their opinions would likely be best to reach all, since many don't have social media or connect online.
Screen Name Redacted 3/17/2024 10:29 AM	Sierra Club, Friends of the Columbia Gorge
Screen Name Redacted 3/17/2024 10:40 AM	I think more high school-aged programs and events. Make the town fun for them so they'll consider staying in or returning to Camas.
Screen Name Redacted 3/17/2024 01:45 PM	Residents, people that live close by and small businesses.
Screen Name Redacted 3/17/2024 05:10 PM	Parents, people with disabilities
Screen Name Redacted 3/17/2024 05:27 PM	Diverse populations and ethnic backgrounds, people with disabilities, pet owners, families and businesses.
Screen Name Redacted 3/17/2024 08:22 PM	Locals, long time members of the community (including those living elsewhere, but still active in the community), local politicians
Screen Name Redacted 3/18/2024 02:54 AM	What’s happening in the area
Screen Name Redacted 3/18/2024 09:51 AM	Parents of students and elderly
Screen Name Redacted 3/18/2024 11:49 AM	WHAT PEOPLE?? All persons who live in Camas and/or attend Camas schools! DUH!

Screen Name Redacted 3/18/2024 11:54 AM	Note: I've been to the public meetings but NEVER felt heard. "The City" has its perspective of: develop, develop, develop! and ignores the deepfelt desires of the people who live here and pay taxes, who came for the small-town feel and the TREES, that's why I can't say I want to attend meetings. So to be more "inclusive" Don't just listen to developers who want to mine Camas for all the money they can squeeze out of it! Listen to those who live here, pay taxes, love it, are building a long-term life here, and have shown they care for it (I volunteer).
Screen Name Redacted 3/18/2024 01:45 PM	Young adults (middle and high schoolers)- this is a great way for them to.learn about civic engagement, perhaps by forming a Camas Library group or groups.
Screen Name Redacted 3/20/2024 03:19 PM	Evergreen MTB Alliance
Screen Name Redacted 3/20/2024 07:26 PM	Residents who have been here a long time. People who are retired or have a fixed income.
Screen Name Redacted 3/22/2024 07:12 AM	Be transparent.
Screen Name Redacted 3/25/2024 10:09 PM	I think you need to be as available as possible, and make sure people can access information on their own time. As a parent there are so many meetings or events to attend, that I need to be able to find the information online. Please make sure you connect with the people who may not be online or who may not be able to attend a public meeting.
Screen Name Redacted 3/26/2024 09:46 AM	PTAs and PTOs CSD Local businesses, not just downtown merchants HOAs
Screen Name Redacted 3/26/2024 11:07 AM	Jewish community
Screen Name Redacted 3/26/2024 04:18 PM	Indigenous communities

Screen Name Redacted 3/27/2024 11:46 AM	These responses are from the Planning Commission meeting held on February 21, 2024, facilitated by Yvette Sennewald.
Screen Name Redacted 3/27/2024 03:45 PM	§ Chamber of Commerce § Engage other neighborhoods outside your own. *Map out areas that are not being engaged § Youth – Boy/Girl Scouts, Teen involvement (HS) § Seniors voice needs representation (AARP) § New residents (need connection, have different/outside views) § Legacy residents (those having hard time with growth) § Renters
Screen Name Redacted 4/01/2024 11:31 AM	· Minority groups; Translation of materials, Interpreters at events, Cultural events, School cultural groups > access to parents · “Push” instead of “pull” marketing · PTAs · HOAs · Churches · Seniors (Meals on Wheels) · Leverage city committees, commissions · Community leaders
Screen Name Redacted 4/03/2024 08:44 AM	How about the people that grew up here.
Screen Name Redacted 4/03/2024 09:08 AM	Many concerned folks with Camas roots are at the Forgotten Camas Washougal group at Facebook, where many concerns about Camas are expressed.
Screen Name Redacted 4/03/2024 10:07 AM	Everyone who wishes to should have the opportunity to provide feedback. Thank you for asking for input.
Screen Name Redacted 4/03/2024 10:24 AM	Long time residents!
Screen Name Redacted 4/03/2024 12:34 PM	Ask the long time residents, and lean more on their opinions as they're the ones losing the most.
Screen Name Redacted 4/03/2024 04:45 PM	Anyone who is interested.
Screen Name Redacted 4/03/2024 06:10 PM	Outsiders who have a local historical stake and awareness. The Camas "diaspora" or "ex-pats" if you will. Find out WHY they left. And don't just hear the people who say what you want to hear.
Screen Name Redacted	Please engage the many people who are generationally a part of the

4/03/2024 11:32 PM	city. The people who know the history and the direction that the city should be going in!!!!
Screen Name Redacted 4/04/2024 02:26 AM	Facebook
Screen Name Redacted 4/04/2024 07:30 AM	All...
Screen Name Redacted 4/04/2024 08:11 AM	Disabled community
Screen Name Redacted 4/04/2024 08:23 AM	Schools and businesses
Screen Name Redacted 4/04/2024 08:34 AM	Lower income residents, seniors, folks who have lived in the community for 10 years or more,
Screen Name Redacted 4/04/2024 08:58 AM	Everyone not just to richy rich or CA transplants, it seems we don't care what us actual locals feel or want, it's all for those hoity toity people that think we need to completely change our area to satisfy their richy rich needs...this is NOT the area for that
Screen Name Redacted 4/04/2024 09:54 AM	Every homeowner in the city
Screen Name Redacted 4/04/2024 11:51 AM	Stay in touch with the people of this community. Show up at downtown events, area events and talk to people. It's the people here that make this place special ! Give the people of Camas a voice in all of these changes !! "Forgotten Camas Washougal" is a fantastic group of people who really care about this area.
Screen Name Redacted 4/04/2024 01:01 PM	I think it's important to not give lip service to the community. It seems like you've got a small group that bends your ear and you do what they want. OR I am also aware that you spend a lot of money on consultants. Maybe it's to take the pressure off of you, but in reality, the blame still falls on you even if the consultant tells you to do something. You're never going to appease EVERYONE, so do what is the next right thing, the next best thing, for the people of Camas.
Screen Name Redacted	Stop with your DEI nonsense. All people should be included. You

4/04/2024 01:15 PM	don’t need to focus on a specific group or community that is absurd.
Screen Name Redacted 4/04/2024 01:39 PM	Everyone
Screen Name Redacted 4/04/2024 01:44 PM	Jeff Hunt
Screen Name Redacted 4/04/2024 06:13 PM	Retirees. People living on fixed income cannot keep up with the increase of taxes and fees. Council should not be able to buy buildings, aka Bank of America building or close pools without a vote from the people who live here in the community!
Screen Name Redacted 4/04/2024 06:58 PM	Long-term residents. Those that value our history as a blue collar community tied to our local lake and rivers, and not by expensive speed boats and exclusive communities! Anyone that values our history. Taking out the Christian Church is nothing short of criminal! You people should be ashamed of yourselves!!!!
Screen Name Redacted 4/04/2024 07:26 PM	Stop talking about inclusion unless it means a seat at the table. You guys are a brick wall--nothing gets through. I love the town, and despise it's government.
Screen Name Redacted 4/04/2024 07:36 PM	Non religious groups (we have a LOT of Christian churches and this can make other religions or nonreligious folks feel not included and/or silenced). LGBTQIA+. Young residents.
Screen Name Redacted 4/05/2024 11:41 AM	Every citizen in the city Developers should have no say in anything Look at refining zoning Include downtown camas association Get the mill owners involved
Screen Name Redacted 4/06/2024 07:48 AM	Small business owners should definitely have priority in conversations.
Screen Name Redacted 4/06/2024 02:58 PM	Everyone
Screen Name Redacted 4/06/2024 10:49 PM	All the community, not just developers and people with deep pockets.

Screen Name Redacted 4/08/2024 09:20 AM	Not sure, I'm generally happy with the moves I've seen, other than the all-important density issue of new construction. This city shouldn't need the increased revenues from high density living. It's grown so much recently that there's plenty of new revenue coming in. BTW, tip of the hat to the designers of the roundabout near Round Lake, I think it's incredibly well done. A gorgeous, and artfully done PNW roundabout. Please stay with that level of thought and pride for our community that we love so much.
Screen Name Redacted 4/08/2024 12:48 PM	• Chamber of Commerce • Engage other neighborhoods • Youth – Boy/Girl Scouts, Teen involvement (HS) • Senior voice needs representation (AARP) • New residents (need connection, have different/outside views) • Legacy residents (those having hard time with growth) • Renters
Screen Name Redacted 4/12/2024 10:29 AM	More community surveys and making sure older residents who don't use social medial are still being included in the community decisions
Screen Name Redacted 4/12/2024 01:45 PM	All members of the community should have easy opportunity to have a voice and be involved in formulating the plan for the future of their home.
Screen Name Redacted 4/12/2024 03:40 PM	No comment other than to keep doing what you're doing. For example, we received a postcard notification of the planning process.
Screen Name Redacted 4/12/2024 05:38 PM	Everyone.
Screen Name Redacted 4/12/2024 08:46 PM	local business owners, everyone who lives near enough to consider Camas home.
Screen Name Redacted 4/12/2024 09:08 PM	30-40 year olds
Screen Name Redacted 4/13/2024 04:49 AM	I think this survey is a great start to get opinions from community. From there, you can have city officials to do an out reach for anyone who shows an interest in getting more involved in decision making for Camas. I think Steve Hogan leadership is superb and we are fortunate to have him as mayor.

Screen Name Redacted 4/13/2024 06:19 AM	Offer survey to the local high schools so our students/future community members have a say. Have the students complete the survey during school time
Screen Name Redacted 4/13/2024 07:03 AM	I think residents of downtown should have a large voice.
Screen Name Redacted 4/13/2024 03:33 PM	Business owners, representatives of various walks of life - professional, trade, young, seniors, etc., experts in development and architecture and history to help balance growth with preservation of community and history.
Screen Name Redacted 4/13/2024 04:36 PM	Listen to long time locals and not let the voice of ex-Californians drown out the loyal.
Screen Name Redacted 4/13/2024 05:05 PM	low income familys, people of minority groups
Screen Name Redacted 4/14/2024 11:03 AM	All known groups in the area should be engaged with.
Screen Name Redacted 4/14/2024 11:11 AM	Talk to people where they are at and don't rely on the handful of engaged residents who are actually paying attention. Attend public events and make it easy for folks to provide input.
Screen Name Redacted 4/14/2024 05:39 PM	People who grew up here, people who are not motivated by increasing tax dollars, profits, and development. People who are interested in conservation and preserving the qualities of camas we stay here for.
Screen Name Redacted 4/15/2024 06:40 AM	Neighborhood associations such as the Goot Park Neighborhood, Oak Park neighbors, etc, Down town businesses, Downtown Churches.
Screen Name Redacted 4/15/2024 10:39 AM	Small business owners! Their voices matter to Camas' identity much more than overpaid, out of town developers.
Screen Name Redacted 4/15/2024 10:53 AM	Include the tourism industry. Economic sustainability groups, historic preservation experts, and of course environmental experts.

Screen Name Redacted 4/15/2024 02:26 PM	diverse number of residents, local businesses and other organizations currently making Camas home
Screen Name Redacted 4/15/2024 02:56 PM	Everybody should be able to have a voice
Screen Name Redacted 4/15/2024 04:36 PM	Included Camas residents, with an emphasis on citizens who have been in the area over ten years. They were here and I'd be interested in hearing their voices, what they would like to see happen to the place they have called home longer than recent transplants. I have lived here for less than a year so I am not in that group, but preserving the home town feel is vital.
Screen Name Redacted 4/15/2024 05:23 PM	Ward meetings and presentations. The "Open House" approach to divide and conquer is not appreciated.
Screen Name Redacted 4/15/2024 06:59 PM	Include senior citizens, longtime Camas residents and children under 10 for outdoor parks (they have some of the best ideas).
Screen Name Redacted 4/16/2024 09:10 AM	Only residents of Camas - preferably, people who have resided here for at least 5 years.
Screen Name Redacted 4/16/2024 03:59 PM	The city should be honest about all the costs and increases to property taxes instead of having a bunch of "feel good" meetings with plans to widen this corroder, fix the lake, etc.
Screen Name Redacted 4/16/2024 08:21 PM	Well, I think it will be helpful to engage people who don't typically participate in this. I see a people who are unplugged. I can understand a bit why. I can understand a bit why. So often it feels like the city has already chosen what they want to do; my voice doesn't matter.
Screen Name Redacted 4/17/2024 08:06 AM	Everyone possible
Screen Name Redacted 4/17/2024 02:49 PM	I live just outside city limits. I would love to see good engagement with people living outside the city limits, since those limits could expand, with those people having a say both in Camas and whether they want to be incoorperated into the city proper.

Screen Name Redacted 4/17/2024 05:10 PM	Unsure
Screen Name Redacted 4/17/2024 05:48 PM	Parents and seniors
Screen Name Redacted 4/17/2024 05:58 PM	We need to make sure our diverse population is included and feels welcome to participate and voice their ideas and needs.
Screen Name Redacted 4/17/2024 09:07 PM	All
Screen Name Redacted 4/18/2024 07:28 AM	Hiking trails. Safety. Infrastructure
Screen Name Redacted 4/18/2024 09:31 AM	Want it to be inclusive, but I'm not sure how that is best accomplished.
Screen Name Redacted 4/18/2024 09:52 AM	We'd suggest engaging with residents from around town; being proactive to reach out to minority residents so that they feel their voices are heard as well.
Screen Name Redacted 4/18/2024 03:33 PM	Create as much opportunity as possible for residents to be involved and advocate for decisions that will impact the developments.
Screen Name Redacted 4/19/2024 05:56 PM	Retailers, school staff, WDOT because of 3rd Ave, residents, AirB&B owners, bike shop owners, hiking groups.
Screen Name Redacted 4/19/2024 07:24 PM	People with knowledge in the areas needed.
Screen Name Redacted 4/20/2024 10:55 AM	People move to Camas for the schools. Education/educators should always be at the heart of any planning.
Screen Name Redacted 4/20/2024 06:40 PM	Everyone

Screen Name Redacted 4/20/2024 08:25 PM	The people that actually live in camas
Screen Name Redacted 4/22/2024 12:10 PM	Non-religious, lgbtqia+, young citizens
Screen Name Redacted 4/23/2024 09:08 PM	A combination of lifelong and newer residents should be engaged to capture various viewpoints.
Screen Name Redacted 4/23/2024 09:20 PM	Developers, Cyclists, and students.
Screen Name Redacted 4/26/2024 07:36 AM	youth. Please engage our highschoolers. Each time I have worked with them I am impressed by their ideas and dreams. They want to help.
Screen Name Redacted 4/27/2024 12:34 PM	Young adults, Seniors and Parents of Young children.
Screen Name Redacted 4/27/2024 05:02 PM	People like me who have lived and paid taxes here for years.
Screen Name Redacted 4/29/2024 10:59 AM	Business owners, pedestrians, bicyclists
Screen Name Redacted 4/29/2024 12:38 PM	All age and economic groups. Have these issues discussed with recommendations submitted by the Camas School District students.
Screen Name Redacted 5/02/2024 03:06 PM	high school kids
Screen Name Redacted 5/02/2024 09:31 PM	I'm not sure how connected the city is to large, local Camas employers (like TSMC, Analog Devices, Fisher, etc), but its difficult to partake in city listening sessions with our work schedules and I don't often hear about them unless I go looking for them. Perhaps asking employers to advertise when these sessions are happening, to incentivize or encourage Camas residents to take time off to partake in them, or to ask local employers if they would be willing to host future listening sessions where city officials can come onsite and meet with their staff would be helpful. This would really open up the pool of folks who are able to give feedback. If you can come directly to residents in the places that they already spend 40-50 hours of their

	lives where they probably aren't having to navigate childcare or intentionally leaving work to attend, you'll get a much better cross-section of who is living and working in your community and what they need.
Screen Name Redacted 5/03/2024 08:07 AM	Better outreach to residents. I had no idea this survey was happening until I read an article in the Post-Record on May 3rd.
Screen Name Redacted 5/03/2024 01:40 PM	School groups (through PTA
Screen Name Redacted 5/03/2024 04:05 PM	Since I'm a mid age 70 resident, keeping this group engaged/informed would be a priority for me. I can already see Camas growing & changing. Being included in communications is valued.
Screen Name Redacted 5/03/2024 04:05 PM	Communities that include apartments and houses not in Prune hill. There are many underprivileged communities that no one pays attention to.
Screen Name Redacted 5/03/2024 04:05 PM	All of the people who live in Camas.
Screen Name Redacted 5/03/2024 04:07 PM	It’s already pretty inclusive
Screen Name Redacted 5/03/2024 04:37 PM	New residents
Screen Name Redacted 5/03/2024 05:41 PM	Kids/teens/senior citizens
Screen Name Redacted 5/03/2024 06:03 PM	Please DO NOT use the current format and company publicly presenting the proposed roundabouts on Everett St.!!!! Attending those meetings was a total waste of time: it could've been presented in less than 10 minutes, with another 10 minutes for Q&A. I left after 75 minutes of useless twaddle, with maps that were vague and incomprehensible. Make sure that whatever outreach you use is succinct, clear, with handouts if needed, and stop "marketing" changes like what has happened as mentioned above. It is an embarrassing waste of money for the city, and tests citizens' time and patience. Of course the area needs roundabouts. But hammering on

	it over and over again is just sucking dollars from the city for unnecessary wasted time. We deserve better than that. Don't get fooled again by a slick marketer.
Screen Name Redacted 5/03/2024 06:01 PM	All of them. Old and young
Screen Name Redacted 5/03/2024 09:16 PM	Renters and young families struggling to afford housing
Screen Name Redacted 5/03/2024 09:55 PM	Everyone, especially those that have lived in Camas for generations. Focus not only specific communities, but accessibility. I didn't learn about this survey until I saw it on Facebook, which I only use an about once a month, luckily two days before the survey ends. Put signage up historic downtown and in other highly trafficked economic areas. Mail flyers out with QR codes.
Screen Name Redacted 5/04/2024 09:19 AM	Include all the economic sectors that live in Camas.
Screen Name Redacted 5/04/2024 04:41 PM	environmental groups, school communities, neighborhood associations
Screen Name Redacted 5/04/2024 05:28 PM	All, include young people
Screen Name Redacted 5/04/2024 05:30 PM	mtb-ing trail running fishing
Screen Name Redacted 5/05/2024 08:40 AM	Low income families especially around housing availability and affordability
Screen Name Redacted 5/05/2024 09:13 AM	Young, diverse families, especially those who have recently relocated to the area. We need young families to be able to live in Camas and send their kids to Camas schools.
Screen Name Redacted 5/05/2024 12:39 PM	Facebook or USPS mail
Screen Name Redacted	Make sure to engage those people/groups who live here because of

5/05/2024 03:21 PM	the green areas, wildlife and trails. We do not want those areas to be developed or cut off from each other
Screen Name Redacted 5/05/2024 06:11 PM	School District, Larger Land owners and new businesses
Screen Name Redacted 5/05/2024 09:37 PM	Long time Camas residents. People who have seen this community grow and evolve. They have a lot to say and contribute.
Screen Name Redacted 5/06/2024 02:01 PM	Schools, Port, parents, retirees, teens, churches, event attendees,
Screen Name Redacted 5/06/2024 03:27 PM	Infrastructure
Screen Name Redacted 5/07/2024 08:24 PM	Camas is not that large. Just focus on the citizens of Camas.
Screen Name Redacted 5/12/2024 07:25 AM	Elderly and those without digital access. Young families. Those with less economic means to afford housing .
Screen Name Redacted 5/12/2024 06:47 PM	Local non-profits, service and community groups. HOAs. Don't depend on putting it out on social media.
Screen Name Redacted 5/13/2024 04:33 PM	The greatest effort should be to engage people who don't participate. Many don't participate because of work and home schedules, lack of time, lack of knowledge of the process. The needs of businesses must be considered. Finally, future generations cannot participate, but their needs must be incorporated. We should leave Camas better than we found it.
Screen Name Redacted 5/13/2024 09:22 PM	Homeowners

Optional question (262 response(s), 105 skipped)
Question type: Essay Question

OurCamas2045 Mapping Tool Responses

Opportunity	COMMENT	DATE	ADDRESS
Opportunity	Trail system connecting Heritage trail to this side of the lake along the BPA power lines and connecting to the Lacamas Lake Elementary would be great to connect all the new development in Green Mountain area to the school and existing trail systems, providing walkable and bikeable transportation options within Camas	16-Feb-24	1616 Northeast 232nd Avenue, Camas, Washington 98607, United States
Opportunity	This area at the Parklands neighborhood is identified in the Camas master plan as lacking a neighborhood park. There are no walking distance park for all the homes in this neighborhood. The commercial pads have remained empty for 7 years now, and most of the neighbors would prefer a pocket park rather than an unsightly commercial building. This is a residential neighborhood and any additional commercial buildings would not be coherent.	1-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	Park	1-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	I would like to see a park at this location	1-Mar-24	3623 Northwest Mcmaster Drive, Camas, Washington 98607, United States
Opportunity	There are no community parks in walking distance from our neighborhood. This would be a lovely space for the community to gather and enjoy. No more commercial buildings please.	1-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	In our community, there is so many new developments and corporate buildings, but we need a space where we can all enjoy a neighborhood park	1-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	Excellent location for a park! Very much needed for our area!	1-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	Camas Meadows is at a crossroads - we can either add another concrete structure or create a vibrant green space for our community. The choice is clear. Our residents, both current and future, deserve a park, not another parking lot. A park in Camas Meadows means fresh air, natural beauty, and a gathering place for families. It's an investment in our health, environment, and community spirit. Let's turn this area into a green haven, not another gray footprint. Thank you for considering a brighter, greener future for our city.	2-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	In need of a community park, no walkable park in the vicinity for this large community.	2-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	We NEED a playground/park here! There is no walkable park serving allll of these homes, and more homes are currently being built. It would also help beautify the area as a contrast to the many commercial buildings popping up all around us. Camas growth has to have business and families in mind, as the balance of those two are the only way to longevity of a successful, thriving, evolving city. Thank you!	2-Mar-24	3623 Northwest Mcmaster Drive, Camas, Washington 98607, United States
Opportunity	This area needs a community park. Currently, there are no playgrounds within walking distance for the many families living in this residential area. We do not need any more empty commercial “boxes”. The City should be championing open spaces and parks.	2-Mar-24	3530 Northwest Mcmaster Drive, Camas, Washington 98607, United States
Opportunity	We need a neighborhood park, no more corporate buildings or storage unit buildings not cohesive with the families that live in our neighborhood	2-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	Please no commercial buildings here as this is by our homes and community	2-Mar-24	3937 Northwest Lake Road, Camas, Washington 98607, United States
Opportunity	As a growing community with numerous neighborhoods filled with young children, the addition of a neighborhood park would greatly enhance the childhoods experiences of our future leaders while providing a safe space for kids to congregate.	2-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	This would be a great site for a covered park and water splash playground. There are enough commercial buildings around this area but no trails or walkable places for kids to be kids. There needs to be access to safe places for kids in residential areas.	3-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	We do need a park for our kids to play nearby our house	3-Mar-24	4027 Northwest 62nd Circle, Camas, Washington 98607, United States
Opportunity	Ideal location for a community park in the fast developing master planned community of Camas Meadows	4-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	Dynamic parking fees should be implemented based on use. The more parking spots in use, the higher the fees. Provide alternatives for access to the lake such as bike racks etc. Boats and trailers should definitely pay higher fees as there are impacts to the lake water quality from the spilling of oil and gas into the water.	6-Mar-24	227 Northeast Lake Road, Camas, Washington 98607, United States
Opportunity	Develop open areas in the downtown core, add infill projects, and reduce parking lots. Move the church from the main street so that businesses which promote commerce can generate funds for the city. The church needs to find a place with less impact to the city.	6-Mar-24	605 Northeast 3rd Avenue, Camas, Washington 98607, United States
Opportunity	This section of NW Lacamas Ln suffers from very poor maintenance over the years and has become an eyesore. Many of the sunset maples planted along the roadside have died from lack of care and irrigation. The forested areas need management to encourage the success of selected trees and reduce the fire hazard. The sidewalk should be periodically cleaned so pedestrians can safely use it without fear of slipping or being entangled by blackberries.	6-Mar-24	3436 Northwest Lacamas Lane, Camas, Washington 98607, United States
Opportunity	There are no local parks and continued development of commercial buildings that only bring traffic and light pollution are not desired additions to our area.	6-Mar-24	3601 Northwest Camas Meadows Drive, Camas, Washington 98607, United States
Opportunity	In collaboration with the school district, develop an aquatic center including 25yard x 50meter competition pool and separate recreation pool on the former UL campus. The facility can provide swimming and aquatic programs for all ages, including but not limited to swim lessons, aquatic fitness, recreational year round swim team, high school swim team, lap and recreational swimming, water polo. The facility can also be used to develop a learn to swim program with the school district so that all children in Camas receive vital learn to swim instruction as part of the PE curriculum. We are surrounded by various bodies of water and learning to swim is an essential life skill that all children should have access to. Refer to current development of Lake Oswego Recreation and Aquatics Center.	6-Mar-24	2815 Northwest Leadbetter Drive, Camas, Washington 98607, United States
Opportunity	Update the very old and outdated playground equipment	8-Mar-24	623 Northeast 15th Avenue, Camas, Washington 98607, United States
Opportunity	Update the very old and outdated playground equipment	8-Mar-24	Camas Municipal Pool, 120 Northeast 17th Avenue, Camas, Washington 98607, United States
Opportunity	Relocate church and use the space for tax generating businesses like restaurants and shops	8-Mar-24	605 Northeast 3rd Avenue, Camas, Washington 98607, United States
Opportunity	Perfect area to incorporate for higher density homes	12-Mar-24	27200 Northeast 9th Street, Camas, Washington 98607, United States
Concern	A lot of speeding, racing, and extremely loud vehicles in this circle on a daily basis, most notably on the weekends.	15-Feb-24	1619 Northwest 6th Avenue, Camas, Washington 98607, United States
Concern	A lot of speeding (60 mph +) along 232nd Ave	16-Feb-24	1616 Northeast 232nd Avenue, Camas, Washington 98607, United States
Concern	U-turns should not be allowed at this busy intersection. During rush hours, this intersection is a very dangerous spot that many decide to u-turn--it creates many problems for people coming and going.	4-Mar-24	Northwest Payne Street, Camas, Washington 98607, United States
Concern	NW Payne Street has become a way for traffic to bypass Friberg-Strunk Street to get to Lake Road and head eastbound. Traffic is frequently moving at double the posted speedlimit on this road and traffic calming devices are needed--speed bumps, preferably.	4-Mar-24	6041 Northwest Payne Street, Camas, Washington 98607, United States
Concern	NW Payne Street has become a way for traffic to bypass Friberg-Strunk Street to get to Lake Road and head eastbound. Traffic is frequently moving at double the posted speedlimit on this road and traffic calming devices are needed--speed bumps, preferably.	4-Mar-24	6201 Northwest Payne Street, Camas, Washington 98607, United States
Concern	This stop sign here is often run through by cars and could have better visibility to increase safety and reduce collisions.	6-Mar-24	2335 Northwest Astor Street, Camas, Washington 98607, United States
Concern	This area currently has a yellow flashing light at this intersection that absolutely needs a stop light or turn it into a four way stop because there have been far too many almost collisions at this intersection. I see people often run the stop sign here.	6-Mar-24	513 Northeast 6th Avenue, Camas, Washington 98607, United States
Concern	This entire area is an eyesore and an environmental nightmare. The city should prioritize the shutdown and cleanup of this area. Careful planning for development should occur.	6-Mar-24	119401 SE 1 Ave, Camas, Washington 98607, United States
Concern	Rogue trail building needs to be addressed. Mountain bikers have modified terrain even after the city has removed and closed area. Notice should be made the bikes will be banned if the closures are not respected.	6-Mar-24	1701 NE 3rd Ave, Camas, Washington 98607, United States
Concern	This intersection is very dark and dangerous at night. The two dimly lit acorn lights should be replaced with downward facing brighter lights. A flashing pedestrian crossing should be installed because this is a trial access point.	6-Mar-24	Northwest Lacamas Lane, Camas, Washington 98607, United States
Concern	This section of road needs a bike lane	7-Mar-24	2305 Northeast Goodwin Road, Vancouver, Washington 98607, United States
Concern	Dahlia Rd is a common road used for connecting Prune Hill to 38th Ave. It is common for people to do double the speed limit flying down the hill. Speed bumps need to be placed here for the safety of children in the Holly Hills Neighborhood. There are lane narrowing devices in place on this road and people still drive incredibly fast and unsafe up and down this street. The lane narrowing does not help and something else needs to be incorporated please.	9-Mar-24	3429 Northwest Dahlia Drive, Camas, Washington 98607, United States
Other	Cafe Riccolo, events in downtown, library, downtown businesses and restaurants, being out on the sidewalk (From April 1st First Friday)	8-Apr-24	306 Northeast Everett Street, Camas, Washington 98607, United States
Other	Camas High School (from April 1st First Friday)	8-Apr-24	26900 Southeast 15th Street, Camas, Washington 98607, United States

Other	Heritage park and Lacamas, Lacamas has been a special summer spot. (from April 1st First Friday)	8-Apr-24	222 Northeast Lake Road, Camas, Washington 98607, United States
Other	Camas Lions Club and all the good they do (from April 1st First Friday)	8-Apr-24	Domino's Pizza, 3512 NE 3rd Ave, Camas, Washington 98607, United States
Other	Round Lake is so peaceful but also has a sense of adventure (from April 1st First Friday)	8-Apr-24	3131 Northeast Everett Street, Camas, Washington 98607, United States
Other	Walking trails and enjoying the river (from April 1st First Friday)	8-Apr-24	2565 SE 6th Ave, Camas, Washington 98607, United States
Other	Costco! Very happy we have so many shopping options (from April 1st First Friday)	8-Apr-24	4863 Northwest Lake Road, Camas, Washington 98607, United States
Other	The people, the community (from April 1st First Friday)	8-Apr-24	217 Northwest 21st Avenue, Camas, Washington 98607, United States
Other	We love converts in the park during the summer and walking our dog around the perimeter. The little library is always a must-stop too (from April 1st First Friday)	8-Apr-24	1433 Northeast Birch Street, Camas, Washington 98607, United States
Other	Lacamas Creek Bridge is a quick walk from downtown to the bridge is a go-to refresher to get out in the fresh air during the work day (from April 1st First Friday)	8-Apr-24	Lower Falls, Camas, Washington 98607, United States
Other	Paddle board and kayak and other water sports (from April 1st First Friday)	8-Apr-24	Northwest Lake Road, Camas, Washington 98607, United States
Other	The area round the port has become like home. It is so close to other areas I love - my apartment, downtown area (especially the library) the Lacamas trails and the drive to the gorge. Prior to this the Livingston Mountain area was home for me. Grew up there so it holds a special place for me.	8-Apr-24	The Puffin Cafe, 14 S A St, Washougal, Washington 98671, United States
Other	Downtown has local shops and fun events and the library. It is a friendly, small town where people know each other. (From April 1st First Friday)	8-Apr-24	528 Northeast 4th Avenue, Camas, Washington 98607, United States
Other	No comment (From April 1st First Friday)	8-Apr-24	2441 Northwest Logan Street, Camas, Washington 98607, United States
Other	As a private pilot I'd love to see an expansion of the airport and building of more hangars (From April 1st First Friday)	8-Apr-24	1109 Northeast 265th Court, Camas, Washington 98607, United States
Other	Downtown camas, First Fridays and meeting neighbors (From April 1st First Friday)	8-Apr-24	413 Northeast Everett Street, Camas, Washington 98607, United States
Other	Camas Yoga and Co! Very welcoming instructors and a great a variety of classes (From April 1st First Friday)	8-Apr-24	703 Northeast 4th Avenue, Camas, Washington 98607, United States
Other	Lacamas Lake is my happy place, I love doing stand up paddle in the summer and walking the trails in the winter (From April 1st First Friday)	8-Apr-24	Northwest Lake Road, Camas, Washington 98607, United States
Other	Downtown camas events and gatherings (From April 1st First Friday)	8-Apr-24	Fuel Medical Group, 314 ne birch st, Camas, Washington 98607, United States
Other	First Friday (From April 1st First Friday Event)	8-Apr-24	316 Northeast Dallas Street, Camas, Washington 98607, United States

OurDowntownCamas 2045 Mapping Tool Responses

CATEGORY	COMMENT	DATE	ADDRESS
Opportunity	Opportunity for Traffic calming (slowing) & bike lanes. Crossing this street can be scary because cars go way too fast.	18-Feb-24	329 Northeast 6th Avenue, Camas, Washington 98607, United States
Opportunity	Maintain/Support Downtown US Post Office: We are so lucky to have this beautiful historic USPS building in operation in downtown Camas. The copper roof and hand-painted WPA mural inside are priceless additions to the ambiance of DOwntown Camas, not to mention the convenience of having the post office close to the Library and downtown businesses. Please support and maintain this treasure! Thank you.	18-Mar-24	440 Northeast 5th Avenue, Camas, Washington 98607, United States
Opportunity	Please Add Crosswalk Here: So many people including children cross this multi-lane street at this intersection, including students from Helen Baller, Liberty and Hayes on field trips, etc. Also people cross here when they park in the neighborhood to attend events downtown. Cars usually do not stop for people waiting to cross the street (I think they don't expect people to cross because there is no formal crosswalk). There should be a striped crosswalk here for safety! Thank you.	18-Mar-24	436 Northeast Garfield Street, Camas, Washington 98607, United States
Opportunity	Excellent Model for Future Development: The newly-approved building being built here, to replace the 2 church buildings, is an excellent model for future development in the Downtown Camas area. It is essential to have denser multi-use development, with retail on the ground-floor, housing/apartments/condos on upper floors, and secured parking underground. In future, some new buildings may include office space in upper levels (with mountain/river views) for high-end business (like 125 Bank Street, Missoula, Montana). Please ensure that all future development follows a model like this. No single-story buildings should be built. Thank you.	18-Mar-24	630 Northeast 6th Avenue, Camas, Washington 98607, United States
Opportunity	YMCA/Pool Opportunity: This would be an excellent location for a future YMCA with pool. Note: For future bond measures, please DO NOT add other costs like sports fields onto a pool bond measure - it inflates costs and scares taxpayers. Keep a future bond vote lean. The past pool bond vote was a gigantic missed opportunity, alas (low interest rates). Thank you.	18-Mar-24	1101 Northwest Ash Street, Camas, Washington 98607, United States
Opportunity	This corridor has a lot of opportunity for additional mixed-used development with restaurants and apartments. The permitted office building would not serve the community so much as more retail space similar to Acorn & Oak or the Lakeside Market.	3-Apr-24	3631 Northeast Everett Street, Camas, Washington 98607, United States
Opportunity	Opportunity for an EV Charging station - Tesla Supercharger etc.	3-Apr-24	636 Northeast 2nd Avenue, Camas, Washington 98607, United States
Opportunity	This is wasted space next to the bank.	3-Apr-24	332 Northeast Cedar Street, Camas, Washington 98607, United States
Opportunity	This parking lot is wasted space and breaks up the end of Cedar in a very bad way. An anchor development here and across the way near the bank could extend Cedar	3-Apr-24	Mill City Brew Werks, 339 NE Cedar St, Camas, Washington 98607, United States
Opportunity	This street needs traffic slowing measures like a median, more vegetation, and a bike lane.	3-Apr-24	325 Northeast 3rd Avenue, Camas, Washington 98607, United States
Opportunity	Put back our pool!	4-Apr-24	120 Northeast 17th Avenue, Camas, Washington 98607, United States
Opportunity	Consider blocking off a few blocks of NE 3rd Ave for foot traffic only. Allow restaurants and pubs to push out into this pedestrian space and encourage more social and community interaction.	4-Apr-24	533 Northeast 3rd Avenue, Camas, Washington 98607, United States
Concern	Too fast! Cars go really really fast here. 4 lanes Stroad with a 25 mile an hour speeds limit. If we want people to go slow here we need to narrow the road.We could easily go down to two lanes with protected bike lanes and trees. Bike lanes that are safe enough for families will connect more people with downtown.	18-Feb-24	1642 Northeast 3rd Avenue, Camas, Washington 98607, United States
Concern	A proposed gas station and car wash at this location could create runoff to Lacamas Creek and Lacamas Lake. Local residents are keenly aware of many vehicular collisions at this intersection that are not reported in traffic reports for developers. This would add more traffic problems. Union High School is on this road.	2-Mar-24	20101 Northeast 13th Street, Camas, Washington 98607, United States
Concern	This site deserves considerable attention given its waterfront access and years of operation that have potentially impacted the soil, water and groundwater across the entire property. It should be remediated to unrestricted use and groundwater categorized (and if needed remediated) as potable water	11-Mar-24	119401 SE 1 Ave, Camas, Washington 98607, United States
Concern	Along with the mill to the north, this property should be fully remediated to unrestricted use when/where economically feasible and groundwater classified (remediated) to potable	11-Mar-24	Lewis and Clark Highway, Camas, Washington 98607, United States
Concern	Missed Opportunity: When this building was approved it should have been required to be a multi-story building with apartments/housing or high-end office space (with mountain views) on upper floors. Downtown Camas needs denser mixed-use development. No more one-story buildings should be built. Thank you.	18-Mar-24	450 Northeast 3rd Avenue, Camas, Washington 98607, United States
Concern	Dangerous Crosswalk: I cross this sidewalk most days with my child when walking to/from school. In the mornings especially, cars coming from the north (driving south) DO NOT stop. If there is a car/bus turning east onto NE 22nd, it is impossible to see people crossing in the crosswalk from the western (southbound) lane. My child and I have almost been hit several times while crossing. Drivers are always apologetic - two drivers even stopped IN the crosswalk when we were midway across the street (about 5-10 feet away from the car), rolled down their window and apologized and said they didn't see us! I wonder how many times this happens to others crossing here. This crosswalk needs a flashing light like the one further down. Thank you.	18-Mar-24	2139 Northeast Everett Street, Camas, Washington 98607, United States
Concern	Corrupt City Council using prime retail space for their offices. The city needs to move their offices!	4-Apr-24	306 Northeast Everett Street, Camas, Washington 98607, United States

Concern	People have started creating a 2nd lane of traffic at the stop sign heading out of town at the corner of the mill. While the car in the primary lane is waiting for traffic coming up Adams from the left - the downtown/mill office area - who have right-of-way to turn - or go straight- the new "2nd lane" people are sneaking around and going through the intersection while right of way traffic is also in the intersection. This started in 2020 and happens almost daily now. This intersection needs better control and signage. The 2nd lane should be right turn only or no 2nd lane space. (It's currently marked as a parking space, in front of the empty lot and below the "free public parking" lot.	4-Apr-24	430 Northeast Adams Street, Camas, Washington 98607, United States
Concern	This area has always had high pedestrian use and does not have good evening or night time lighting on the corner. It could use another crossing light as well.	4-Apr-24	1512 Northeast Everett Street, Camas, Washington 98607, United States
Concern	Walking traffic is a major driver of small businesses. Allowing a single entity to buy an entire block + more that serves no walkability on 6 days a week hurts businesses. Encourage more restaurants.	4-Apr-24	304 Northeast 4th Avenue, Camas, Washington 98607, United States
Concern	Dangerous intersection. Drivers fail to understand yield light. Convert to roundabout to allow the dominant flow of traffic.	4-Apr-24	201 Northeast 6th Avenue, Camas, Washington 98607, United States
Concern	Encourage development of retail/restaurants/commerce businesses rather than a single entity using entire block for non-commerce reasons. This is a poor use of a premium location and disrupts the feel of downtown Camas.	4-Apr-24	304 Northeast 4th Avenue, Camas, Washington 98607, United States
Concern	Three schools in the neighborhood require walking/biking/nonbus options for families nearby and NE 19th is a major road for school-age children going to and from school, as well as several pedestrians and cyclists. Both speeding and flooding on this road are common and known issues (reported to the city multiple times). The city needs to offer viable, long-term solutions for both problems.	4-Apr-24	230 Northeast 19th Avenue, Camas, Washington 98607, United States
Concern	Please consider adding a sidewalk that connects the lake recreation area to NE 22nd. This would provide safe walking/biking access from downtown all the way to the lakes.	4-Apr-24	2732 Northeast Everett Street, Camas, Washington 98607, United States
Concern	I agree that the Mill Clean Up level and adequacy is key for our City's present and future - This site deserves considerable attention given its waterfront access and years of operation that have potentially impacted the soil, water and groundwater across the entire property. It should be remediated to unrestricted use and groundwater categorized (and if needed remediated) as potable water	5-Apr-24	119401 SE 1 Ave, Camas, Washington 98607, United States
Concern	The area at the top of these steps could use some erosion control - the steps are very frequently used and you can tell right at the top there are some areas that are eroding away - don't want the steps to be damaged, or someone to fall.	5-Apr-24	756 Northeast Birch Street, Camas, Washington 98607, United States
Concern	The sidewalks are too narrow and close to the road for a 35 mph speed limit. A wider sidewalk with a buffer between the road and the sidewalk should be installed, the speed limit should be reduced to 25 mph, or the sidewalks should be relocated to run through Forest Home Park. There are often drivers traveling 5-10 mph over the speed limit who do not slow down or move over when passing children walking only a few feet away. This is a tragedy waiting to happen.	5-Apr-24	957 Northwest 6th Avenue, Camas, Washington 98607, United States
Concern	The sidewalks are too narrow and close to the road for a 35 mph speed limit. Additionally, this road has no business being four lanes. It starts as two lanes in Camas, then turns to four lanes, and then back to two in Washougal. Nearly every day, kids risk their lives walking to the skate park along this road. Reduce the number of lanes to two, lower the speed limit, widen the sidewalk, and add a bike lane.	5-Apr-24	1642 Northeast 3rd Avenue, Camas, Washington 98607, United States
Concern	Curb extensions should be added to narrow the road, slow traffic, and shorten the crosswalk distances. In the short term, this could be done cheaply by adding planters, bike racks, and art installations. A good example is Main Street in Vancouver.	5-Apr-24	231 Northeast 3rd Avenue, Camas, Washington 98607, United States
Concern	All of Crown should have sidewalks on both sides. It's dangerous for people to walk and this should go from NE 3rd Ave all the way up to at least SE Nourse Rd. for anyone walking to the highschool.	7-Apr-24	Southeast Crown Road, Camas, Washington 98607, United States
Concern	Please limit the amount of space the church can take up in downtown. Fully support everyone's right to practice their faith, but this is the part of 4th that's just dead and hurts the other retail business.	7-Apr-24	Northwest 6th Avenue, Camas, Washington 98607, United States
Concern	Please do not modernize the downtown and keep large organizations like banks, fast food, other retail chains out. One of the greatest appeals of the town is the small businesses in down town and would love to see it stay that way.	7-Apr-24	Northwest 6th Avenue, Camas, Washington 98607, United States
Concern	For new developments there should be a heavy levy on the homes to help subsidize the ever growing costs of expansion. The locals that live here should not be penalized because of growth. This is coming from someone who moved here from somewhere else. I'm happy to pay more to avoid others being hurt by the rising costs. On the flip side, give incentives for builders building homes under the median by X percentage. Give them an incentive to build lower cost homes and not million dollar McMansions.	7-Apr-24	2994 North 49th Avenue, Camas, Washington 98607, United States
Other	It would be awesome if GP allowed giant murals on the mill - could be a joint funding project. Beautifying the mill as you approach Camas would add immensely to the city while highlighting it's role in our history.	3-Apr-24	Northwest 6th Avenue, Camas, Washington 98607, United States

Our Camas 2045 Summit #1 Comment Form submissions

In response to "How do we achieve our vision? Share your top three big ideas for each topic area!"

Station 3: Our Community

- Having amenities for younger children such as smaller playgrounds, indoor play facilities, etc.
- Need for more sporting fields/indoor swimming pool for highschoolers to use
- We need to reunite our community to be supportive of everyone and encourage more diversity
- Broker a deal with GP to use the five acres where old buildings were demolished a few years ago to build a community center.
- Build a community center, arcade and mini golf.

Station 4: Our Environment

- Connect the bike infrastructure and bike rentals
- Is there a solution to the current well issue before adding more dwellings?
- We seem to be lacking mature landscaping in new construction neighborhoods, can some trees be preserved?
- Please continue including green spaces for multipurpose, especially sports rec areas for both soccer, little league, etc. (don't forget the girls softball – they have gotten the shaft when it comes to shared space) for great examples see Port of Klamath, Hazel Dells sports center and Hockinson Meadows Community Park.
- More access points to Lacamas Lake, and public transit to lake. Continuous trail around the lake.
- Encourage GP to gradually clean up the site to show they care about Camas.
- Save more parks/green spaces, keep more trees, and better garbage and recycling all over.
- How were these goals developed and how will they be used? Will there be policies that are developed as a result?
- What is a heritage tree program?
- Sometimes trees are planted too close together which makes it difficult to see oncoming traffic.
- The Port of Camas-Washougal has a program that helps property owners retrofit their buildings and improve the insulation.
- There is a coastal town in California, Los Osos, that has a walkway above marshland. There is a trail near Lacamas Lake near some lily pads and some type of boardwalk could help to stop people from walking over the lily pads.
- Parking is usually full near the trailhead for the Lacamas Heritage Trail off of NW Alexandra Lane. A larger parking lot is needed.
- Are there plans to address the well? There has been some talk about removing the well.
- The City should think about adding Redwoods to the tree canopy. They grow faster than oak or cedar trees.
- Holding listening sessions on evacuation routes is a good idea (Steve Hogan).
- Large trees should be protected at all costs. It is difficult to replace them.
- Utilities should be placed underground.
- Has the old mill come up at all in any of the vision statements?
- The City should pave the gravel pit near the mill.

Station 5: Our Neighborhoods

- More neighborhood nodes – coffee shops etc. in the suburbs.
- Need more affordable housing options – condos/townhomes
- Regulate the distance between trees when planting them. Try driving out of Deer Creek neighborhood at Ogden Street and 16th Ave to see what I mean. Once trees mature in width they block traffic sightlines on both the left and right. I have to pull into 16th Ave to see around the, albeit gorgeous, trees.
- Small pockets of business areas so people can walk from home.
- Make efforts to move power underground in some of the older neighborhoods
- Doggie waste bag stations

Station 6: Our Downtown

- More retail/restaurants would be nice to keep consistent traffic going through businesses.
- Available parking is already an issue, and I don't think a meter maid is the real solution with downtown events.
- We need a plan for potentially addressing traffic patterns at 6th Ave and Adams St.
- More diversity on type of businesses/services and more diversity in ownership. Less church/religious stamp on downtown. No chains, keep it local/small business.

Our Camas 2045 Summit #1 Poster Board Notes

In response to "Use a sticky note to write an idea for how we can achieve these goals." + indicates agreement by another attendee.

Station 3: Our Community

Goal: Camas' artistic and cultural heritage will be protected, enhanced, and commemorated.

- Start a community theatre – I'll help 503-270-7264
- Renovate/restore the community center

Goal: Community events, involvement activities, and youth focused activities will instill a sense of belonging among residents of all ages while making Camas an ideal place to raise a family.

- Create multicultural fair/event where everyone is included
- Partner with schools to have a multicultural fair

Goal: The City will promote a strong sense of community through transparent communication, outreach efforts, partnerships, and accessibility.

- Less chains of food and shopping, promote small business growth
- Partner with the school district and have regular meetings to share resources and ideas

Goal: Public places will be valued and protected spaces, with safe and well-maintained facilities that foster a sense of community and promote physical and mental health.

- Work with Camas Ivy League to maintain and control invasives
- Protect the city and county parks, remove invasive plants like Holly and blackberry and make sure modifications are for everyone
- Protect and support the library
- Use the grass are on 6th between Birch and Adams as a dog park. It will bring more people to downtown, and partner with Dog PAW, they run many parks including Dakota in Vancouver.
- We need a park/gathering space downtown. +1

Goal: Camas residents enjoy access to quality education and support their schools through partnerships and investments.

- Green Team at every school/sustainability and green practices at our schools
- Need safe transport walking corridors, also need facilities like internet
- Support economic development and green tech
- We need economic development as part of our overall vision! Bring in new businesses and support what's here!
- Add goal of strong economic development and partner with the DCA

Station 4: Our Environment

Goal: A network of parks, trails, and open space will connect neighborhoods, wildlife corridors, and natural resources and enhance the quality of life for residents and visitors.

- Heritage trailhead with parking is usually full and there are many more houses being built consider more parking for access to trail.
- Consider all the growth from new homes adds to overwhelming the park facility at round at facilities to the top side of round near lilies.
- Create boardwalk on the Lily fields trail to discourage damage by pedestrians.
- Please pave or gravel the mill ditch so it connects downtown with other amazing paths and

lakes.

Goal: Camas' infrastructure and transportation system will be able to withstand and recover quickly from extreme weather events and other hazards exacerbated by climate change.

- Bury all overhead electrical
- A pedestrian walkway on forest home Rd.
- Find upgrades to sewer and sewer systems before repaving
- Reform storm water modeling under climate scenarios to understand capacity of infrastructure and level of service requests

Goal: The City will embrace clean energy technologies to promote healthy air quality for all Camas residents.

- Retrofit older buildings to meet current code
- Clean up the GP mill to unrestricted use, recognize water clean up as potable, test at gallery wells for potential contamination of city drinking water
- Connect to our river/waterfront, stop and hold pollution sources responsible for water quality in lakes rivers and aquifers.
- More electric Car charging stations. +1

Goal: Camas' native landscape and tree canopy will be protected enhanced to maintain Camas' natural beauty and promote climate resiliency.

- Thank you for having a tree plan and maintaining our tree canopy downtown!
- Partner and support backyard habitat program
- Tree preservation on public and private property
- Save every big tree, you cannot get them back!
- Support native plants and nature spaces in the city, school green spaces and citywide bioswales. Expand list of permissible plants in bioswale.
- Redwoods.
- Remove invasive holly and blackberry
- Education to include out historical connection to founder of Earth day in city's motto and branding 'home of earth day'

Station 5: Our Neighborhoods

Goal: The City will provide public facilities that are resilient to climate change and meet the needs of the growing population.

- Recycling center instead of just garbage bins have opportunity for recycling bins.
- Please consider heat mitigation at the camas farmers market as it's getting so hot, better pavers? Covered structure or coverage system?
- Require new apartments to have air conditioning

Goal: The City will plan for and accommodate population and employment projections in a way that maintains Camas' quality of life and small town character.

- Multifamily units to allow people to walk to work but that requires a good bus system to get people around. +1

Goal: The City will cultivate a business environment that promotes local businesses and establishes Camas as a desirable place for investment

- Partners with CREDC to market the area and region to workers and tourists.

- Diverse sizes of business units, so many different businesses can exist. +1

Goal: the transportation system will accommodate anticipated growth and support the city's overall vision

- We need a lot more bike lanes particularly North Road around lake Lacamas
- As the city expanses outwards make sure the roads have the more bike lanes and sidewalk easements built by the developers buying the land
- Downtown 3rd St. must have Street elements, traffic calming to ensure pedestrian safety in crossing the street

Goal: Camas neighborhoods will be vibrant, stable, and livable with a variety of housing choices that meet all stages in the life cycle, personal preferences and a range of affordability.

- Seek to integrate all levels of income and find ways to mix into suitable areas of the community think infill with middle housing
- Too bad the Everett corridor is being sacrificed needlessly
- A YIMBY (yes, in my back yard) campaign needs to be established different housing types with different household types should not be ostracized young people and empty nesters need a place to live.

Goal: Camas will provide a setting of and quality of life that attract and retain businesses and will be home to a diverse range of employment opportunities

- Get much better. Clarify mapping with County as to buildable lands.

Goal: the multimodal transportation system will be safe and efficient for all users, facilitate access to goods and services, connect neighborhoods, and encourage healthy lifestyle choices.

- Safer bike routes
- Designated bike lanes corridors up to and through parks. +1
- Use community like bend as an example of sidewalks bike lanes and roundabouts. +1
- Connect sidewalks (Prune Hill area example, notable to walk to downtown)

Station 6: Our Downtown

Goal: Encourage redevelopment to expand opportunities Downtown for retail, office and residential.

- More downtown housing +1
- Encourage places to eat, see Vancouver Waterfront without chain restaurants.
- Partner with the Port of C-W
- Where is the vision for a properly cleaned up Mill? The City Plan is responsible for input to the state's cleanup. Without it out destiny is a sad downtown and waterfront.
- Diversity of business types. +1

Goal: Expand on civic life and services Downtown through strategic use of city owned property and vibrant community events.

- A community pool would be appreciated! +1
- A community recreation and senior center.
- Establish a community Theatre +1
- More food and food courts, better website.
- Support local business owners not generic chains.

Goal: Create a safe and connected transportation network that makes Downtown walkable, bikeable, and accessible to the rest of the city.

- Parking structure on the GP lot.
- Slow down traffic on 3rd Ave! Add trees and bulb outs and other traffic calming measures.
- Bike paths to circumnavigate new development and congestion.
- Add crosswalks on Garfield (4tj, 5th, and 6th) and at least one with a signal indicator to connect bike and pedestrian traffic safely to downtown (also through to trailheads behind church on 4th)
- Close down auto traffic on 4th street between Adams and Franklin +1
- Improve public transportation to downtown.
- More major traffic into 6th so 3rd is more pedestrian friendly.

Goal: Retain Downtown's historic character and expand its charm.

- Honor hometown heroes.
- Partner with 3-rivers museum and Clark County Historical Society
- Zone standards for mix use in downtown Camas.
- If you want to expand the City's charm, include the GP Mill in your 20 year planning process, its greyed out on your map.

Goal: Plan for a range of housing options that welcome more people to live Downtown.

- Support a straightforward and affordable permit process for ADU's especially within a mile of downtown possibly provide incentives, subsidies, breaks on property taxes etc. +1
- Live/workspaces villages and lofts with quality community spaces and gardens

Goal: Provide the right mix of development, services, and open spaces that support ways for people to live, work, and play Downtown.

- Please consider outdoor dining for sit down restaurant service, limit time from Memorial Day to Labor Day with balance of spaces taken up parking needs.
- Flex spaces for small businesses.

Our Camas 2045 Summit #1 Online Survey Submissions

An online survey was live from after the event through June 17th as an additional mechanism for feedback. The online survey received 24 responses.

1. I feel the vision statement is:

- Right on. (x8)
- Headed in the right direction, but could be improved. (x7)
- Is missing something. (x9)

2. If you feel it is missing something or could be improved, let us know how!

- Protect the small businesses already here! Don't take away CRUCIAL parking for places like acorn and oak. You're effectively dooming them. The empty property for sale near them should be used for community parking!
- Natural Beauty, safe and diverse (economically, ethically, what people do for a living and politically)
- Love the emphasis on walkability which helps foster social connection and interaction, generating connectedness in the community! Wish we had an aquatics center, but I know that was shut down unfortunately. More mixed-use buildings is nice too
- Camas locals do not want growth. We don't want more housing and businesses. We want the small town feel that we used to have.
- There is no affordable housing. The school district is losing students because young families cannot afford to move here. Utilities and taxes are pricing good families out.
- Improved transportation options in the whole Camas area - mini busses or shuttles, bike rentals, ride share programs etc. -- increase connectivity while mitigating/reducing personal vehicle use as the area density increases
- Camas is NOT inclusive. The out of state newcomers have strangled the ability for life long residents who were born and raised here to live here. There is not affordable housing and the taxes and reckless spending are out of control. The arrogance stinks.
- Increased focus on how we will maintain livability for those who have lived here for generations and cannot afford the taxes, cost of housing, and devastating impacts of urban sprawl that is at the forefront of the city's apparent plans.
- Neighborhoods need to include green spaces & trails not only for human residents but for wild plant &; animal life. Environment & community need to include space for urban/suburban farms for growing food. Downtown--"expansion" should be carefully regulated.
- "Camas is a DIVERSE and inclusive community..."
- Parking is a big issue in downtown. So if you add more businesses, you have to add more parking
- Neighborhood traffic near schools (with no bus service) should have traffic improvements to naturally slow vehicles for the sake of safety.

- The environmental section should specifically mention maintaining Lacamas Park as a priority. Can you imagine Camas with a poorly maintained Lacamas Park? The city's value would markedly decrease. (I understand multiple entities are responsible for park)
- "inclusive" is given top priority in the vision statement, but it's not a primary characteristic of Camas, nor was it found in the brainstorm survey. Who added this?

- I would like to see less church owned properties right in the center of downtown. Although I respect the religious beliefs, the massive presence takes away from more amenable area for downtown activities.
- The “living room"(downtown) has a block of buildings that don't seem to be part of it. I'm not exactly sure how the church has come to own so much of the small, intimate, downtown area. It's a shame, that space could be put to better use.
- The possessive of Camas is Camas's not Camas'
- Expanding what the City calls "downtown" - the mill's property should be viewed as part of the "downtown" footprint as it represents both constraints and large opportunities IF we include it TODAY as a part of the planning process

OUR COMMUNITY

3. How do we achieve this? Share your top three big ideas!

- Adjust zoning to allow for small business to open up shop all around camas. Not just downtown or in strip malls. But true neighborhood spots in all the developments that are driving distance from other businesses
- Continue park and library improvements, rejuvenate downtown Camas’ infrastructure to improve walkability, adding a community indoor/outdoor pool would be nice, doesn’t have to be super fancy or expensive
- We need to get rid of the two hour limit on parking in downtown so we can can support local businesses. Rather than only having time for dinner OR a movie, allow free unlimited parking so you can do both without getting a ticket.
- Listen to what the citizens want. Make things happen, don't just talk about them. Take better care of our vision clearance areas especially downtown, many hazards just waiting to happen, also breaking the cities on Municipal Codes.
- Follow through on these statements is all important!
- Lower utilities and taxes to attract families. Lower the business taxes as to not lose anymore existing businesses. Do not follow the national political ideology!!
- Leave the mill alone. It is what put the city on the map. The high school admin should be ashamed of calling the mascot Makers instead of Papermakers. We should put financial caps to ensure our original citizens are protected.
- Focus on pay for teachers opposed to admin, actively reduce sprawl, stop road expansions and developments on the north shore, maintain and care for historic places, focus on infill opposed to destroying natural areas and farmland
- your goals appear to be youth & family centered. You need to be aware of aging residents, their interests and needs.

- We need an accessible and larger community center in a central location (even if it is shared with Washougal). Downtown Camas activities couldn't be better. Engagement efforts are great--council needs to listen to citizens' wants & spend conservatively.
- Prioritize community gathering spaces. Make bike lanes accessible to major hubs with bike parking. Citizens will never prioritize healthy alternative forms of transportation if endless parking is provided across the city.
- The biggest attractions are the parks, lakes, and trails of Camas. Secondly are the excellent schools. Thirdly is the small town feel. So if you add more growth. You won’t have a small town feel anymore.
- Keep investing in art, attract more live music venues/events.

- Continue using buildings to display art. Create more public gathering spaces that are pedestrian/cyclist focused that include the natural environment and public art/cultural history.
- Community Events, clean streets, strong business network, support developers, tough on crime, keep out vagrants
- Less focus on the insidious WOKE attitude. Just accept everyone without the bend over backwards celebration, which results in a focus on differences regather than our commonalities.
- Maintaining a business friendly environment that encourages investment in new businesses such as restaurants. Utilizing public-private partnerships to bring small shops/restaurants at or near parks.

OUR ENVIRONMENT

4. How do we achieve this? Share your top three big ideas!

- Save at least some land for wildlife! Don’t develop too much and make this just another hideous bunch of cookie cutter houses and strip malls. Also, reckless driving is increasing, especially on crown road and third.
- City should buy and maintain more preserved nature land within the area. Protect all current natural areas. Slow development in green spaces and promote more density in already developed areas.
- Improve/widen more of the sidewalks downtown camas and add more bike lanes especially to N.E. 3rd Ave up Crown Rd, don’t need 4 car lanes there, continue park and infrastructure improvements, connect all trails via bike and walking paths
- Limit parking to residential passes and eliminate out of out of towners, open trails to bikes, allow park to have my bike jumps back. Stop with such environmental measures. All while stop cutting trees down m!
- Stop kicking the can down the road on maintenance of our streets. If the company fails to do the job right don't accept 1/2 ass work. Hold them accountable, also our buildings. Example Lodge building screwed up window spacing. Should have been fixed
- Follow through on these statements is all important!
- Easy. If you need to take trees down to build, then don't build there!
- Incentivize home owners to plant more trees; evaluate options for trails in residential areas and connect them to downtown; create walk/bike paths to connect Camas top to bottom, side to side - for work commute even (no cars!)
- More funding for parks. Both to improve & maintain
- Don't allow people who cut trees down to build their homes years ago to deny that same option to be afforded to others. So narcissistic. Hold Lacamas Shores accountable for their watershed issue. Leave the Everett corridor intact.
- YES! Our Camas outdoor parks/trails are un-met! YES! YES! maintain & Keep parks, trails, corridors so valuable to us all. Pls Avoid creating business/industrial developments to boost tax $$'s (which Beaverton/Hillsboro Ore did, sadly)
- Preserve open space. Preserve wildlife, wild areas, trees, agriculture, farms, not building on every available space. Trails/bike routes in connecting areas like Forest Home Road. Volunteer events to care for parks & spaces, with some kind of incentive.
- Lacamas Regional Park needs to be more responsive to trail maintenance requests and work offered by volunteers. Without volunteers the park would be overgrown and most trails would be unusable.

- Biofilter in the lakes so they are usable year-round, no more toxic algal blooms. ban harmful fertilizers
- During storms we need more snow and ice removal vehicles. Only main roads were plowed and so many people can not leave there homes if they live on streets that are not cleared
- Maintain current parks/lakes/outdoor spaces before investing in new spaces, install swales in neighborhoods to help with flooding issues, use native plantings.
- Prioritize improving collaboration between the entities that own Lacamas park AND local volunteers so that the park receives timely maintenance and enhancements. Current process excludes volunteers critical & maintenance is too delayed.
- You have a good plan here keep it up.
- By utilizing clean hydro power.
- Get the mill cleaned up; assess its risks to our drinking water; Incentivize HOAs to maintain facilities & participate more fully in our stormwater management; seek to PROTECT drinking water supplies thru sound risk planning & better wellhead protection

OUR NEIGHBORHOODS

5. How do we achieve this? Share your top three big ideas!

- Don’t overdevelop and lose all the natural beauty. Less is more
- Not sure.
- Connect all of neighborhoods and parks to downtown camas with walkable sidewalks and trails all the way to Lacamas would be great. Especially Crown Rd to NE 3rd to downtown and even to Washougal Waterfront
- I hate all of this. I want a mayor that will fight against that states growth plan. No one cares about climate change, no one wants mass transit, and especially no one wants wider roads and more round abouts. This town is getting destroyed.
- Common sense don't plant trees right beside street lights. Don't have planting areas in our sidewalks, would help with all the raised and horrible ones in neighborhoods.
- Follow through on these statements is all important!
- No public transportation in neighborhoods.
- encourage mini van shuttle services, rent a bike services, encourage personal ride sharing (co-commuting) by creating programs and digital tools for people to connect safely
- Cap taxes for people who were born here. Allow tiny homes and ADU's. Get on top of the growing homeless issue in our parks and neighborhoods.
- our goal mentions NOTHING about community Safety!! There needs to be an emphasis on crime Prevention and commitment to law enforcement, esp. if your goal is growing population.
- All developments should include green space, trails, and trees. Growth should be VERY slow, as slow as possible, to allow for adjustments to infrastructure. Less urban=more valuable and enjoyed by everyone in the long run.
- Bike lanes, playgrounds with exercise stations (think pull up and dip bars), sports courts (pickleball is the fastest growing sport in America right now)
- Add new bus routes, public transit to connect to Portland and Vancouver!!, busses to connect neighborhoods to downtown
- I think roundabouts are okay but you don’t need them everywhere. The busiest roads are Lake Road and Everett Rd.
- No new building permits until clean water is assured for all residents! Tighter restrictions on residential developer permits.

- Prioritize safe bike lanes that connect the city. By safe, I mean bike lanes that mom's & dad's feel safe using with their kids i.e. a PHYSICAL divider between car lane and bike lane for safety. This will increase # of ppl who use bikes for transportation.
- Preserve the small town vibe. Single family homes. No multi family
- Dedicated bike trails that connect neighborhoods to schools. Ensure each community has a safe walking paths that connect to parks/schools.
- TOTALLY missing the word affordable and clearly not accommodating the blue collar employees that make a City go. One only look at North Shore (Toll Brothers) and Camas Meadows (Romano) to envision what is spoken above as privileged only welcome here.

OUR DOWNTOWN

6. How do we achieve this? Share your top three big ideas!

- Another crosswalk on Garfield would be amazing
- Provide ease of development to those with a proven history of ethical growth of development.
- Needs more mixed use development, no more one story single use buildings please, yes more walkable and bikeable please, more restaurants and shopping needed, the gate to Louis Block park can be improved it looks really old, just updating downtown needed
- We don’t want to achieve this. Stop the growth, keep the small town.
- Implement pay to park in hopes of being able to get a parking garage. Parking is at a minimum now and this issue needs to be addressed ASAP. People pay to park everywhere else and they don't complain.
- Follow through on these statements is all important!
- We have enough downtown living. This keeps it clean and organized.
- Move the church from downtown to another area and use the space for businesses that actually pay tax; use that money to fund downtown upkeep;
- Increase the parking fines to better control the issue. Move the farmers market to Crown Park. Again, leave the mill alone.
- Presently, downtown Camas is NOT walkable. Each crossing of a block is a pedestrian safety matter, drivers in cars. I feel unwelcome in downtown Camas.
- Keep vital services downtown. Post Office, Library, affordable restaurants, should be prioritized over housing, wineries. New construction should be attractive, classic styles (Euro, art deco, Victorian), no big rectangles (like new apartments going in).
- Keep downtown walkable. Cars should never be a priority. If you create a beautiful downtown hub, people will come. People who walk/bike/use alternative methods of transport are more likely to spend $ at local businesses.
- Stop approving churches on the main strip. bring back a pizza by the slice place.
- I don’t know if having apartment above businesses is a good idea. Downtown is already crowded as it is. You don’t have to build on every remaining area. I often thought that downtown would be great if you made 4th street a pedestrian walkway.
- Ensure downtown remains commercial, NOT religious! A Christian church on our main street makes those of us who are not religious feel uncomfortable. A good rule - if The Satanic Temple is not welcome to do it, neither should be the Christian church.
- The historical downtown Camas St is fantastic, however it could be improved by expanding it to neighboring streets. For ex, 3rd Ave is an eyesore and not friendly to pedestrians. 5th Ave also could be developed to have a similar look & feel to 4th Ave
- Don't worry about transportation. getting to downtown is already accessible. Maybe a shuttle for seniors

- Have the church move to buildings outside the downtown area, so that the space/buildings can be used to benefit and be enjoyed by the WHOLE community.
- Redevelop the paper mill property and ensure it is safe for mixed use development.
- If you want to expand charm, start pushing to get that downtown eyesore remediated....there's nothing charming about the unseen decades of pollution there.

7. Is there anything else you would like to share about the Our Camas 2045 process?

- It looks great and like headed in the right direction for sure with focus on physical movement, getting people out of cars and more convenience for walking and social interactions and connectedness!
- No more selling land to large developers who want to cram in big houses on small lots, and stop with apartment complexes!!!! Our roads and schools do not want more growth. People moved to Camas to get away from people!!!!!!

- Please add more community meetings and add the results of our (public) input to the website and follow up emails when we share our address
- Love that you're doing this and I'm super inspired to live in this community. I'd love to learn how to get involved and join you on this journey of making the vision the reality!
- The City is hemorrhaging other people's money. This has got to stop. We cannot keep spending on the backs of others.
- Camas is now a place our friends, family, credit union, etc. advise us to stay away from and build our lives elsewhere. It’s a shame what greed and development have done to our home.
- Applause for city planners, involving Camas residents in 20 yr. projections! Looking fwd. to hearing milestone efforts to sustain the lovely charm & character of Camas.
- great job thanks
- When you have meetings instead of breaking off into groups you could have various informed speakers talk about plans then take questions from audience as they sit on seats so everyone can hear
- Lacamas park needs to be specifically named and goals for its enhancement specifically outlined. Goals for bike infrastructure must include bike lanes with physical barriers that protect cyclists from cars otherwise most families will not utilize them
- I have to be honest, the Vision statement is terrible. "inclusive" is not relevant to Camas, and will be harmful to strategic planning. The rest of the vision statement is vague. The environment statement is acceptable but also redundant.
- Love that you are asking for input, and hope it is discussed and considered.
- The open house hosted in the lodge was a poor way to communicate information. Slides being shown without explanation and timed so quickly that you couldn't read all the info was disappointing. The noise in the room meant nearly shouting to be heard.

Our Camas 2045 Community Summit No. 1 Summary
June 14, 2024

Overview

On June 12th, 2024, the City of Camas hosted *Our Camas 2045 Community Summit #1*, an open house event for its *Our Camas 2045 Comprehensive Plan and Downtown Subarea Plan* process. The purpose of this event was to report back on the outreach and engagement activities that took place over Spring 2024, reveal the draft and ask for feedback on the *Our Camas 2045 Vision Statement and Goals*, and to identify the community's big ideas for achieving the vision and goals.

More than 40 community members participated in the event at the Lacamas Lake Lodge, where kids activities and refreshments were provided. A wide range of participants included residents, business owners, families with children, and elected officials.

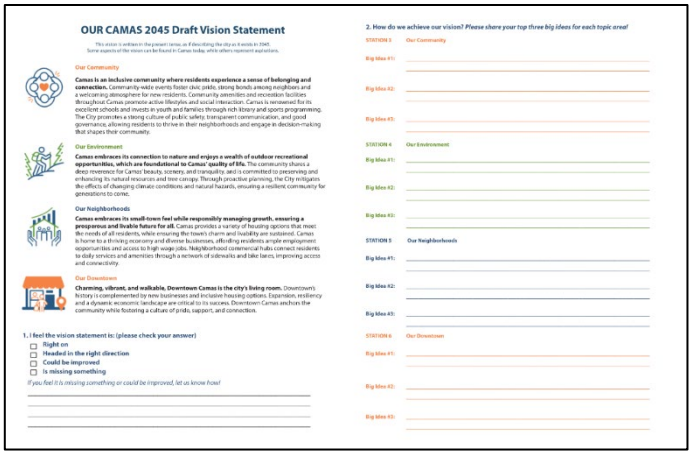
The event was organized with stations set up around the event space, those stations corresponded to each of the four themes identified in the draft Vision Statement. The four themes include: *Our Community; Our Environment; Our Neighborhoods; and Our Downtown*. Additionally, there were other stations that offered a project overview, results of the community outreach, and the draft vision statement.

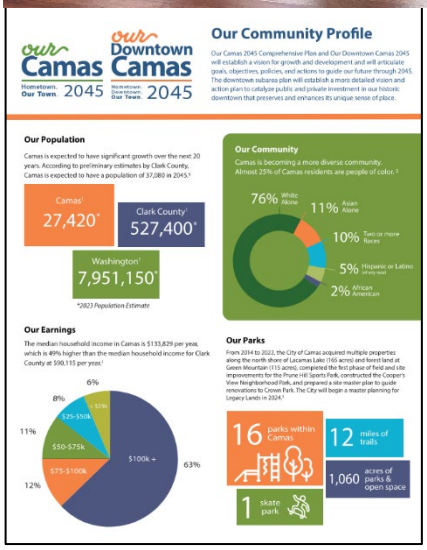
Participants were invited to review the draft vision statement and offer their feedback and share their "big ideas" for how the community can achieve the vision and the associated goals. Each station included a project team facilitator. Ideas were captured through notetaking on sticky notes on the posters, or participants could submit them in writing through a comment form. These ideas will help guide the development of goals and policies for the Comprehensive Plan.

Since the City is additionally undertaking a Downtown Subarea Plan, additional material on opportunities, constraints and background information were provided for the *Our Downtown* station.









The comment form and community profile handed out at the event.

Feedback Analysis

Discussions were robust and collaborative, resulting in many community ideas and overall feedback. Key topics of conversation included bike infrastructure, native species mitigation, tree protection, creation of neighborhood hubs, and local business support. In addition to paper comment forms, an online survey was available to complement the discussion at the event for those who could not participate in-person. A compilation of the raw notes from the

comment forms are included in Appendix A, the raw notes from the poster boards in Appendix B, and the online survey responses are captured in Appendix C.

For the Vision Statement, in response to the question "*If you feel it [Vision] is missing something or could be improved, let us know how!*" respondents felt the Vision is missing clear strategies to protect and sustain existing small businesses, including provisions for adequate parking. In addition to concrete plans to address the lack of affordable housing to retain young families and maintain school enrollment. Respondents note the vision should reflect a genuine approach to inclusivity that considers the needs of lifelong residents, addressing the impacts of high taxes and urban sprawl.

Enhanced transportation options, such as minibuses, bike rentals, and ride-sharing programs, should be proposed to reduce reliance on personal vehicles. Additionally, there is a want for a stronger emphasis on maintaining and expanding green spaces, trails, and urban farms to preserve the city's natural beauty and community health. Effective use of downtown spaces, including addressing the significant presence of church-owned properties and integrating the mill's property into the downtown planning process, is also spoken to. Finally, the vision statement should more accurately represent inclusivity based on the community's actual characteristics and needs, rather than an imposed ideal.

In response to "*How do we achieve our vision? Share your top three big ideas for each topic area!"* The following ideas were provided by Summit participants for each Vision Theme.

Our Community

Amenities for Children and Teenagers:

- Provide smaller playgrounds and indoor play facilities for younger children.
- Establish more sporting fields and advocate for an indoor swimming pool accessible to high schoolers.

Community Unity and Diversity:

- Focus on reuniting the community and fostering diversity through inclusive initiatives.

Infrastructure and Community Enhancement:

- Improve downtown infrastructure for better walkability and accessibility.
- Enhance community facilities including parks, libraries, and possibly a community indoor/outdoor pool.
- Address parking policies to support local businesses

Fiscal Responsibility and Engagement:

- Lower utility costs and taxes to attract families and retain businesses.
- Prioritize citizen engagement and accountability in city planning and policy implementation.

Cultural and Recreational Investment:

- Preserve and expand upon Camas' cultural heritage through arts and community events.
- Invest in recreational facilities like arcade and mini-golf to enhance community activities.
- Broker a deal with local entities to utilize land for a new community center.

Our Environment

Environmental Conservation and Development:

- Preserve land for wildlife and limit excessive development.
- Promote denser development in already developed areas to conserve green spaces.

Infrastructure and Transportation:

- Enhance biking infrastructure including bike rentals and connected bike paths.
- Address water and utility issues such as the current well problem and underground utility placement.

Landscaping and Tree Preservation:

- Preserve mature landscaping and save parks and green spaces.
- Protect large trees and ensure proper spacing when planting new trees.
- Consider adding Redwoods to enhance the tree canopy.

Green Spaces and Recreation:

- Develop multipurpose green spaces, especially for sports like soccer, little league, and girls' softball.
- Improve access points and public transit to Lacamas Lake.
- Create a continuous trail around Lacamas Lake and develop boardwalks to protect natural areas.

Community Cleanliness and Maintenance:

- Enhance garbage and recycling systems citywide.
- Encourage GP (Georgia Pacific) to clean up their site for improved community aesthetics and environmental health.

Community Programs and Policies:

- Implement a heritage tree program and support property owners in retrofitting for energy efficiency.
- Hold community listening sessions on evacuation routes and develop policies based on community input.

Parking and Infrastructure:

- Address parking needs, including a larger parking lot near Lacamas Heritage Trail.
- Consider paving the gravel pit near the old mill site for improved infrastructure.

Our Neighborhoods

Environmental Conservation and Development:

- Advocate for less development to preserve natural beauty and prioritize green spaces.
- Ensure developments include green space, trails, and trees.
- Regulate tree planting to avoid blocking traffic sightlines.

Infrastructure and Transportation:

- Connect neighborhoods and parks to downtown Camas with walkable sidewalks and trails.
- Prioritize bike lanes that are physically separated from car lanes for safety.
- Support dedicated bike trails that connect neighborhoods to schools and safe walking paths.

Community Safety and Quality of Life:

- Emphasize community safety, crime prevention, and support for law enforcement as the population grows.
- Address concerns about homelessness in parks and neighborhoods.

Public Transportation and Mobility Services:

- Introduce new bus routes and public transit options connecting Camas to Portland and Vancouver.
- Encourage minivan shuttle services, bike rental services, and personal ride-sharing to improve mobility options.

Urban Planning and Growth Management:

- Advocate for slower growth to allow infrastructure adjustments and maintain the small-town vibe.
- Restrict new building permits until clean water assurance for all residents and tighten residential developer permit restrictions.
- Support more neighborhood nodes and small pockets of business areas for increased walkability.
- Promote more affordable housing options such as condos and townhomes.
- Develop tools to promote affordable housing such as density bonuses for dedicated affordable housing.

Recreational Facilities and Community Amenities:

- Support amenities like playgrounds with exercise stations, sports courts (e.g., pickleball), and biking infrastructure to promote active lifestyles.
- Install doggie waste bag stations for pet owners.

Our Downtown

Urban Development and Planning:

- Support mixed-use developments over single-use buildings.
- Improve infrastructure and aesthetic appeal of downtown and overall downtown maintenance.
- Maintain small-town charm and resist further growth.
- Implement pay-to-park system to address parking shortages, potentially leading to a parking garage.
- Increase parking fines to better manage parking issues.
- Redevelop the paper mill property for mixed-use development.
- Enhance walkability downtown and prioritize pedestrians over cars.
- Expand and beautify historical downtown areas

Community and Downtown Vitality:

- Improve pedestrian safety with additional crosswalks, addressing safety concerns at block crossings.
- Maintain vital services downtown such as Post Office, Library, and affordable restaurants.
- Prioritize commercial spaces over housing in downtown areas.
- Ensure accessibility downtown, potentially implementing a shuttle service for seniors.
- Maintain the attractiveness and accessibility of downtown without significant transportation changes.
- Increase the number of retail stores and restaurants to maintain consistent business

traffic.

Cultural and Religious Concerns:

- Propose relocating churches from downtown to enhance commercial space availability and community inclusivity.
- Advocate for maintaining downtown as a commercial rather than religious hub.

Business Diversity and Ownership:

- Encourage diversity in the types of businesses and services.
- Prioritize local and small businesses over chains.

Parking and Traffic Management:

- Address the issue of available parking.
- Develop a plan to address traffic patterns at 6th Ave and Adams St.

To ensure proper implementation of the Vision and Goals, the community was asked to share ideas on how we can achieve the goals. The following key ideas were given.

Our Community

Goal: Camas' artistic and cultural heritage will be protected, enhanced, and commemorated.

- Start a community theatre with volunteer assistance.
- Renovate/restore the community center.

Goal: Community events, involvement activities, and youth-focused activities will instill a sense of belonging among residents of all ages while making Camas an ideal place to raise a family.

- Create a multicultural fair/event that includes everyone.
- Partner with schools to host a multicultural fair.

Goal: The City will promote a strong sense of community through transparent communication, outreach efforts, partnerships, and accessibility.

- Partner with the school district for regular meetings to share resources and ideas.

Goal: Public places will be valued and protected spaces, with safe and well-maintained facilities that foster a sense of community and promote physical and mental health.

- Protect city and county parks, remove invasive plants, and ensure modifications are inclusive.
- Protect and support the library.
- Establish a park/gathering space downtown.

Goal: Camas residents enjoy access to quality education and support their schools through partnerships and investments.

- Implement a Green Team at every school and promote sustainability and green practices.
- Ensure safe walking corridors and necessary facilities like internet.

Our Environment

Goal: A network of parks, trails, and open space will connect neighborhoods, wildlife corridors, and natural resources and enhance the quality of life for residents and visitors.

- Increase parking at the Heritage trailhead to accommodate growth from new housing.
- Address the capacity of park facilities with the increase in new homes.

- Create a boardwalk on the Lily fields trail to prevent damage by pedestrians.
- Pave or gravel the mill ditch to connect downtown with other paths and lakes.

Goal: Camas' infrastructure and transportation system will be able to withstand and recover quickly from extreme weather events and other hazards exacerbated by climate change.

- Bury all overhead electrical lines.
- Upgrade sewer systems before repaving roads.
- Reform storm water modeling under climate scenarios to assess infrastructure capacity and service levels.

Goal: The City will embrace clean energy technologies to promote healthy air quality for all Camas residents.

- Retrofit older buildings to meet current codes.
- Clean up the GP mill for unrestricted use and test water for contamination.
- Connect to the river/waterfront and hold pollution sources accountable.
- Install more electric car charging stations.

Goal: Camas' native landscape and tree canopy will be protected and enhanced to maintain Camas' natural beauty and promote climate resiliency.

- Maintain and implement a tree canopy plan downtown.
- Partner with and support a backyard habitat program.
- Preserve trees on public and private property, especially large trees.
- Support native plants and nature spaces in the city, including school green spaces and citywide bioswales.
- Expand the list of permissible plants in bioswales.
- Remove invasive holly and blackberry.

Our Neighborhoods

Goal: The City will provide public facilities that are resilient to climate change and meet the needs of the growing population.

- Implement a recycling center alongside garbage bins to promote recycling.
- Improve heat mitigation at the Camas farmers market with better pavers, covered structures, or coverage systems.
- Mandate new apartments to have air conditioning.

Goal: The City will plan for and accommodate population and employment projections in a way that maintains Camas' quality of life and small-town character.

- Encourage multifamily units to support walking to work, bolstered by an improved bus system.

Goal: The City will cultivate a business environment that promotes local businesses and establishes Camas as a desirable place for investment.

- Partner with CREDC to market the area and region to workers and tourists.
- Support diverse sizes of business units to accommodate various businesses.

Goal: The transportation system will accommodate anticipated growth and support the city's overall vision.

- Expand bike lanes, particularly around North Road and Lake Lacamas.
- Ensure developers include bike lanes and sidewalk easements as the city expands outward.

- Implement street elements and traffic calming on Downtown 3rd St. for pedestrian safety.

Goal: Camas neighborhoods will be vibrant, stable, and livable with a variety of housing choices that meet all stages in the life cycle, personal preferences, and a range of affordability.

- Integrate all income levels and promote infill with middle housing.
- Encourage different housing types and household mixes.

Goal: Camas will provide a setting of quality of life that attracts and retains businesses and offers a diverse range of employment opportunities.

- Improve clarity on buildable lands through mapping with the County.

Goal: The multimodal transportation system will be safe and efficient for all users, facilitate access to goods and services, connect neighborhoods, and encourage healthy lifestyle choices.

- Enhance safety on bike routes throughout the city.
- Establish designated bike lane corridors connecting to parks.
- Use community designs like Bend as a model, emphasizing sidewalks, bike lanes, and roundabouts.
- Improve sidewalk connectivity, such as in the Prune Hill area, to enable walking access to downtown.

Our Downtown

Goal: Encourage redevelopment to expand opportunities Downtown for retail, office, and residential.

- Increase downtown housing options.
- Encourage a diversity of business types, avoiding chain restaurants.
- Partner with the Port of Camas-Washougal for collaborative projects.
- Advocate for a properly cleaned-up GP Mill area to enhance downtown and waterfront appeal.

Goal: Expand on civic life and services Downtown through strategic use of city-owned property and vibrant community events.

- Support local businesses over generic chains.
- Enhance food options and food courts, improve the city's website.

Goal: Create a safe and connected transportation network that makes Downtown walkable, bikeable, and accessible to the rest of the city.

- Build a parking structure on the GP lot.
- Implement traffic calming measures on 3rd Ave, including trees and bulb outs.
- Develop bike paths around new developments and congested areas.
- Add crosswalks on Garfield and signal indicators to connect bike and pedestrian traffic safely.
- Consider closing auto traffic on 4th Street between Adams and Franklin to enhance pedestrian access.
- Improve public transportation access to downtown.
- Enhance pedestrian and bike access via major routes like 6th Street to prioritize pedestrian friendliness on 3rd Ave.

Goal: Retain Downtown's historic character and expand its charm.

- Honor hometown heroes and collaborate with local historical societies.

- Include the GP Mill in long-term planning to preserve and expand downtown charm.

Goal: Plan for a range of housing options that welcome more people to live Downtown.

- Support a straightforward permit process for ADUs near downtown, potentially with incentives or tax breaks.
- Develop live/work villages, lofts, and community spaces with gardens.

Goal: Provide the right mix of development, services, and open spaces that support ways for people to live, work, and play Downtown.

- Consider seasonal outdoor dining options and flexible spaces for small businesses.

APPENDIX A. Comment Form submissions

In response to "How do we achieve our vision? Share your top three big ideas for each topic area!"

Station 3: Our Community

- Having amenities for younger children such as smaller playgrounds, indoor play facilities, etc.
- Need for more sporting fields/indoor swimming pool for highschoolers to use
- We need to reunite our community to be supportive of everyone and encourage more diversity
- Broker a deal with GP to use the five acres where old buildings were demolished a few years ago to build a community center.
- Build a community center, arcade and mini golf.

Station 4: Our Environment

- Connect the bike infrastructure and bike rentals
- Is there a solution to the current well issue before adding more dwellings?
- We seem to be lacking mature landscaping in new construction neighborhoods, can some trees be preserved?
- Please continue including green spaces for multipurpose, especially sports rec areas for both soccer, little league, etc. (don't forget the girls softball – they have gotten the shaft when it comes to shared space) for great examples see Port of Klamath, Hazel Dells sports center and Hockinson Meadows Community Park.
- More access points to Lacamas Lake, and public transit to lake. Continuous trail around the lake.
- Encourage GP to gradually clean up the site to show they care about Camas.
- Save more parks/green spaces, keep more trees, and better garbage and recycling all over.
- How were these goals developed and how will they be used? Will there be policies that are developed as a result?
- What is a heritage tree program?
- Sometimes trees are planted too close together which makes it difficult to see oncoming traffic.
- The Port of Camas-Washougal has a program that helps property owners retrofit their buildings and improve the insulation.
- There is a coastal town in California, Los Osos, that has a walkway above marshland. There is a trail near Lacamas Lake near some lily pads and some type of boardwalk could help to stop people from walking over the lily pads.
- Parking is usually full near the trailhead for the Lacamas Heritage Trail off of NW Alexandra Lane. A larger parking lot is needed.
- Are there plans to address the well? There has been some talk about removing the well.
- The City should think about adding Redwoods to the tree canopy. They grow faster

than oak or cedar trees.
- Holding listening sessions on evacuation routes is a good idea (Steve Hogan).
- Large trees should be protected at all costs. It is difficult to replace them.
- Utilities should be placed underground.
- Has the old mill come up at all in any of the vision statements?
- The City should pave the gravel pit near the mill.

Station 5: Our Neighborhoods
- More neighborhood nodes – coffee shops etc. in the suburbs.
- Need more affordable housing options – condos/townhomes
- Regulate the distance between trees when planting them. Try driving out of Deer Creek neighborhood at Ogden Street and 16th Ave to see what I mean. Once trees mature in width they block traffic sightlines on both the left and right. I have to pull into 16th Ave to see around the, albeit gorgeous, trees.
- Small pockets of business areas so people can walk from home.
- Make efforts to move power underground in some of the older neighborhoods
- Doggie waste bag stations

Station 6: Our Downtown
- More retail/restaurants would be nice to keep consistent traffic going through businesses.
- Available parking is already an issue, and I don't think a meter maid is the real solution with downtown events.
- We need a plan for potentially addressing traffic patterns at 6th Ave and Adams St.
- More diversity on type of businesses/services and more diversity in ownership. Less church/religious stamp on downtown. No chains, keep it local/small business.

APPENDIX B. Poster Board Notes

In response to "Use a sticky note to write an idea for how we can achieve these goals." + indicates agreement by another attendee.

Station 3: Our Community

Goal: Camas' artistic and cultural heritage will be protected, enhanced, and commemorated.

- Start a community theatre – I'll help 503-270-7264
- Renovate/restore the community center

Goal: Community events, involvement activities, and youth focused activities will instill a sense of belonging among residents of all ages while making Camas an ideal place to raise a family.

- Create multicultural fair/event where everyone is included
- Partner with schools to have a multicultural fair

Goal: The City will promote a strong sense of community through transparent communication, outreach efforts, partnerships, and accessibility.

- Less chains of food and shopping, promote small business growth
- Partner with the school district and have regular meetings to share resources and ideas

Goal: Public places will be valued and protected spaces, with safe and well-maintained facilities that foster a sense of community and promote physical and mental health.

- Work with Camas Ivy League to maintain and control invasives
- Protect the city and county parks, remove invasive plants like Holly and blackberry and make sure modifications are for everyone
- Protect and support the library
- Use the grass are on 6th between Birch and Adams as a dog park. It will bring more people to downtown, and partner with Dog PAW, they run many parks including Dakota in Vancouver.
- We need a park/gathering space downtown. +1

Goal: Camas residents enjoy access to quality education and support their schools through partnerships and investments.

- Green Team at every school/sustainability and green practices at our schools
- Need safe transport walking corridors, also need facilities like internet
- Support economic development and green tech
- We need economic development as part of our overall vision! Bring in new businesses and support what's here!
- Add goal of strong economic development and partner with the DCA

Station 4: Our Environment

Goal: A network of parks, trails, and open space will connect neighborhoods, wildlife corridors, and natural resources and enhance the quality of life for residents and visitors.

- Heritage trailhead with parking is usually full and there are many more houses being

built consider more parking for access to trail.
- Consider all the growth from new homes adds to overwhelming the park facility at round at facilities to the top side of round near lilies.
- Create boardwalk on the Lily fields trail to discourage damage by pedestrians.
- Please pave or gravel the mill ditch so it connects downtown with other amazing paths and lakes.

Goal: Camas' infrastructure and transportation system will be able to withstand and recover quickly from extreme weather events and other hazards exacerbated by climate change.
- Bury all overhead electrical
- A pedestrian walkway on forest home Rd.
- Find upgrades to sewer and sewer systems before repaving
- Reform storm water modeling under climate scenarios to understand capacity of infrastructure and level of service requests

Goal: The City will embrace clean energy technologies to promote healthy air quality for all Camas residents.
- Retrofit older buildings to meet current code
- Clean up the GP mill to unrestricted use, recognize water clean up as potable, test at gallery wells for potential contamination of city drinking water
- Connect to our river/waterfront, stop and hold pollution sources responsible for water quality in lakes rivers and aquifers.
- More electric Car charging stations. +1

Goal: Camas' native landscape and tree canopy will be protected enhanced to maintain Camas' natural beauty and promote climate resiliency.
- Thank you for having a tree plan and maintaining our tree canopy downtown!
- Partner and support backyard habitat program
- Tree preservation on public and private property
- Save every big tree, you cannot get them back!
- Support native plants and nature spaces in the city, school green spaces and citywide bioswales. Expand list of permissible plants in bioswale.
- Redwoods.
- Remove invasive holly and blackberry
- Education to include out historical connection to founder of Earth day in city's motto and branding 'home of earth day'

Station 5: Our Neighborhoods

Goal: The City will provide public facilities that are resilient to climate change and meet the needs of the growing population.
- Recycling center instead of just garbage bins have opportunity for recycling bins.
- Please consider heat mitigation at the camas farmers market as it's getting so hot, better pavers? Covered structure or coverage system?
- Require new apartments to have air conditioning

Goal: The City will plan for and accommodate population and employment projections in a way that maintains Camas' quality of life and small town character.

- Multifamily units to allow people to walk to work but that requires a good bus system to get people around. +1

Goal: The City will cultivate a business environment that promotes local businesses and establishes Camas as a desirable place for investment

- Partners with CREDC to market the area and region to workers and tourists.
- Diverse sizes of business units, so many different businesses can exist. +1

Goal: the transportation system will accommodate anticipated growth and support the city's overall vision

- We need a lot more bike lanes particularly North Road around lake Lacamas
- As the city expanses outwards make sure the roads have the more bike lanes and sidewalk easements built by the developers buying the land
- Downtown 3rd St. must have Street elements, traffic calming to ensure pedestrian safety in crossing the street

Goal: Camas neighborhoods will be vibrant, stable, and livable with a variety of housing choices that meet all stages in the life cycle, personal preferences and a range of affordability.

- Seek to integrate all levels of income and find ways to mix into suitable areas of the community think infill with middle housing
- Too bad the Everett corridor is being sacrificed needlessly
- A YIMBY (yes, in my back yard) campaign needs to be established different housing types with different household types should not be ostracized young people and empty nesters need a place to live.

Goal: Camas will provide a setting of and quality of life that attract and retain businesses and will be home to a diverse range of employment opportunities

- Get much better. Clarify mapping with County as to buildable lands.

Goal: the multimodal transportation system will be safe and efficient for all users, facilitate access to goods and services, connect neighborhoods, and encourage healthy lifestyle choices.

- Safer bike routes
- Designated bike lanes corridors up to and through parks. +1
- Use community like bend as an example of sidewalks bike lanes and roundabouts. +1
- Connect sidewalks (Prune Hill area example, notable to walk to downtown)

Station 6: Our Downtown

Goal: Encourage redevelopment to expand opportunities Downtown for retail, office and residential.

- More downtown housing +1
- Encourage places to eat, see Vancouver Waterfront without chain restaurants.

- Partner with the Port of C-W
- Where is the vision for a properly cleaned up Mill? The City Plan is responsible for input to the state's cleanup. Without it out destiny is a sad downtown and waterfront.
- Diversity of business types. +1

Goal: Expand on civic life and services Downtown through strategic use of city owned property and vibrant community events.

- A community pool would be appreciated! +1
- A community recreation and senior center.
- Establish a community Theatre +1
- More food and food courts, better website.
- Support local business owners not generic chains.

Goal: Create a safe and connected transportation network that makes Downtown walkable, bikeable, and accessible to the rest of the city.

- Parking structure on the GP lot.
- Slow down traffic on 3rd Ave! Add trees and bulb outs and other traffic calming measures.
- Bike paths to circumnavigate new development and congestion.
- Add crosswalks on Garfield (4tj, 5th, and 6th) and at least one with a signal indicator to connect bike and pedestrian traffic safely to downtown (also through to trailheads behind church on 4th)
- Close down auto traffic on 4th street between Adams and Franklin +1
- Improve public transportation to downtown.
- More major traffic into 6th so 3rd is more pedestrian friendly.

Goal: Retain Downtown's historic character and expand its charm.

- Honor hometown heroes.
- Partner with 3-rivers museum and Clark County Historical Society
- Zone standards for mix use in downtown Camas.
- If you want to expand the City's charm, include the GP Mill in your 20 year planning process, its greyed out on your map.

Goal: Plan for a range of housing options that welcome more people to live Downtown.

- Support a straightforward and affordable permit process for ADU's especially within a mile of downtown possibly provide incentives, subsidies, breaks on property taxes etc. +1
- Live/workspaces villages and lofts with quality community spaces and gardens

Goal: Provide the right mix of development, services, and open spaces that support ways for people to live, work, and play Downtown.

- Please consider outdoor dining for sit down restaurant service, limit time from Memorial Day to Labor Day with balance of spaces taken up parking needs.
- Flex spaces for small businesses.

APPENDIX C. Online Survey Submissions

An online survey was live from after the event through June 17th as an additional mechanism for feedback. The online survey received 24 responses.

1. I feel the vision statement is:

- Right on. (x8)
- Headed in the right direction, but could be improved. (x7)
- Is missing something. (x9)

2. If you feel it is missing something or could be improved, let us know how!

- Protect the small businesses already here! Don't take away CRUCIAL parking for places like acorn and oak. You're effectively dooming them. The empty property for sale near them should be used for community parking!
- Natural Beauty, safe and diverse (economically, ethically, what people do for a living and politically)
- Love the emphasis on walkability which helps foster social connection and interaction, generating connectedness in the community! Wish we had an aquatics center, but I know that was shut down unfortunately. More mixed-use buildings is nice too
- Camas locals do not want growth. We don't want more housing and businesses. We want the small town feel that we used to have.
- There is no affordable housing. The school district is losing students because young families cannot afford to move here. Utilities and taxes are pricing good families out.
- Improved transportation options in the whole Camas area - mini busses or shuttles, bike rentals, ride share programs etc. -- increase connectivity while mitigating/reducing personal vehicle use as the area density increases
- Camas is NOT inclusive. The out of state newcomers have strangled the ability for life long residents who were born and raised here to live here. There is not affordable housing and the taxes and reckless spending are out of control. The arrogance stinks.
- Increased focus on how we will maintain livability for those who have lived here for generations and cannot afford the taxes, cost of housing, and devastating impacts of urban sprawl that is at the forefront of the city's apparent plans.
- Neighborhoods need to include green spaces & trails not only for human residents but for wild plant &; animal life. Environment & community need to include space for urban/suburban farms for growing food. Downtown--"expansion" should be carefully regulated.
- "Camas is a DIVERSE and inclusive community..."
- Parking is a big issue in downtown. So if you add more businesses, you have to add more parking
- Neighborhood traffic near schools (with no bus service) should have traffic improvements to naturally slow vehicles for the sake of safety.

- The environmental section should specifically mention maintaining Lacamas Park as a priority. Can you imagine Camas with a poorly maintained Lacamas Park? The city's value would markedly decrease. (I understand multiple entities are responsible for park)
- "inclusive" is given top priority in the vision statement, but it's not a primary characteristic of Camas, nor was it found in the brainstorm survey. Who added this?
- I would like to see less church owned properties right in the center of downtown. Although I respect the religious beliefs, the massive presence takes away from more amenable area for downtown activities.
- The “living room"(downtown) has a block of buildings that don't seem to be part of it. I'm not exactly sure how the church has come to own so much of the small, intimate, downtown area. It's a shame, that space could be put to better use.
- The possessive of Camas is Camas's not Camas'
- Expanding what the City calls "downtown" - the mill's property should be viewed as part of the "downtown" footprint as it represents both constraints and large opportunities IF we include it TODAY as a part of the planning process

OUR COMMUNITY

3. How do we achieve this? Share your top three big ideas!

- Adjust zoning to allow for small business to open up shop all around camas. Not just downtown or in strip malls. But true neighborhood spots in all the developments that are driving distance from other businesses
- Continue park and library improvements, rejuvenate downtown Camas’ infrastructure to improve walkability, adding a community indoor/outdoor pool would be nice, doesn’t have to be super fancy or expensive
- We need to get rid of the two hour limit on parking in downtown so we can can support local businesses. Rather than only having time for dinner OR a movie, allow free unlimited parking so you can do both without getting a ticket.
- Listen to what the citizens want. Make things happen, don't just talk about them. Take better care of our vision clearance areas especially downtown, many hazards just waiting to happen, also breaking the cities on Municipal Codes.
- Follow through on these statements is all important!
- Lower utilities and taxes to attract families. Lower the business taxes as to not lose anymore existing businesses. Do not follow the national political ideology!!
- Leave the mill alone. It is what put the city on the map. The high school admin should be ashamed of calling the mascot Makers instead of Papermakers. We should put financial caps to ensure our original citizens are protected.
- Focus on pay for teachers opposed to admin, actively reduce sprawl, stop road expansions and developments on the north shore, maintain and care for historic places, focus on infill opposed to destroying natural areas and farmland
- your goals appear to be youth & family centered. You need to be aware of aging residents, their interests and needs.

- We need an accessible and larger community center in a central location (even if it is shared with Washougal). Downtown Camas activities couldn't be better. Engagement efforts are great--council needs to listen to citizens' wants & spend conservatively.
- Prioritize community gathering spaces. Make bike lanes accessible to major hubs with bike parking. Citizens will never prioritize healthy alternative forms of transportation if endless parking is provided across the city.
- The biggest attractions are the parks, lakes, and trails of Camas. Secondly are the excellent schools. Thirdly is the small town feel. So if you add more growth. You won't have a small town feel anymore.
- Keep investing in art, attract more live music venues/events.
- Continue using buildings to display art. Create more public gathering spaces that are pedestrian/cyclist focused that include the natural environment and public art/cultural history.
- Community Events, clean streets, strong business network, support developers, tough on crime, keep out vagrants
- Less focus on the insidious WOKE attitude. Just accept everyone without the bend over backwards celebration, which results in a focus on differences regather than our commonalities.
- Maintaining a business friendly environment that encourages investment in new businesses such as restaurants. Utilizing public-private partnerships to bring small shops/restaurants at or near parks.

OUR ENVIRONMENT

4. How do we achieve this? Share your top three big ideas!

- Save at least some land for wildlife! Don't develop too much and make this just another hideous bunch of cookie cutter houses and strip malls. Also, reckless driving is increasing, especially on crown road and third.
- City should buy and maintain more preserved nature land within the area. Protect all current natural areas. Slow development in green spaces and promote more density in already developed areas.
- Improve/widen more of the sidewalks downtown camas and add more bike lanes especially to N.E. 3rd Ave up Crown Rd, don't need 4 car lanes there, continue park and infrastructure improvements, connect all trails via bike and walking paths
- Limit parking to residential passes and eliminate out of out of towners, open trails to bikes, allow park to have my bike jumps back. Stop with such environmental measures. All while stop cutting trees down m!
- Stop kicking the can down the road on maintenance of our streets. If the company fails to do the job right don't accept 1/2 ass work. Hold them accountable, also our buildings. Example Lodge building screwed up window spacing. Should have been fixed
- Follow through on these statements is all important!
- Easy. If you need to take trees down to build, then don't build there!

- Incentivize home owners to plant more trees; evaluate options for trails in residential areas and connect them to downtown; create walk/bike paths to connect Camas top to bottom, side to side - for work commute even (no cars!)
- More funding for parks. Both to improve & maintain
- Don't allow people who cut trees down to build their homes years ago to deny that same option to be afforded to others. So narcissistic. Hold Lacamas Shores accountable for their watershed issue. Leave the Everett corridor intact.
- YES! Our Camas outdoor parks/trails are un-met! YES! YES! maintain & Keep parks, trails, corridors so valuable to us all. Pls Avoid creating business/industrial developments to boost tax $$'s (which Beaverton/Hillsboro Ore did, sadly)
- Preserve open space. Preserve wildlife, wild areas, trees, agriculture, farms, not building on every available space. Trails/bike routes in connecting areas like Forest Home Road. Volunteer events to care for parks & spaces, with some kind of incentive.
- Lacamas Regional Park needs to be more responsive to trail maintenance requests and work offered by volunteers. Without volunteers the park would be overgrown and most trails would be unusable.
- Biofilter in the lakes so they are usable year-round, no more toxic algal blooms. ban harmful fertilizers
- During storms we need more snow and ice removal vehicles. Only main roads were plowed and so many people can not leave there homes if they live on streets that are not cleared
- Maintain current parks/lakes/outdoor spaces before investing in new spaces, install swales in neighborhoods to help with flooding issues, use native plantings.
- Prioritize improving collaboration between the entities that own Lacamas park AND local volunteers so that the park receives timely maintenance and enhancements. Current process excludes volunteers critical & maintenance is too delayed.
- You have a good plan here keep it up.
- By utilizing clean hydro power.
- Get the mill cleaned up; assess its risks to our drinking water; Incentivize HOAs to maintain facilities & participate more fully in our stormwater management; seek to PROTECT drinking water supplies thru sound risk planning & better wellhead protection

OUR NEIGHBORHOODS

5. How do we achieve this? Share your top three big ideas!

- Don’t overdevelop and lose all the natural beauty. Less is more
- Not sure.
- Connect all of neighborhoods and parks to downtown camas with walkable sidewalks and trails all the way to Lacamas would be great. Especially Crown Rd to NE 3rd to downtown and even to Washougal Waterfront
- I hate all of this. I want a mayor that will fight against that states growth plan. No one cares about climate change, no one wants mass transit, and especially no one wants wider roads and more round abouts. This town is getting destroyed.

- Common sense don't plant trees right beside street lights. Don't have planting areas in our sidewalks, would help with all the raised and horrible ones in neighborhoods.
- Follow through on these statements is all important!
- No public transportation in neighborhoods.
- encourage mini van shuttle services, rent a bike services, encourage personal ride sharing (co-commuting) by creating programs and digital tools for people to connect safely
- Cap taxes for people who were born here. Allow tiny homes and ADU's. Get on top of the growing homeless issue in our parks and neighborhoods.
- our goal mentions NOTHING about community Safety!! There needs to be an emphasis on crime Prevention and commitment to law enforcement, esp. if your goal is growing population.
- All developments should include green space, trails, and trees. Growth should be VERY slow, as slow as possible, to allow for adjustments to infrastructure. Less urban=more valuable and enjoyed by everyone in the long run.
- Bike lanes, playgrounds with exercise stations (think pull up and dip bars), sports courts (pickleball is the fastest growing sport in America right now)
- Add new bus routes, public transit to connect to Portland and Vancouver!!, busses to connect neighborhoods to downtown
- I think roundabouts are okay but you don’t need them everywhere. The busiest roads are Lake Road and Everett Rd.
- No new building permits until clean water is assured for all residents! Tighter restrictions on residential developer permits.
- Prioritize safe bike lanes that connect the city. By safe, I mean bike lanes that mom's & dad's feel safe using with their kids i.e. a PHYSICAL divider between car lane and bike lane for safety. This will increase # of ppl who use bikes for transportation.
- Preserve the small town vibe. Single family homes. No multi family
- Dedicated bike trails that connect neighborhoods to schools. Ensure each community has a safe walking paths that connect to parks/schools.
- TOTALLY missing the word affordable and clearly not accommodating the blue collar employees that make a City go. One only look at North Shore (Toll Brothers) and Camas Meadows (Romano) to envision what is spoken above as privileged only welcome here.

OUR DOWNTOWN

6. How do we achieve this? Share your top three big ideas!

- Another crosswalk on Garfield would be amazing
- Provide ease of development to those with a proven history of ethical growth of development.
- Needs more mixed use development, no more one story single use buildings please, yes more walkable and bikeable please, more restaurants and shopping needed, the gate to Louis Block park can be improved it looks really old, just updating downtown needed
- We don’t want to achieve this. Stop the growth, keep the small town.

- Implement pay to park in hopes of being able to get a parking garage. Parking is at a minimum now and this issue needs to be addressed ASAP. People pay to park everywhere else and they don't complain.
- Follow through on these statements is all important!
- We have enough downtown living. This keeps it clean and organized.
- Move the church from downtown to another area and use the space for businesses that actually pay tax; use that money to fund downtown upkeep;
- Increase the parking fines to better control the issue. Move the farmers market to Crown Park. Again, leave the mill alone.
- Presently, downtown Camas is NOT walkable. Each crossing of a block is a pedestrian safety matter, drivers in cars. I feel unwelcome in downtown Camas.
- Keep vital services downtown. Post Office, Library, affordable restaurants, should be prioritized over housing, wineries. New construction should be attractive, classic styles (Euro, art deco, Victorian), no big rectangles (like new apartments going in).
- Keep downtown walkable. Cars should never be a priority. If you create a beautiful downtown hub, people will come. People who walk/bike/use alternative methods of transport are more likely to spend $ at local businesses.
- Stop approving churches on the main strip. bring back a pizza by the slice place.
- I don’t know if having apartment above businesses is a good idea. Downtown is already crowded as it is. You don’t have to build on every remaining area. I often thought that downtown would be great if you made 4th street a pedestrian walkway.
- Ensure downtown remains commercial, NOT religious! A Christian church on our main street makes those of us who are not religious feel uncomfortable. A good rule - if The Satanic Temple is not welcome to do it, neither should be the Christian church.
- The historical downtown Camas St is fantastic, however it could be improved by expanding it to neighboring streets. For ex, 3rd Ave is an eyesore and not friendly to pedestrians. 5th Ave also could be developed to have a similar look & feel to 4th Ave
- Don't worry about transportation. getting to downtown is already accessible. Maybe a shuttle for seniors
- Have the church move to buildings outside the downtown area, so that the space/buildings can be used to benefit and be enjoyed by the WHOLE community.
- Redevelop the paper mill property and ensure it is safe for mixed use development.
- If you want to expand charm, start pushing to get that downtown eyesore remediated....there's nothing charming about the unseen decades of pollution there.

7. Is there anything else you would like to share about the Our Camas 2045 process?
    - It looks great and like headed in the right direction for sure with focus on physical movement, getting people out of cars and more convenience for walking and social interactions and connectedness!
    - No more selling land to large developers who want to cram in big houses on small lots, and stop with apartment complexes!!!! Our roads and schools do not want more growth. People moved to Camas to get away from people!!!!!!

- Please add more community meetings and add the results of our (public) input to the website and follow up emails when we share our address
- Love that you're doing this and I'm super inspired to live in this community. I'd love to learn how to get involved and join you on this journey of making the vision the reality!
- The City is hemorrhaging other people's money. This has got to stop. We cannot keep spending on the backs of others.
- Camas is now a place our friends, family, credit union, etc. advise us to stay away from and build our lives elsewhere. It’s a shame what greed and development have done to our home.
- Applause for city planners, involving Camas residents in 20 yr. projections! Looking fwd. to hearing milestone efforts to sustain the lovely charm & character of Camas.
- great job thanks
- When you have meetings instead of breaking off into groups you could have various informed speakers talk about plans then take questions from audience as they sit on seats so everyone can hear
- Lacamas park needs to be specifically named and goals for its enhancement specifically outlined. Goals for bike infrastructure must include bike lanes with physical barriers that protect cyclists from cars otherwise most families will not utilize them
- I have to be honest, the Vision statement is terrible. "inclusive" is not relevant to Camas, and will be harmful to strategic planning. The rest of the vision statement is vague. The environment statement is acceptable but also redundant.
- Love that you are asking for input, and hope it is discussed and considered.
- The open house hosted in the lodge was a poor way to communicate information. Slides being shown without explanation and timed so quickly that you couldn't read all the info was disappointing. The noise in the room meant nearly shouting to be heard.

Our Camas 2045 Community Summit No. 2 Summary
October 22, 2024

Overview

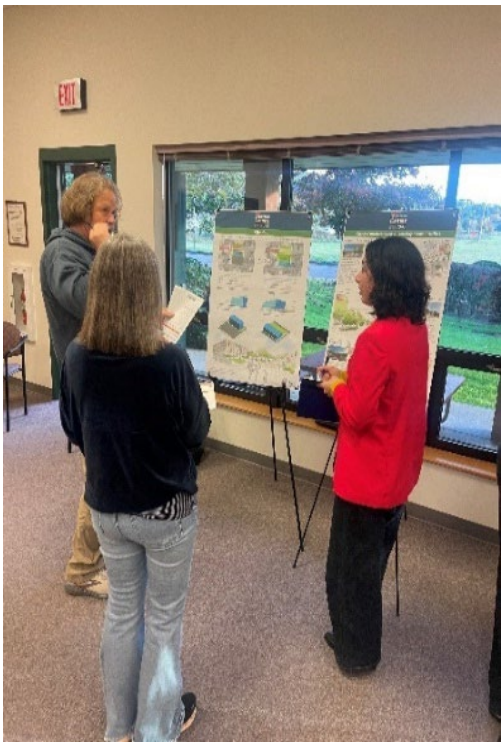
On October 22nd, 2024, the City of Camas hosted *Our Camas 2045 Community Summit #2*, the second open house event for its *Our Camas 2045 Comprehensive Plan and Downtown Subarea Plan* process. The purpose of this event was to have community members comment on the draft land use alternatives, provide input on development scales, review development concepts for downtown, and learn about the County's climate planning efforts and Greenhouse Gas (GHG) inventory.

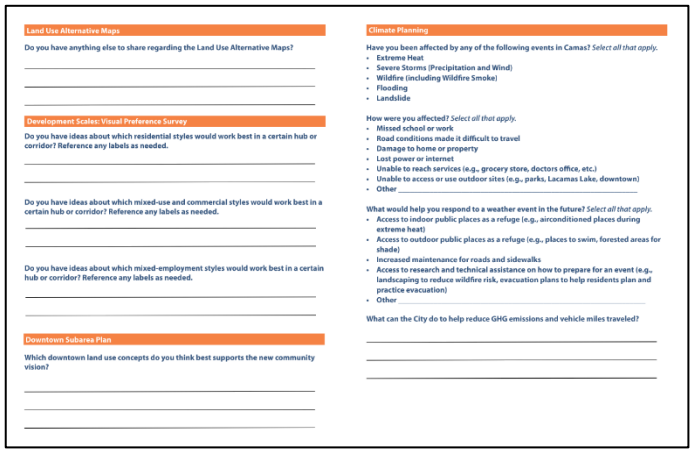
More than 45 community members participated in the event at the Camas-Washougal Fire Department Station 42, where kids activities and refreshments were provided.



The event was organized with stations set up around the room. Stations covered topics such as the *Our Camas 2045 Vision Statement and Outreach Draft Land Use Alternatives, Development Scales, Downtown Concepts, and Climate Planning.* Additional stations provided an overview of the project, and existing land use conditions for context.

Participant discussion and feedback was focused on the draft land use alternatives, a visual preference survey of development scales, and downtown redevelopment concepts. For the Draft Land Use Alternatives station, community members viewed proposed land use concepts through the lens of 'hubs' or 'corridors' and were asked if any key corridors or hubs were missing. The next station offered a visual preferences survey for different types of housing, mixed-use, commercial, and mixed-employment uses that could occur in a future land use alternative for Camas. The last station asked for community members to review several downtown redevelopment and streetscape concepts and offer their feedback. Each station included a project team facilitator, who took notes of the discussion on flipcharts and post-it notes. Comments and ideas were also captured through several sticky dot exercises (Appendix C) and in writing through a comment form (Appendix A). For people unable to attend the event, a complementary survey was available via the Engage Camas website. The results are available in Appendix B.





Land Use Alternative Maps

Do you have anything else to share regarding the Land Use Alternative Maps?

Development Scales: Visual Preference Survey

Do you have ideas about which residential styles would work best in a certain hub or corridor? Reference any labels as needed.

Do you have ideas about which mixed-use and commercial styles would work best in a certain hub or corridor? Reference any labels as needed.

Do you have ideas about which mixed-employment styles would work best in a certain hub or corridor? Reference any labels as needed.

Downtown Subarea Plan

Which downtown land use concepts do you think best supports the new community vision?

Climate Planning

Have you been affected by any of the following events in Camas? *Select all that apply.*

- Extreme Heat
- Severe Storms (Precipitation and Wind)
- Wildfire (including Wildfire Smoke)
- Flooding
- Landslide

How were you affected? *Select all that apply.*

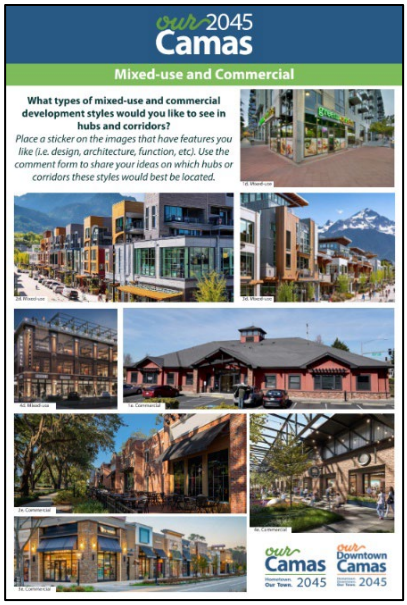
- Missed school or work
- Road conditions made it difficult to travel
- Damage to home or property
- Lost power or internet
- Unable to reach services (e.g., grocery store, doctors office, etc.)
- Unable to access or use outdoor sites (e.g., parks, Lacamas Lake, downtown)
- Other

What would help you respond to a weather event in the future? *Select all that apply.*

- Access to indoor public places as a refuge (e.g., airconditioned places during extreme heat)
- Access to outdoor public places as a refuge (e.g., places to swim, forested areas for shade)
- Increased maintenance for roads and sidewalks
- Access to research and technical assistance on how to prepare for an event (e.g., landscaping to reduce wildfire risk, evacuation plans to help residents plan and practice evacuation)
- Other

What can the City do to help reduce GHG emissions and vehicle miles traveled?

The comment form handed out at the event.



One of the Development Scales posters.

Summary of Feedback

The following sections summarize the feedback received, organized by station. This includes comments captured through discussion, comment forms and the online survey.

Draft Land Use Alternatives Station

- Most participants expressed a preference for the hub model over the corridor model. Hubs were seen as more conducive to building community, encouraging walkability, and creating spaces where residents could interact and engage in local activities. Many valued the small-town feel that hubs provide, allowing for easy access to daily needs. Some highlighted hubs as more suitable for a compact urban design, avoiding the downsides of corridor-style, car-dependent sprawl. Others noted that hubs would help concentrate community energy, drawing people to central, lively areas, which contrasts with the sprawling nature of corridors that might prioritize vehicular access and parking.
- Concerns around density varied, with some questioning whether downtown could accommodate higher-density development feasibly. North Shore residents voiced concerns about the need for a clear transition between rural/low-density areas and new, higher-density developments, with a preference for a tiered approach to prevent abrupt changes in character. Many participants expressed a desire to limit the height of downtown buildings to two stories, preserving the traditional aesthetic of the area. There was significant support for incorporating brick and other traditional materials in building façades, reinforcing Camas's historic character.
- Participants were also drawn to the idea of mixed-use developments that blend commercial and employment spaces. These were seen as essential for diversifying the local economy, creating jobs, and reducing the need for residents to shop or work outside the community. There was strong support for broadening the tax base with more commercial and retail

developments to limit the reliance on Vancouver and neighboring areas for goods and services. The potential for transforming certain underutilized properties, like the mill site, into community hubs was noted, with hopes that such projects could bring aesthetic and functional improvements to the area.

- Another priority highlighted was the importance of walkable, bike-friendly streets with green infrastructure like trees and traffic calming elements. Many participants preferred pedestrian-focused, multimodal streets with bike lanes, protected sidewalks, and transit stops that connect hubs and local neighborhoods seamlessly. Comments encouraged shifting away from auto-centric developments to form-based codes that prioritize building design and public space over specific land uses. Some attendees expressed support for removing parking minimums, which some felt hindered denser, more community-oriented development. The goal was to make hubs easily accessible on foot or by bike, fostering a community-centric lifestyle.
- Some residents advocated for single-level homes to better serve seniors and individuals with disabilities, reflecting the need for inclusive housing design. This aligns with broader suggestions that higher-density housing should be thoughtfully planned around schools and employment areas, making daily life accessible without excessive reliance on cars.
- Several residents identified specific areas that could benefit from hubs. Suggestions included developing a smaller hub at the intersection of NE Everett St and NE 15th Ave near Crown Park, enhancing the existing downtown hub, and possibly adding more hubs on Prune Hill to prevent it from being a predominantly residential area. These hubs would ideally incorporate small-scale commercial spaces, sidewalk cafes, and other community-friendly spaces. Participants noted the potential challenges of competing with Columbia Palisades but emphasized the importance of unique attractions in Camas's hubs to maintain their distinct character.

Visual Survey Development Scales Station

- ***Images of Residential Development***: The community noted the need for diverse residential options that cater to different life stages, from younger families to older adults. Brick and natural materials, paired with modern elements, are preferred for a classic look, while cottage styles were discouraged. Examples like 2a for low density and 3b for medium density (see Appendix C) — are favored in areas like North Shore, where a mix of front yards and green spaces preserve natural appeal. For central corridors like Everett, high-density options support walkability and community vibrancy without overwhelming the small-town feel. However, there's a desire to avoid towering structures near shopping areas to maintain an accessible scale. The taller buildings in Redmond, WA were cited as an undesirable style for Camas.
- ***Images of Mixed-Use and Commercial Development***: For commercial and mixed-use hubs, styles like 2d and 2e align with Camas's character by integrating small-town charm with urban functionality. Utilizing hubs in the North Shore and other regional areas are ideal for medium-density, mixed-use layouts that transition smoothly into surrounding neighborhoods. There's a strong preference for storefronts to encourage walkability and gathering spaces, as well as a

plaza near the lake, where green space and pedestrian paths promote community interaction.

- ***Images of Mixed-Employment Development***: Employment hubs should focus on smaller, adaptable buildings rather than large industrial complexes, prioritizing options like 4f and 5f with "Pacific Northwest" architectural elements. These styles align with local aesthetics by featuring sleek lines and natural materials that respect the environment, helping maintain the town's welcoming feel. Additionally, incorporating sustainable features such as green roofs or solar panels would reflect Camas's environmental values.

Downtown Sub-Area Plan Station

Land Use Concepts

- There was strong support for moderate increases in density, especially around key corridors like 3rd Avenue, where mixed-use buildings could create a lively blend of residential and commercial spaces. Many residents felt that recent apartment developments set an ideal example of density, offering a balance that complements the small-town feel. Some also embraced the idea of higher-density zones, provided they include greenspaces and plazas to support sustainability, community, and local businesses.
- Preserving the historic downtown core was a priority, with a consensus that growth around this area should retain its character. Medium-density wraps near downtown were preferred over high-rise developments, which participants felt could overshadow the town's charm. Interest in integrating the mill into plans also emerged, with suggestions to adaptively reuse the site for public and commercial spaces, such as condos, green areas, and farmers' markets, which would enrich downtown's recreational and social environment.
- Environmental considerations played a prominent role, with concerns that taller buildings could create perpetual shade, especially during winter. To maintain a pleasant downtown atmosphere, some recommended limiting taller structures to specific zones and designing south-facing facades with light-colored exteriors to reflect sunlight. Additionally, participants stressed the importance of using native plants to ensure street trees thrive in the urban landscape.

Transportation Concepts

- Transportation suggestions focused on pedestrian safety and traffic calming measures to make downtown more navigable for walkers and cyclists. The community largely opposed one-way street concepts, as these were seen as disruptive to local businesses and challenging for visitors. Instead, they advocated for improving bike connections to nearby neighborhoods and prioritizing pedestrian-friendly design, particularly on high-speed roads like NE 3rd Avenue.
- Efficient land use was a significant theme, with calls to reduce surface parking lots in favor of flexible parking solutions, allowing developers to tailor parking to actual needs. Participants felt this would improve land values, walkability, and sustainability. They also stressed the importance of greener, pedestrian-friendly streetscapes, with many favoring the Enhanced Streetscapes Option, which includes planting street trees for shade and aesthetics.

Street Enhancement & Development Studies

- Several residents specifically supported the 3rd Avenue Transformation, noting that a higher-density 3rd Avenue is preferred. Support was also shown for a Densified Downtown Street design.

Open Space Enhancements

- Community feedback revealed broad support for enhancing downtown Camas with more open and gathering spaces to create a vibrant, welcoming environment. Many participants highlighted the need for improvements to the Mill Ditch trail, which, while valued as a potential recreational asset, currently feels unsafe to some users. Residents would like to see the trail become more accessible, envisioning it as a well-lit, well-maintained pathway that connects community spaces.
- The idea of establishing a linear park along Dallas Street also received interest, as participants saw it as a way to add green space and promote walkability downtown. However, some raised concerns about the impact on on-street parking, suggesting a need to balance new open spaces with convenient access for residents, businesses, and visitors.

City Hall

- The community's feedback on Camas City Hall reflects a preference for podium parking to support a civic plaza. Residents see this as a valuable opportunity to introduce a central gathering space while maintaining essential parking capacity. The civic plaza concept received favorable feedback, especially for its potential to be located north of City Hall and offer open public seating, terraces for events, and green spaces for community gatherings.
- While most participants supported a three-story City Hall, some suggested a five-story design to maximize density without sacrificing the public plaza. The additional cost of podium construction and ensuring sufficient daylight for the northern-facing plaza were also raised. Suggestions included relocating City Hall south to 3rd Avenue to create more open space, and many community members looked to Bothell, Washington's City Hall as a model, appreciating its blend of podium parking and open public design.
- There was also a notable call for better parking options. Some people remarked that downtown currently has too much parking, while others noted the difficulty of finding parking for business employees with the existing two-hour limits. Underground parking emerged as a popular solution to both conceal and expand parking capacity, balancing the need for accessibility with the vision of a more walkable, less car-centered downtown.

<u>Climate Planning Station</u>

- There was discussion regarding stormwater management and tree canopy preservation. One resident referenced the North Shore development, expressing concern about how much of the existing tree canopy was removed. They worried that the new stormwater infrastructure, designed to direct water to an older system, may not withstand the increased flooding and extreme precipitation expected with climate change. This attendee questioned if there are any protective measures in place for existing tree canopies and restrictions on developers regarding

stormwater management to prevent overburdening outdated systems.

- Participants had questions about the building code, particularly whether it includes provisions for solar readiness or future wiring needs. Several participants asked for an update on the climate planning process, wondering if specific policies had already been drafted.
- Extreme heat, wildfires and wildfire smoke, and severe storms affected the most residents. The most common impacts were the loss of power or internet, damage to their home or property, and being unable to access or use outdoor sites. For ways that would help residents respond to a weather event, most residents noted the need for increased maintenance for roads and sidewalks, access to outdoor public places as a refuge, and access to indoor public places as a refuge.

Greenhouse Gas Inventory

- Community members emphasized increased use of electric vehicles (EVs) and suggested improving walkability to reduce dependence on car travel, particularly trips to Vancouver. Ideas included developing more mixed-use commercial spaces downtown and fostering a “shop local” culture to support area businesses and reduce transportation emissions.
- Transportation alternatives were another focal point. Residents advocated for safer pedestrian infrastructure, bike lanes, and more frequent public transit, emphasizing that these options should be of high enough quality to ensure actual usage. Many suggested connecting neighborhoods, particularly those isolated by current infrastructure limitations like Green Mountain, with safe, accessible routes to downtown. The feedback also revealed a strong interest in local job opportunities to reduce commuting. Some proposed strengthening partnerships with employers, particularly in fields like technology, to create high-quality, locally based employment options.
- Environmental initiatives were also highlighted, with suggestions for incorporating solar power in local energy strategies. One resident shared a personal account of their success with a solar roof and “power walls”, advocating for city policies that promote solar installations on rooftops and exploring biochar as a carbon sequestration tool. Others emphasized preserving existing trees, expanding green spaces, and promoting educational programs about reducing meat consumption, growing local food, and teaching young people about carbon footprints.

Natural Hazards

- Community feedback highlighted a strong interest in strategies to address the impacts of wildfire and extreme heat in Camas, with a particular focus on expanding green infrastructure. Many people expressed support for increasing shade and tree coverage, especially around schools, to mitigate heat effects on vulnerable populations.
- Participants voiced strong support for protecting Camas’s open spaces, recognizing their ecological value and the role they play in community well-being. This feedback emphasized the importance of preserving natural areas as part of Camas’s broader climate resilience efforts and integrating green infrastructure solutions across the community.

Our Camas 2045 Community Summit No. 3 Summary
January 12, 2026

Overview

Between September 15 and December 26, 2025, the City of Camas hosted *Community Summit #3* for its *Our Camas 2045 Comprehensive Plan* and *Our Downtown Camas 2045 Subarea Plan* process.

The Community Summit served as an engagement strategy to share the draft *Our Camas 2045 Comprehensive Plan* and *Our Downtown Camas 2045 Subarea Plan* with the community and help shape the next drafts and implementation actions. This summit included a mix of online engagement and in-person activities to provide community members with opportunities to review, ask questions, and provide feedback on each element (or chapter) of the draft comprehensive plan, including the Downtown subarea plan.

The City featured a different comprehensive plan element every two weeks by hosting an online survey and providing background information on the Engage Camas project websites. Summit materials (including posters, handouts, and the draft element) for each element featured during the Community Summit were available on Engage Camas. In-person engagement activities consisted of a presentation at a joint Strong Towns and Camas Earth Day Society event and a series of "Chat with a Planner" events where community members could connect with City staff.

The following figure shows the overall calendar for the summit.



Community Summit #3 Engagement Schedule

At the Strong Towns and Camas Earth Day Society event, City staff presented information on new statutory requirements for middle housing[1] (i.e., House Bills 1110 and 1337), existing zoning requirements for middle housing in Camas, and draft amendments to the City's development code and design standards (e.g., permitted unit densities, parking, dimensional standards, and unit types) to support middle housing development. Following the presentation, participants provided feedback on the following topics:

- Unit calculations and parameters for affordability;
- Accessory dwelling units (ADU), including ADU impacts to property values and proximity to neighboring properties;
- The paper mill and requirements for cleanup;
- Utility connections and fee requirements for multiple units on the same lot;
- Provisions for electric vehicles and incentives for solar technologies.

Summary of Feedback

The following sections summarize the feedback received from the online surveys hosted on the *Our Camas 2045* Engage Camas website.

Online Surveys

Each of the seven online surveys consisted of approximately 10 questions focused on actions the City could take related to goals and policies for each element. Participants were asked to review each action and consider, with the limited resources available to the City, whether it is an action the City should take. Each question included the following response options: Strongly Agree, Somewhat Agree, Neutral, Somewhat Disagree, and Strongly Disagree. Two open-ended questions also provided participants with an opportunity to share additional actions the City could consider, as well as their general thoughts on the element. The following sections summarize feedback received from each survey, organized by element. Elements with similar topics, such as Natural Environment and Climate, were administered in a combined survey and feedback covers both elements.

Community Character

Survey questions on the Community Character element were open from September 15 to September 28, and there were 36 respondents. Questions explored actions related to arts, culture, heritage, community identity, and community engagement.

- The top three most popular actions among participants, which included responses of Strongly Agree or Somewhat Agree, were the following:
    - Provide development incentives (such as increasing lot coverage, density, or heights) for projects to protect natural topographic, geologic, vegetative, and hydrologic features and provide features such as tree-lined streets, rain gardens, and use of native landscaping.

[1] "Middle housing" refers to moderate density housing, with forms and densities that fall between single-family homes and multi-family buildings. Middle housing buildings are compatible in scale, form, and character with single-family houses but contain two or more attached, stacked, or clustered homes.

  - Develop educational and volunteer programs related to climate science and habitat conservation.
  - Develop a City education program to share information and educate the community on local government, city functions, and ways to engage with staff.

- In the open-ended questions, participants expressed an interest in promoting more community events downtown that feature arts and crafts or farmers markets. This includes offering more events in the winter and partnering with local school to establish art programs. Participants also mentioned the concept of aging in place and suggested that the City could consider pursuing BlueZone recognition. BlueZone is an organization that partners with local communities, health care providers, and cities to develop programs focused on well-being and human health. A general theme across the open responses included an interest in maintaining a small town feel and preserving open space areas and trees from development.

Housing

Survey questions on the Housing element were open from September 29 to October 12, and there were 50 respondents. Questions explored actions related to affordable housing, infill development, and zoning.

- The top three most popular actions among participants, which included responses of Strongly Agree or Somewhat Agree, were the following:
  - Require large developments to dedicate a portion of lots/units for middle housing or ADUs as part of subdivision approval.
  - Offer financial assistance or programs to rehabilitate and repair existing housing stock.
  - Invest in existing neighborhoods to improve safety, accessibility, and livability while preserving neighborhood character.
- In the open-ended questions, participants suggested that additional actions for the City to consider could include supporting mixed-use on single family lots to increase the availability of neighborhood businesses and encouraging more infill development in existing neighborhoods to prevent sprawl and preserve natural areas. Additional suggestions for potential actions include revising the development code for ADUs to make construction and permitting more affordable. Respondents also expressed an interest in protecting rural and undeveloped areas from new subdivisions.

Natural Environment and Climate Resiliency

The joint survey on the Natural Environment and Climate Change & Resiliency elements was open from October 13 to October 26, and there were 15 respondents. Questions solicited feedback on actions related to clean water, trees, parks and recreation, trails, and climate resilience.

- The most popular actions among participants, which included responses of Strongly Agree or Somewhat Agree, were the following:
  - Support cleanup efforts at the Camas Mill and other contaminated sites to protect natural resources and local water supply.
  - Develop a program (such as an Urban Forestry program) to prioritize the preservation of existing trees, develop new tree planting requirements, and support education and tree canopy data management.

  - Prepare a community wildfire protection plan that addresses wildfire prevention and requirements for fire resilient landscaping.
  - Implement targeted lake management actions to protect water quality and reduce harmful algae blooms in local waterways.

- In the open ended questions, participants suggested additional actions for the City to consider could include establishing wildlife corridors within neighborhoods, particularly at the periphery of the city, adding solar powered lights at locations throughout the city such as pedestrian crossings, involving community volunteers in environmental projects, implementing a notification system and emergency plan for wildfires , and implementing regular testing of PFAS chemicals (i.e., “forever chemicals”) in the city’s water supply. General feedback included respondents expressing interest in encouraging active modes of transportation (e.g., biking and walking), restoring native ecosystems, removing contaminants from the city’s water supply, providing space for wildlife, and preparing for wildfires.

Economic Development

Survey questions on the Economic Development element were open from October 27 to November 7, and there were 12 respondents. Questions explored actions related to local businesses, mixed-use areas, access to goods and amenities, and living-wage jobs.

- The top three most popular actions among participants, which included responses of Strongly Agree or Somewhat Agree, were the following:
  - Partner with groups such as the Chamber of Commerce, Port of Camas-Washougal, and Columbia River Economic Development Council to proactively recruit new businesses and industries and ensure that tools and incentives are in place to attract and retain living-wage employment.
  - Launch an economic development grant program to support local business and provide incentives for new businesses and industries.
  - Encourage mixed-use zoning and neighborhood business districts to increase local access to goods and services, provide more efficient use of land, and link residents with employers and businesses.
- In the open ended questions, participants suggested that additional actions for the City to consider could include implementing incentives for small and medium-sized businesses, partnering with the Port of Camas-Washougal to provide more commercial space, revising the zoning code to not allow land zoned for commercial or industrial uses to be developed as residential uses, and providing incentives for more community spaces to allow for a meeting place for clubs and adult programs. General feedback from respondents included comments on accommodating future impacts of remote work, supporting the growth of small and medium-sized businesses, and encouraging diverse commercial and industrial uses.

Transportation and Public Facilities

Survey questions on the Transportation and Public Facilities elements were open from November 10 to November 21, and there were 8 respondents. Questions explored actions related to biking, walking, schools, utilities, and first responders.

- The top three most popular actions among participants, which included responses of Strongly

Agree or Somewhat Agree, were the following:

- Develop a Safe Routes to School program by partnering with the Camas School District to make active transportation safe and fun for children traveling to and from school.
- Incorporate sustainable design features (such as daylighting, solar, and green roofs) in existing and new public buildings.
- Update the City's Stormwater Design Standards Manual to include requirements for low-impact development or green infrastructure to reduce the amount of impervious areas in new development or redevelopment projects.

- In the open ended questions, participants shared that additional actions for the City to consider could include implementing more protected bike lanes, fixing gaps in the sidewalk infrastructure, considering policies to limit light pollution, requiring the development community to provide safe bike and pedestrian infrastructure, and protecting groundwater recharge areas. General feedback from respondents focused on either prioritizing bicycles and pedestrians or only vehicles. This contrasting feedback included respondents who are interested in expanding bike and pedestrian infrastructure as well as those who would prefer to use funding for improvements to roadway facilities to limit congestion.

Land Use

Survey questions on the Land Use element were open from November 24 to December 5, and there were 47 respondents. Questions explored actions related to housing, public services, employment and recreational uses.

- The top three most popular actions among participants, which included responses of Strongly Agree or Somewhat Agree, were the following:
  - Update the City's development code to incorporate design standards that are sustainable and support low climate impact. Sustainable and low climate impact design standards include things like native landscaping, energy and water efficiency standards, use of non-toxic materials in construction, and site optimization to preserve green space.
  - Collaborate with partners to encourage community events, signage, and public art that celebrate the unique identities of different areas of the city.
  - Prioritize mixed use development that encourages small businesses, provides a mix of housing types, increases pedestrian and transit connections, and includes environmentally sensitive design.
- In the open ended questions, participants shared that additional actions for the City to consider could include constructing a public disc golf course, implementing parking reform, purchasing or facilitating the purchase of right of ways, acquiring easements and land transfers for bike and walking paths, providing more youth sports facilities and parks, and increasing public access near Lacamas Lake. General feedback included preserving green spaces, providing more open space, limiting growth, and aligning transportation improvements with land use plans.

Downtown Camas

Survey questions on the Downtown Camas subarea plan were open from December 8 to December 26, and there were 5 respondents. Questions focused on potential policies and incentives that could be implemented in Downtown Camas related to transportation, housing, development regulations, and

local character.

- The top three most popular actions among participants, which included responses of Strongly Agree or Somewhat Agree, were the following:
    - Partner with local artists to create public art, murals and other interactive elements in Downtown and require new developments to provide public art.
    - Require active ground floor uses (commercial or public space) and engaging street level design (pedestrian accessible) in the Historic Main Street Core area of Downtown.
    - Develop a parking management plan for Downtown to ensure there is adequate parking for Downtown businesses and residents, and explore options for shared use parking and offsite (edge of Downtown district) parking facilities that could serve as a park and ride transit facility.
- In the open-ended questions, participants suggested that additional actions for the City to consider could include improving pedestrian crossings with flashing beacons (e.g., a crosswalk at Garfield and 6th), revising parking requirements, and establishing a parking benefit district to charge for on-street parking. General feedback included an interest in creating safer pedestrian and bicycling infrastructure, preserving the small town and working-class culture of Camas, improving curb management, refining parking requirements, and keeping Camas affordable.

Conclusion

The seven online surveys recorded responses from over 150 respondents from the community on the draft comprehensive plan and Downtown subarea plan. Surveys on housing and land use gathered the most responses with general feedback focusing on preserving existing open space as well as support for actions to encourage growth in developed areas of the city such as infill and mixed-use development or ADUs. Feedback from the Community Summit will be used to inform refinement of the draft comprehensive plan and Downtown subarea plan, including potential revisions to goals and policies, and the identification of future implementation actions.

Comprehensive Plan Update and Downtown Subarea Plan
Community Advisory Committee (CAC)

CAC Meeting #1
February 6th, 2024, 6:00- 7:30 PM
City of Camas City Hall – Council Chambers
616 NE 4th Avenue, Camas, WA 98607

AGENDA

Time	Subject	Lead
6:00	Welcome and Introductions • *What do you love about Camas and why do you want to be on this committee?*	Alan Peters, City of Camas
6:15	*Our Camas 2045* and *Our Downtown Camas 2045* Project Overview • City goals and objectives • What is a Comprehensive Plan and Downtown Subarea Plan? • Process and Equity Framework • Key Milestones and schedule	Alan Nicole McDermott, WSP
6:30	CAC Roles and Responsibilities • Review charter • Other project committees (DCA and Climate)	Anaïs Mathez, 3J Consulting
6:40	Public Participation Plan (PPP) • Stakeholder list	Anaïs
6:50	CAC Community Conversation Kit and Group Discussion • Community Conversations Kit • CAC role and responsibilities • CAC Discussion	Anaïs CAC Members
7:20	Next Steps • Community Conversations sign-up • General meeting logistics	Nicole
7:30	Adjourn	Alan

Community Advisory Committee (CAC)
Meeting Summary #1

February 6th, 2024, 6:00-7:30 PM

Meeting Attendance
Alicia Brazington
Betty Peng
Brian K. Kuhta
Carol Collier
Carrie Schulstad
Colin Casad
Greg K. Anderson
Heidi Buhman-McNeley
Jason Irving
Kim Sogge
Matthew Clarkson
Richard "Rick" Melching
Samantha Horner
Stephanie O'Dell
Marlo Maroon – *Planning Commission Liaison*
Bonnie Carter – *City Council Liaison*
Steve Hogan – *Mayor*

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Yvette Sennewald, Planner

Consultant Team
Nicole McDermott, WSP
Aaron Carpenter, WSP
Margaret Raimann, SERA Architects
Matthew Arnold, SERA Architects
Anais Mathez, 3J Consulting

Welcome and Introductions
Mayor Hogan provided opening remarks. All attendees were invited to introduce themselves and share what they love about Camas and why they want to be on this committee. CAC members shared the following opening reflections:

What do you love about Camas?
- Beautiful place to raise kids
- Downtown walkability
- Love the natural beauty, trail system and tree canopy
- Love the small-town feel, recreation opportunities, sense of uniqueness, and protection of architectural integrity
- Parks, recreation, open space
- Neighbors, school district
- Love the regional accessibility and natural spaces
- Enjoy going to movie theatre, and the downtown isn't overrun
- Legacy/heritage/generational
- It feels safe, clean, and beautiful
- It's like "living in a Norman Rockwell painting"
- Proximity to airport

Why do you want to be on the committee?
- Civic duty
- Desire to serve the community
- Seen bad plans, seen good plans – want to lend expertise (background in civil engineering)

- Be a part of growth, not just haphazard growth
- As a former planning commissioner, witness to gaps in policy, and "NIMBYism". Desire to see housing that is affordable, equitable, for low to middle income families
- To honor past but intentionally move forward – desire to communicate what we can do versus what is beyond our control
- Wants to ensure the right kind of growth
- Advocate for people who are under-represented
- Desire to integrate newcomers with generational families. Advocate for affordable housing
- Interest in downtown
- Interested in bringing more housing to downtown
- Have background in real estate and interested in understanding the changes in Camas
- Desire to see better job growth

Our Camas 2045 and _Our Downtown Camas 2045_ Project Overview

Alan Peters, Community Development Director, provided an overview of the City's goals and objectives for the Comprehensive Plan and Downtown Plan, touching on topics like housing, economic development, climate, and downtown. Robert Maul, Planning Manager, described the role of the City's Comprehensive plan and the regulatory framework. Nicole McDermott, WSP, provided an overview of the project process, describing each phase of work from the existing conditions analysis, equity framework, visioning outreach, plan development, implementation and to eventual adoption. Nicole reviewed key milestones and the overall project schedule. CAC members asked the following clarifying questions:

- *Is there work outside of the City that is being done alongside this process?* Clark County provides population projections and works with communities in Urban Growth Areas (UGA)/unincorporated areas. Neighboring municipalities are going through the same periodic update requirement.

CAC Roles and Responsibilities

Anais Mathez, 3J Consulting, reviewed the CAC Charter. She discussed the Committee's roles and responsibilities, and described the function of other project committees, such as the Project Advisory Committee (PAC) and the Climate Policy Advisory Team (CPAT). She noted that CAC members are expected to meet eight times over the course of the next year. The meetings will cover the comprehensive plan and the downtown plan. CAC members had no questions or comments.

Public Participation Plan

Anais reviewed the draft Public Participation Plan (PPP). She described the engagement objectives and key project messages. She reviewed the draft stakeholder list, clarifying that the list is not meant to be exhaustive and represents a variety of interests and ways in which the City will engage community members in the process. Anais asked CAC members if they had additional ideas. CAC members offered the following additional stakeholders and partners to the list:

- Vancouver NAACP
- Boys and Girls Club
- Meals on Wheels
- Book clubs (through Camas Library)
- SW Washington League of United Latin American Citizens (LULAC)
- Non-school youth (4-H, Boys/Girls Scouts, STEM clubs, Sports Little League/Swim, etc.)
- Booster Club
- CEF (Camas Educational Foundation)

- Camas/Washougal Gardening Group
- Bike Clark County
- Other franchise utility companies (fiber)
- School of Blind/Deaf (Vancouver/Clark County) for Accessibility

Anais then reviewed the engagement activities and communication tools. CAC members had the following questions, clarifications and comments:

- Consider adding a performance metric or evaluation criteria in the draft PPP to ensure we are reaching all members of the community.
- *Will all engagement activities and tools (post cards, summits, online surveys) be used or are they just suggestions?* All activities and tools listed in the PPP will occur throughout the course of the project.
- *What outreach will we do with schools?* The consultant team will conduct Community Conversations with High School students through classes and clubs such as AP Government, Student Council, etc. A Tracking Log for Community Conversations will be shared with the CAC, which will be helpful to see which groups we are reaching, and when.
- *Does the online survey describe what we are doing with the information?* Yes, the survey describes how the feedback will inform the development of a Vision Statement. This Vision Statement will set the framework for policy making in the Comprehensive Plan and Downtown Subarea Plan.
- *What is the role of CAC members in directing discussion during a Community Conversation?* CAC members are encouraged to lead with a positive tone and are simply gathering and recording information, even if the discussion turns negative.
- *How do you account for over-representation in the online survey?* The visioning activities like the survey are qualitative, not quantitative (i.e. no statistical validity). The purpose of these outreach activities is to share information and have a wide variety of conversations through various mechanisms, in order to get a pulse of community aspirations and priorities. Qualitative, not quantitative review process.
- *Is there a "NextDoor" strategy? How engaged do we get on social media?* The City monitors social media and NextDoor. CAC members are welcome to share information out by linking to the EngageCamas website through their various channels.
- *What is the purpose of city-wide mailers?* The mailers are a communication tool. Mailers will be timed to announce the launch of the project and upcoming opportunities to get engaged, either by taking the online survey or attending a Community Summit. CAC members have a large role in overall outreach and engagement, ensuring we receive quality feedback and are able to extend the reach across many networks.

CAC Community Conversation Kit and Group Discussion

Anais covered the community Conversations Kit and Tracking Log, describing the method, approach and objectives. Due to limited time, CAC members did not have a chance to engage in a "Community Conversation." Staff will assess the next meeting agenda for time to conduct a group discussion.

Next Steps

Nicole reviewed next steps and general meeting logistics. The purpose of the next meeting will be to review the Equity Framework, Existing Conditions, and discuss initial feedback received through the survey and Community Conversations. Anais reminded CAC members to see her after the meeting for questions regarding the Community Conversations Kit and Tracking Log.

- CAC members agreed that the meeting day and time generally works, though one member suggested that the team consider starting these meetings earlier than 6pm.
- *Can CAC members receive key project and meeting materials via GoogleDrive?* Yes, the team can set up a file-sharing platform. Materials will also be posted to the EngageCamas website following the meetings.

Project staff thanked the committee for their attendance and adjourned the meeting at 7:45pm.

Comprehensive Plan Update and Downtown Subarea Plan
Community Advisory Committee (CAC)

CAC Meeting #2
March 26th, 2024, 6:00- 7:45 PM
City of Camas City Hall – Council Chambers
616 NE 4th Avenue, Camas, WA 98607

AGENDA

Time	Subject	Lead
6:00 (5min)	Welcome	Alan Peters, City of Camas
6:05 (10)	Visioning Outreach Updates • Website and survey • Community conversations • Upcoming events and activities	Anais Mathez, 3J Consulting
6:15 (30)	CAC Community Conversation • Group Discussion • Kit + tracking log reminders	Anaïs CAC Members
6:45 (20)	Existing Conditions • Demographics and Community Character • Regulatory Documents • Parks, Trails, and Open Space • Climate • Utility Infrastructure and Capacity • Transportation Network	Nicole McDermott, WSP
7:05 (15)	Equity Framework • Examples • Group Discussion – What should this look like for Camas?	Nicole
7:20 (15)	DCA Mapping Opportunities & Constraints • Group Discussion	Nicole

7:35 (10)	Next Steps • Community Conversations sign-up • General meeting logistics	Anaïs, Nicole
7:45	Adjourn	Alan

Community Advisory Committee (CAC)
Meeting Summary #2

March 26th, 2024, 6:00- 7:45 PM

Meeting Attendance
Betty Peng
Brian K. Kuhta
Carrie Schulstad
Colin Casad
Greg K. Anderson
Heidi Buhman-McNeley
Jason Irving
Kim Sogge
Matthew Clarkson
Richard "Rick" Melching
Samantha Horner
Stephanie O'Dell

Bonnie Carter – *City Council Liaison*
Steve Hogan – *Mayor*

City Staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Yvette Sennewald, Planner

Consultant Team
Nicole McDermott, WSP
Aaron Carpenter, WSP
Anais Mathez, 3J Consulting

Welcome and Introductions

Alan Peters, Community Development Director, opened the meeting and welcomed CAC members.

Visioning Outreach Updates

Anais Mathez, 3J Consulting, provided updates on the visioning outreach. Anais shared that the online survey and interactive map received over 250 responses, collectively, and that web traffic was high. She reviewed the list of Community Conversations that had been conducted, and asked CAC members for any reflections on the discussions they've been having. CAC members offered the following comments and questions:

- We've been talking about this project for a long time, but the excitement is still there. Happy for looking towards change and growth. Love downtown but know it needs to grow and grow right.
- We need to get past 'why do we have to grow' questions and get into 'what does growth look like' for the required housing and employment.
- One question from the Community Conversation was why the City is asking us what we want if they already know what is going to happen? *This is an opportunity for CAC/City to point out the change/influence these conversations/input has on the planning process.*
- Do we have goals/metrics for survey feedback responses? *The updated Public Participation Plan (PPP) includes metrics, but we are generally focused on quality over quantity.*

- Could we have talking points for FAQ/Key messages/ "soundbites"? *The PPP has key messages but a reminder that as a CAC facilitator, you don't have to have all the answers. You are mainly there to encourage discussion and capture notes.*

Anais shared that the project team hopes to wrap up Community Conversations by May, given that the Summit will report out on this feedback and that will occur in June.

CAC Community Conversation

Anais led the group through a Community Conversation and took notes on a flipchart while CAC members shared the following reflections:

What makes Camas, including our historic downtown, special today?

- People knowing/supporting each other
- Close-knit downtown business community
- Great schools
- Family Friendly
- Close to nature (paths, lake, parks)
- Clean and Safe
- Don't see a homeless problem (new residents)
- Downtown acts as living room – expands social fabric
- Events bring people downtown, and they come back for the businesses
- Compact, walkable, accessible (balanced with proximity to nature, but access to 205/14/PDX airport)
- Authentic historic charm (architecture, mill town history, "Hallmark movie")
- Library programing, Youth Sports programming
- "We pass all our bonds"

What about Camas would you like to change in the future??

- Better access to waterfront (Washougal) - waterfront redevelopment (what Vancouver has done)
- More sidewalks! Near schools, Prune Hill, main thoroughfares.
- Housing downtown
- Housing choice / variety
- More neighborhood commercial to scale (hubs)
- More pocket parks, dog parks
- More jobs/better jobs/ career jobs for youth
- More bike-ability, crosswalks, traffic diet
- Improve/expand utilities and infrastructure (stormwater)
- More parking downtown, especially for events ("what's reasonable for walking distance?", shuttles, accessible for elderly, disabled)
- Transit
- More and better connected trails

- Retain community events (July 4 fireworks, farmers market)
- Maintain facilities/parks/trailheads
- Architectural integrity/design standards

What people, groups, or communities should be involved in this process?

- Chamber of Commerce
- Engage other neighborhoods
- Youth – Boy/Girl Scouts, Teen involvement (HS)
- Senior voice needs representation (AARP)
- New residents (need connection, have different/outside views)
- Legacy residents (those having hard time with growth)
- Renters

Existing Conditions

Nicole McDermott, WSP Project Manager, provided an overview of the City's existing conditions. She reviewed data, topics and elements that will be incorporated into the Comprehensive Plan, like community character; population and employment projections; regulatory documents; natural environment; climate change; parks, trails, and open space; utility infrastructure and capital facilities; and transportation. CAC members offered the following comments and questions:

- *Why are there more jobs projected than housing?* They aren't connected in the County modeling, just based on the vacant buildable lands.
- *How has county factored in hybrid/WFH jobs?* The County has made a few adjustments to account for newer employment trends.

Equity Framework

Nicole reviewed the draft Our Camas 2045 Equity Framework. She described how the Equity Framework can guide equity considerations for the Comprehensive Plan update. The Equity Framework will be developed with the CAC based on committee and community input. She shared examples of Equity Frameworks from the City of Vancouver and King County. Nicole offered the following discussion questions:

- What resonates with you about the equity frameworks?
- How would you define Equity? Does the City or another organization currently have a definition?
- What are potential measures of success for equitable outcomes? Can climate adaptation (policies, goals, strategies, etc.) be considered a measure?
- What people, groups or communities should we reach to make this an inclusive process?

CAC members offered the following comments and questions:

- What is equity framework in general? *It's an opportunity to reflect on and confirm that we are hearing from the communities that we identified, throughout the entire process*
- I understand there unequitable policies are historic and systemic - will we inventory unequitable policies, permitting processes, etc.? *Yes, the Equity Framework can set metrics to*

make sure we are reviewing these policies.

- Hopefully the language used in the comprehensive plan is fair. "Keep Camas Camas" / "Our Camas" has different connotations and may be racially coded.
- We would be behind the times without an Equity Framework. I agree that we want equitable outcomes and buy-in from everyone. We need to ensure we hear from everyone we say we want to hear from.
- Let's involve diverse voice in process.
- Equity outcomes can look like:
    - Updates to codes/policies for obvious inequitable language.
    - Assessing if design standards preserve equitable access to parks/nature for elderly, disabled, BIPOC, lower income.
    - An improved sense of belonging.
- Audit the language and terminology in policy language
- Climate adaptation policies are important for measuring success of equitable outcomes but feels limited.
- We need to be clear in our public involvement process that we are reaching the people we want to reach.
- Equity Committee can contribute to reviewing language.
- Other measures of success include:
    - Housing choice.
    - Design standards for parks for ADA accessibility and play for all abilities.
    - Access to parks.
    - Borrow equity and "belonging" work done by the school district and incorporate in our outreach.
    - Built environment – improved capacity of civic spaces, city hall, etc.

DCA Mapping Opportunities and Constraints

Nicole provided an update on the mapping exercise conducted with the DCA on March 20th. The exercise was an initial evaluation of opportunities and constraints to consider for Downtown Camas over the next 20 years. The following comments were shared:

- Downtown Core is generally agreed, but there are additional downtown areas, sectors, areas of influence that should be accounted for.
- Area south of 3rd/2nd Street are disconnected from downtown core.
- Relocating traffic patterns to increase safety, development opportunities.
- Downtown needs better access to greenspace/new greenspace.
- The mill ditch should be reimagined.

Next Steps

Nicole reviewed next steps and general meeting logistics. Anais reminded CAC members to see her after the meeting for questions regarding the Community Conversations Kit and Tracking Log. Project staff thanked the committee for their attendance and adjourned the meeting at 7:45pm.

Comprehensive Plan Update and Downtown Subarea Plan
Community Advisory Committee (CAC)

CAC Meeting #3
June 4th, 2024, 5:30-7:30 PM
Zellerbach Administration Center - Board Meeting Room
841 NE 22nd Ave, Camas, WA

AGENDA

Time	Subject	Lead
5:30 (5 min)	Welcome and Introductions	Alan Peters, City of Camas
5:35 (15 min)	Project Updates • Visioning outreach updates • Downtown Opportunities and Constraints • Equity Framework • Project schedule	Nicole McDermott, WSP
5:50 (15 min)	Key Themes and Visioning Outreach • Activities and events • Key themes	Anaïs Mathez, 3J Consulting
6:05 (15min)	Our Camas 2045 Draft Vision Statement • Group Discussion – Are we on the right track? Is there anything missing?	Anaïs CAC Members
6:20 (50 min)	Our Camas 2045 Draft Goal Statements • Small Table Discussions – How do we achieve the vision?	Anaïs Nicole CAC Members
7:10 10 min	Report Out • Report out from each small table discussion	CAC Members
7:20 (10 min)	Next Steps • Community Summit on June 12th! • CAC Meeting #4, June 26th • Upcoming events and activities • Major milestones/project schedule	Nicole
7:30	Adjourn	Alan

Community Advisory Committee (CAC)
Meeting Summary #3

June 4th, 2024, 5:30- 7:30 PM

Meeting Attendance

Shannon Vizenor
Alicia Brazington
Betty Peng
Brian K. Kuhta
Greg K. Anderson
Heidi Buhman-McNeley
Jason Irving
Matthew Clarkson
Richard "Rick" Melching
Samantha Horner
Carol Collier

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Yvette Sennewald, Planner

Consultant team
Nicole McDermott, WSP, Inc.
Aaron Carpenter, WSP, Inc.
Anais Mathez, 3J Consulting

Welcome and Introductions
Alan Peters, Community Development Director, opened the meeting and welcomed CAC members.

Project Updates
Nicole McDermott, WSP, reviewed the agenda and provided project updates. Nicole touched on the visioning outreach activities and downtown opportunities and constraints. CAC members offered the following comments and questions:

- What's the difference between 'limited growth opportunities' vs. 'perceived development barriers'? *This reflects low vacancies/high turnover vs. redevelopment costs with old buildings.*

Nicole reviewed the draft equity framework and asked for the CAC to send additional thoughts, edits and questions to Alan by the following week. She explained that the draft definition of "equity" is specific to *Our Camas 2045,* but a similar framework is used in many current comprehensive plans. CAC members offered the following comments and questions:

- It is interesting to see small businesses identified as a group in the Equity Framework. Why is this? *Small businesses can be negatively/disproportionately affected by development changes, especially in downtown.*
- It would be good to better define "small businesses" for the purposes of this Equity Framework.

Visioning Outreach Updates
Anais Mathez, 3J Consulting, provided updates on the visioning outreach. Anais shared that the online survey and interactive map received over 500 responses collectively, and that web traffic was high. She reviewed the list of Community Conversations that had been conducted, and staffed community

events. CAC members reviewed a list of key themes gleaned from the compiled feedback throughout all of the outreach. CAC members offered the following comments and questions about the key themes?

- How often did the question of adding a school/high school come up? *The comment about a second high school was relatively infrequent. Most comments were themed around retaining the small-town feel and historic nature of downtown.*
- The school district recently put out a video about one of their properties. Is that connected to this process? *That is separate. The school district launched their own public engagement process to gather ideas for what to do with that property.*
- What waterfront are people referring to in their comments? *Likely the Mill property. Access to water, parks, and open space is a key theme throughout.*
- We see a lot of discussion about the church property downtown. *Yes, this is a hot button topic.*

Draft Our Camas 2045 Vision Statement

Anais described how key themes from the outreach were incorporated into the draft vision statement. She read aloud the four themes that make up the vision statement. CAC members offered the following comments and reflections:

Community Pride/Connection

- We might be too specific on community amenities. Visions should be more general and goals/policies more direct.
- Pets aren't mentioned.

Environment, Natural Beauty and Outdoor Recreation

- Check the wording of the phrase *"…mitigate increasing natural hazards…"*
- Add mention of "parks."
- Include an opening/closing statement for each theme.

Housing and Economic Development

- Interspersing residential areas with commercial is a tough move for the city. This might be more doable in Downtown and North Shore.
- Add more focus on growth and accommodating future residents.

Downtown

- Add more focus on growth.
- Public transportation is missing – accessibility and connectivity doesn't necessarily cover public transportation.

Other general comments included:

- The vision statement is very long. Consider shortening it.
- Consider bolding the first sentence of each statement.
- Consider updating the titles of each theme.
- Include a summary or list of topics that each vision theme covers. This could be added to the matrix.

Our Camas 2045 Draft Goal Statements: *Small Table Discussion Activity*
CAC members organized themselves into small groups to review draft goal statements for each theme and identify ideas for achieving the vision and goals. Each group reported back on the following ideas:

Community Pride

- Create an arts commission
- Incorporate more art murals. Distinguish between art for art vs. art for cultural heritage. This is also a point of discussion for the Equity Framework.
- Promote more events outside of downtown.
- Partner with the school district for mutual use facilities (pools, parks, etc.)
- Develop a Communication/Engagement Plan. Neighborhood Associations have a communication role with residents.
- Identify cultural heritage and provide educational history beyond the mill
- Construct public gathering spaces.

Environment

- Develop an urban forestry board with staff
- Create a Heritage Tree program
- Ensure parks are within walking distance to all neighborhoods
- Develop more EV parking.
- Expand dog parks
- Place more deer crossing signs
- Underground utilities
- Encourage the use of sustainable building materials

Housing and Economic Development

- Develop specific street standards
- Add more flexibility to design standards
- Develop more multifamily housing around schools for walkability
- Embracing middle housing/ADU development
- Utilize available land (across from Lacamas Lake)
- Expand transit services
- Remove parking requirements for high density housing
- Add solar panels to all city buildings

Downtown

- Downtown design review committee
- Architectural review committee
- Allow ADUs with minimal design requirements
- Construct a public plaza
- Revise design standards
- Expand tree planting efforts
- Encourage more street activities

Next Steps

Anais reviewed next steps. She reminded CAC members of the Community Summit on June 12th, from 4:30-6:30pm. The public will have an opportunity to provide similar feedback and ideas for the Vision and Goals. Anais also reminded CAC members that the next CAC meeting will be on June 26th from 5:30-7:30. That meeting will focus on the HNA/EOA Needs Assessment, reviewing feedback from the Summit, and conducting a mapping activity. Project staff thanked the committee for their attendance and adjourned the meeting at 7:30pm.

Comprehensive Plan Update and Downtown Subarea Plan
Community Advisory Committee (CAC)

CAC Meeting #4
June 26, 2024, 5:30-7:30 PM
Zellerbach Administration Center - Board Meeting Room
841 NE 22nd Ave, Camas, WA

AGENDA

Time	Subject	Lead
5:30 (5 min)	Welcome and Introductions	Alan Peters, City of Camas
5:35 (5 min)	Community Summit #1 Debrief	Anaïs Mathez, 3J Consulting
5:40 (15 min)	Revised *Our Camas 2045* Vision and Goal Statements	Anaïs
5:55 (40 min)	Review of Housing Needs Assessment (HNA) and Draft Economic Opportunity Analysis (EOA)	Tyler Bump, ECONorthwest
6:35 (50 min)	Land Use Alternatives Workshop • Overview • Mapping activity • Report back	Nicole McDermott CAC Members
7:25 (5 min)	Next Steps • CAC Meeting #5 • Upcoming events and activities • Major milestones/project schedule	Nicole
7:30	Adjourn	Alan

Community Advisory Committee (CAC)
Meeting Summary #4

June 26th, 2024, 5:30- 7:30 PM

Meeting Attendance
Carol Collier
Alicia Brazington
Betty Peng
Brian K. Kuhta
Greg K. Anderson
Heidi Buhman-McNeley
Matthew Clarkson
Richard "Rick" Melching
Samantha Horner
Kim Sogge
Carrie Schulstad
Bonnie Carter (City Council)

City staff
Alan Peters, Community Development Director
Yvette Sennewald, Planner
Doug Quinn, City Administrator
Carey Certo, Administrative Support Assistant

Consultant team
Nicole McDermott, WSP, Inc.
Aaron Carpenter, WSP, Inc.
Anais Mathez, 3J Consulting
Tyler Bump, ECONorthwest

Welcome and Introductions
Alan Peters, Community Development Director, opened the meeting and welcomed CAC members.

Project Updates
Anais Mathez, 3J Consulting, reviewed the agenda and provided project updates. Anais recapped the Community Summit #1, reviewing key topics of conversation which are outlined in CAC packets. She asked for reflections from CAC members who were present at the summit. CAC members offered the following comments:

- There did not seem to be enough talk about economic development.
- The Visioning board was a helpful explanation for people.
- Attendees seemed to have left with a more hopeful outlook.
- The frequency of comments regarding the lack of sidewalks was interesting and surprising.

Anais reviewed the updated vision statement, focusing on key changes made since the last CAC meeting. CAC members offered the following comments and questions:

- "Library and sports programing" may be limiting in the *Our Community* statement; we may consider keeping it broader.
- "Clean water" was added back in the *Our Environment* statement, based on feedback from CAC and Summit.
- A specific goal should be added for clean water.
- There is a typo in the goal statement for Downtown; add "in" to "downtown" in the third goal.

Anais clarified that the goal statements have not changed, but new goals will likely emerge as we continue in the process. Alan will bring the revised Vision Statement to City Council for adoption by resolution on July 15th.

Housing Needs Assessment/Economic Opportunities Analysis Overview
Tyler Bump, ECONorthwest, provided an overview of Camas' economic, market and housing opportunities. He reviewed the City's competitive advantages and key findings from the data analysis. Tyler noted that Camas has high retail sales, rising retail rents, and positive retail absorption. Downtown activity is back to pre-pandemic levels. He also discussed Camas' projected needed housing targets and the role of the Comprehensive Plan in meeting these targets. Discussion with the CAC focused on how which economic opportunities should be prioritized and how the City should support existing and new business. CAC members offered the following comments and questions:

- What's the jobs-to-housing ratio across the region? What is a good ratio? *Washington County is 0:9, Portland is 1:3, and Camas is 1:1, so Camas is well balanced. You can't grow housing without growing the economy.*
- Is Camas an outlier with at-home jobs? *About 25% of workers in Camas are remote. That's important to talk about in regard to local services and amenities.*
- How current is the tax data? *It is from 2022, capturing the upswing of the pandemic.*
- Is there a way to prioritize tax-generating revenue? *That can be a policy – target specific types of jobs/industries that generate higher tax revenue. A balanced mix of industries is healthy/resilient to market shifts, so a policy around a diversified economy would be smart.*
- Is there a way to grow the footprint of the downtown area? *There is room for growth in the downtown core and its edges. The downtown subarea plan will support this. Neighborhood hubs can add commercial nodes in other areas throughout the city.*
- Policies need to support housing growth and not succumb to NIMBY-ism ("not in my backyard") when affordable/dense housing comes up.
- We need to educate the community that housing choices are needed to meet the County and State target numbers.
- We need to ensure the implementation of zoning/policies can deliver these housing targets. This also becomes a communication project to tell the stories of people moving out because they can't afford to live here.

Our Camas 2045 Mapping Activity *Small Table Discussion Activity*
Nicole McDermott, WSP, shared directions for the mapping activity. CAC members organized themselves into small groups to review a large map of Camas and discuss desired future land uses, transportation connections, and areas for preservation. CAC members used different colored stickers representing different land uses and colored markers to identify trails, bike routes, transit and road connections, as well as areas for parks, nature and preservation. At the end of the mapping activity, each group reported back on the key ideas from their group:

- Promote a village feel at Pacific Rim – extend the transit route to redirect people towards downtown Camas instead of Vancouver.
- Create a connected trail out of the Mill Ditch.
- Develop a walking trail from the high school.
- Revitalize the ballfields.
- Develop the Mill into a park area surrounded by mixed-use buildings.
- Consider higher density housing near the Costco, Walmart, and school.
- Extend transit and bike lanes to connect the isolated parts of the City and create a loop around Camas.

- Create downtown connections to the Port, Oak Park and the Port of Camas-Washougal.
- Consider higher density housing and mixed use near the intersection of 38th and Parker
- Construct a downtown gateway element on 6th Avenue.

Next Steps

Nicole reviewed next steps. The CAC will meet again in early August to continue the discussion of future land uses. The CAC's feedback will be used to revise conceptual land sue alternatives to bring to Summit #2 in the fall. CAC members offered the following feedback on the mapping exercise for future use:

- Include planned development and new development on the map
- Add landmarks and street names to the map
- Identify areas that cannot be developed or changed.

Alan will follow up by email regarding dates for the next meeting in August. Nicole thanked the committee for their attendance and adjourned the meeting at 7:30pm.

Comprehensive Plan Update and Downtown Subarea Plan
Community Advisory Committee (CAC)

CAC Meeting #5
August 12th, 2024, 5:30-7:30 PM
Camas Public Library - Eva Santee/Nan Henriksen Meeting Rooms
625 NE 4th Ave, Camas, WA

AGENDA

Time	Subject	Lead
5:30 (5 min)	Welcome and Introductions	Alan Peters, City of Camas
5:35 (5 min)	Debrief of Camas Days	Aaron Carpenter WSP
5:40 (10min)	Overview of Draft Land Use Alternatives	Aaron, Nicole McDermott, WSP
5:50 (60 min)	Breakout Groups: Discussion of Draft Land Use Alternatives • Evaluating draft alternatives against draft goal statements	Anaïs Mathez, 3J Consulting CAC Members
6:50 (30 mins)	Report Back	CAC Members
7:20 (10 min)	Next Steps • CAC Meeting #6 • Upcoming events and activities • Major milestones/project schedule	Nicole
7:30	Adjourn	Alan

Community Advisory Committee (CAC)
Meeting Summary #5

August 12th, 2024, 5:30- 7:30 PM

Meeting Attendance
Carol Collier
Alicia Brazington
Betty Peng
Brian K. Kuhta
Greg K. Anderson
Richard "Rick" Melching
Matthew Clarkson
Samantha Horner
Stephanie O'Dell
Kim Sogge
Carrie Schulstad
Jason Irving
Marlo Maroon (Planning Commission)
Bonnie Carter (City Council)

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Yvette Sennewald, Planner
Carey Certo, Administrative Support Assistant

Consultant team
Nicole McDermott, WSP, Inc.
Aaron Carpenter, WSP, Inc.
Anais Mathez, 3J Consulting

Welcome and Introductions
Alan Peters, Community Development Director, opened the meeting and welcomed CAC members.

Project Updates and Debrief of Camas Days
Nicole McDermott, WSP, reviewed the agenda and provided project updates. Nicole recapped the Camas Days event and shared that the booth was well attended and there was engagement in the materials and activities provided. Alan shared that the Vision Statement was recently acknowledged by City Council in early July.

Overview of Draft Land Use Alternatives
Nicole presented the draft land use alternatives, recapping the process for creating the maps. The two alternatives reflect two concepts: focusing on growth within hubs (Alternative A) and along corridors (Alternative B).

Key characteristics of Alternative A include:
- Focuses growth into Neighborhood Hubs and Regional Hubs.
- Neighborhood Hubs – areas that have potential to support a variety of neighborhood-serving uses.
- Regional Hubs – areas that have the potential to support higher scale residential and commercial uses.
- Includes mixed-use and more employment in the western portion of the City.
- Includes pockets of higher density housing throughout the city, including south of 3rd St. in Downtown.

- Includes higher density housing near the high school.
- Includes Grove Field as new employment area.

Key characteristics of Alternative B include:

- Focuses growth into Mixed-Use Residential and Mixed-Use Commercial Corridors.
- Mixed-Use Residential – areas that are focused on more residential development with some neighborhood-serving commercial uses.
- Mixed-Use Commercial – areas that are focused on commercial and office with some higher density housing.
- Includes Mixed-Use Corridors and higher density housing in the western portion of the City.
- Similar to Alternative A, includes the following:
    - Pockets of higher density housing throughout the city, including south of 3rd St. in Downtown.
    - Includes higher density housing near the high school.
    - Includes Grove Field as new employment area.

CAC members offered the following questions:

- Are we evaluating the policies with these maps? *The policies can influence the map, and future policies may need to be added to incentivize development or guard against negative development (i.e. displacement). Policies will be discussed at a future CAC meeting.*
- What's Camas' policy on middle-housing (thresholds, etc.). *Existing multifamily housing and single-family housing standards will change to meet current state requirements in order to provide more housing/affordable housing. We don't want to do that at the detriment of jobs potential / development. Middle housing law does require Camas to allow for 2 DU per lot (4 w/in ¼ mile of transit).*

Breakout Groups: Discussion of Draft Land Use Alternatives

Anais Mathez, 3J Consulting, shared directions for the breakout group discussions. CAC members organized themselves into small groups to review the two land use alternatives side by side. CAC members were invited to reflect on the following key questions and capture their group's evaluation of the two alternatives in the worksheet provided.

- Which alternative does your group prefer? Why?
- What are some areas of agreement? What are some areas of disagreement?
- How well does each alternative support the land use goal statements?

At the end of the mapping activity, each table reported back on the key ideas from their group:

<u>Table 1:</u>

- Preference for Alternative A (Hubs)
- There was agreement that "Hubs" help retain the small-town feel
- Don't want corridors to feel like Mill Plain but do like the idea of smaller-scale corridors that could achieve small-town feel with commercial proximity

<u>Table 2:</u>

- Preference for a blended approach of Alternative A and B (Hubs and Corridors)
- There was disagreement on how to approach land uses near Parker/38th. Some preferred

keeping the natural environment.
- Alternative A (Hubs) ranked slightly higher when evaluated against the land use goals.

Table 3:
- Preference for Alternative A (Hubs), though there was interest in commercial mixed-use along some corridors
- There was agreement that "Hubs' are conducive to planned, intentional development
- There was agreement that corridors were important to help extend commercial development
- There was a desire for a hotel on HWY 14
- There was concern about creating a traffic pinch-point in the Everett Corridor
- Additional areas for housing were identified.

CAC members offered the following questions and comments:
- Are there tried and true ways to incentivize the "hub" concept? *The City prioritizing infrastructure and network improvements is important. Housing is a very important aspect for walkable commercial development as well.*
- Pushing housing density closer to industrial areas feels like it could create a scenario of "haves and have nots."

Next Steps
Nicole reviewed next steps. The second round of Community Summits for the comprehensive plan and the downtown subarea plan are currently being planned. The team will consider scheduling an additional CAC meeting in September to review refinements to the maps. The CAC offered the following final reflections:
- The Harvest Festival is on October 2nd
- Consider using the Library for the Downtown Summit
- Add landmarks and revise the color schemes for the land use alternative maps.

Nicole thanked the committee for their attendance and adjourned the meeting at 7:30pm.

Comprehensive Plan Update and Downtown Subarea Plan
Community Advisory Committee (CAC)

CAC Meeting #6
December 9, 2024, 5:30-7:30 PM
City Council Chambers

AGENDA

Time	Subject	Lead
5:30 (5 min)	Welcome and Introductions	Alan Peters, City of Camas
5:35 (30 min)	Preferred Alternative Development • Community Summit debrief • Feedback on prior alternatives • Preferred Alternative review • Jobs and housing capacity • Downtown preferred concept	Nicole McDermott, WSP Anaïs Mathez, 3J Consulting
6:05 (75 min)	Draft Comprehensive Plan Goals & Policies • Review draft Housing goals and policies • Review draft Economic Development goals and policies • Draft Climate goals and policies – Climate Policy Action Team feedback	Nicole McDermott, WSP Jennifer Cannon, ECONW
7:20 (10 min)	Next Steps • CAC Meeting #7 • Upcoming events and activities • Major milestones/project schedule	Nicole
7:30	Adjourn	Alan

Community Advisory Committee (CAC)
Meeting Summary #6

December 9th, 2024, 5:30- 7:30 PM

Meeting Attendance

Carol Collier
Betty Peng
Brian K. Kuhta
Heidi McNealy
Richard "Rick" Melching
Samantha Horner
Kim Sogge
Carrie Schulstad
Jason Irving
Marlo Maroon (Planning Commission)
Bonnie Carter (City Council)

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager

Consultant Team
Nicole McDermott, WSP
Aaron Carpenter, WSP
Anais Mathez, 3J Consulting
Jennifer Cannon, ECOnorthwest

Welcome and Introductions
Alan Peters, Community Development Director, opened the meeting and welcomed CAC members.

Preferred Alternative Development
Anais Mathez, 3J Consulting, recapped the community summit and shared the community's feedback on the preferred alternatives. The CAC provided their thoughts and reflections, sharing that they felt the event was engaging and included younger attendees, new faces, and new discussions. Some comments included hearing the desire for more economic development and more diversified types of development. Comments also included that the meeting venue was in a good location, and that the boards were engaging and the information was well presented.

Nicole McDermott, WSP, transitioned to describing the preferred alternative and how it reflects the feedback received from the CAC, public and City staff. She described how the preferred concept focused on hub development over strip development, focusing on development at intersections and in key locations. A new overlay could influence design and form, not necessarily type of use, and certain re-designations would be required to meet housing and job targets. CAC members offered the following questions/comments:

- *Is there a need/market for the designation change?* The mixed-employment designation will allow a broader option of uses which will help encourage development in spaces that historically haven't been built up or met the needs of a

larger-scale industrial complex.

- *Is there a designated economic development manager with the city?* The City uses CREDC for economic development but the City 'sets the table' with infrastructure investment and zoning/standards. We'll look at making sure goals/policies focus on economic development and jobs growth.

Draft Comprehensive Plan Goals and Policies

Jennifer Cannon, ECOnorthwest, described the purpose of the economic and housing chapters of the Comprehensive Plan, reviewing key facts and figures. She shared recommended revisions to the vision statements for both the economic and housing chapters, reviewed existing goals for both chapters and walked through key policy updates that will be needed. CAC members offered the following questions/comments:

- *Implementation is key for momentum to actually make this plan encourage development.* Implementation will come with developing the zoning code update.
- *Incubator spaces will be huge for small business development. There currently isn't space for small businesses to operate in temporary/short-term settings like a commercial kitchen.*
- *How do we go about maintenance programs to preserve affordable housing?* City partners with non-profits to help people stay where they are (maintenance, fix, age-in-place); support affordable housing redevelopment through proper zoning.

Upon conclusion of Jennifer's presentation, CAC members engaged in breakout time to review additional content on poster boards around the room. The boards related to Camas' competitive position (strengths and weaknesses), revised vision statements for the housing and economic development chapters, as well as corresponding goal language. CAC members discussed the key questions amongst themselves and provided feedback on post-it notes. The following comments were provided by CAC members (see appendix for scanned notes):

Poster 1 Comments: Competitive Position of Camas

Strengths and Opportunities	Challenges
• *Please, please, please develop mill ditch into a compelling, easy, and beautiful trail system that is clear to connect with from downtown and level it enough to encourage local resident activity and to attract visitors and encourage use of downtown along with recreation.* • *More hotels and conference space.* • *Partner with workforce development agencies and school district CTE.* • *Have city partner with DCA more strongly with the PUT credit improvement program. We do a lot of economic development and community development and can do much more with more support.*	• *Aggressive contractor management to incentivize low-cost housing.* • *Downtown doesn't have vacancy- need development to pencil so we can get more.* • *The DCA is embracing a comprehensive downtown lighting plan – 19 buildings with a state grant- will transform safety and flow downtown.* • *Improve traffic flow on 14th, 15th, and Quinault Street.* • *School areas desperately need improved safety crossings.* • *3rd Ave. safety and bike lane grant was awarded to the City.* • *Commerce promotion.*

Poster 2 Comments: Existing Economic Goals in Plan

- *The north shore area with infill*
- *We need commercial space*
- *We need a dedicated economic development director! Or at least a dedicated plan.*
- *For business during week, kids/residents during evenings and weekends.*
- *Grass Valley mixed/light industrial park with athlete fields/parks.*
- *Why not a Grass Valley Subarea Plan?*
- *We need far more manufacturing jobs.*
- *Be clear on what kinds of businesses would be most beneficial to Camas in Grass Valley so we can all be aware when we are taking prospective businesses.*
- *Allow work/live housing along and around UGA/schools and major transportation corridors.*
- *The city should look into a City staff person for economic development. Write a grant for a position.*
- *Ensure workforce housing is available for current and future workers.*
- *Focus on tourism and bring in money.*

- *Are there model cities Camas would strive to look like? (Lake Oswego, Bend, etc.)*
- *Can we compare plans with cities that have experienced similar growth? What did they do well or not?*
- *Having diverse housing options will lead to a more diverse city.*
- *Council wants to fill an economic development director and volunteer coordinator – how to fund?*

Poster 3 Comments: Existing Housing Goals in Plan

- *Citywide: Maintain the strength, vitality, and stability of all neighborhoods and promote the development of a variety of housing choices that meet the needs of all members of the community. This goal seems very wide and difficult to achieve. Can we be more focused on affordability?*
- *More moderate density in downtown and near downtown and good connectivity (Safe, lit, easy)*
- *Be intentional- positive in messaging about adding middle housing and moderate density so community gets accustomed to why it is so important for our community and culture to include all. Show that it's not scary.*
- *Density!*
- *Consider incentivizing housing developers through zoning, taxes & fees, partnerships*
- *Partner with VHA and other orgs to identify and develop affordable housing.*
- *Partner with habitat for humanity and housing authority. Proud ground for moderate- and low-income housing.*
- *Attract a large senior housing project.*
- *More 4-5 story multi-family units, especially downtown.*
- *Builder incentives to focus on mixed use/ apartments.*
- *Green Mountain Services (commercial development), especially if expanding the UGA.*
- *Don't forget the bike paths.*
- *ADUs- make it easy to build ADUs in backyards.*
- *YIMBY policies!*
- *Incentivize small developers (housing & economic development combined!).*

Upon conclusion of the break-out, CAC members discussed their comments and questions, sharing the following:

- *What are model cities that we could copy/emulate?* We look at cities around the state and region regarding best practices for setting specific goals and policies.

Next Steps

Nicole reviewed next steps and the project schedule. The preferred alternative will be shared at a Planning Commission Briefing on December 17th and at a City Council briefing in early 2025. The CAC will meet two more times to review revised policy language for other chapters as well as the Comprehensive Plan document. The CAC's next meeting will likely be held in late February or early March 2025. Both the Comprehensive Plan and Downtown Subarea Plan are on track for adoption in Winter 2025. Nicole thanked the committee for their attendance and adjourned the meeting at 7:30pm.

Comprehensive Plan Update and Downtown Subarea Plan
Community Advisory Committee (CAC)

CAC Meeting #7
April 14th, 2025 5:30-7:30 PM
Camas City Hall – Council Chambers
616 NE 4th Ave, Camas, WA 98607

AGENDA

Time	Subject	Lead
5:30 (5 min)	Welcome and Introductions	Alan Peters, City of Camas
5:35 (10 min)	Project Recap • Preferred Land Use Alternative • Development of Goals and Policies • Downtown Subarea Planning • PC/CC Briefings	Nicole McDermott, WSP
5:45 (30min)	Review Comprehensive Plan Elements: *Key Policy Concepts and Changes* • Community Character • Land Use • Housing • Natural Environment • Climate • Transportation • Public Facilities and Services • Economic Development • Downtown Subarea Plan	Nicole
6:15 (60 min)	CAC Discussion • *Do the goals and policies accurately reflect your understanding of the priorities uncovered during the community visioning process?* • *Are there any areas that need further clarification or refinement?*	CAC Members Anais Mathez, 3J Consulting
7:15 (15 min)	Next Steps • CAC meeting schedule • Upcoming events and activities • Major milestones/project schedule	Nicole
7:30	Adjourn	Alan

Community Advisory Committee (CAC)
Meeting Summary #7

April 14th, 2025, 5:30- 7:30 PM

Meeting Attendance
Carol Collier
Betty Peng
Brian K. Kuhta
Heidi McNealy
Samantha Horner
Kim Sogge
Carrie Schulstad
Jason Irving
Alicia Brazington

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager

Consultant Team
Nicole McDermott, WSP
Anais Mathez, 3J Consulting

Welcome and Introductions
Alan Peters, Community Development Director, opened the meeting and welcomed CAC members.

Work-to-Date
Nicole provided a recap of the project and work done to date since the last CAC meeting. She reviewed the preferred land use alternative and described efforts in drafting initial goals and policies for the draft Plan. The CAC was reminded about the virtual *StoryMaps* survey currently live on the project website and was prompted to continue sharing this out among their networks. Nicole reviewed the project schedule, noting that certain procedural elements at the County level may delay adoption to late winter 2025 or early 2026. In the meantime, community outreach during the upcoming summer months will focus on rolling out the draft Plan through pop-up activities at community events rather than hosting a standalone, open house.

- A question was raised about how the public will get notified about these outreach opportunities.
    - Staff responded that once the list of events is confirmed, promotional materials will be posted and sent out, like a flyer, e-blast and citywide mailer.

The group discussed a list of potential community events and touchpoints, such as the Farmers' Market, Camas Days, football games, or even a passive poster board station set up at the Library.

Comprehensive Plan Elements: Draft Goals and Policies

Nicole presented each of the comprehensive plan elements, reviewing goal statements and describing key changes in policy direction. After the presentation, CAC members engaged in discussion and offered the following reflections, comments and questions:

- A committee member noted the absence of any mention of a community center.
    - Staff responded that this topic could potentially be addressed under the Community Character or Land Use elements. If it is not included, an explanation may be needed.
- A committee member asked why a swimming pool was not mentioned.
    - Staff indicated that a pool could fall under the Public Facilities element. Similar to the community center, it could be added or addressed explicitly if deemed appropriate.
- A question was raised regarding how dark sky policies apply in the Downtown area.
    - Staff explained that this could be addressed through lighting choices and the angle of lighting fixtures, such as avoiding neon signage.
- A member expressed concern about a policy discouraging gated communities, stating it had not been discussed previously.
    - Staff clarified that the intent is to promote neighborhood connectivity. This policy exists in the current Comprehensive Plan, and provisions in the development code currently support it. The group may want to either update the code to match the policy or consider removing it entirely.
- Another member questioned what it means to "discourage" gated communities and suggested the policy should prohibit them if that is the City's intent.
    - Staff agreed this could be flagged as a policy choice and noted the importance of aligning policies with existing code. They also emphasized the need to maintain pedestrian connectivity in all neighborhoods.
- A member noted the lack of a policy addressing noise pollution.
    - Staff responded that while a nuisance ordinance currently exists, it does not cover all noise-related issues. The draft plan touches on noise in residential buffer policies, but broader coverage is currently lacking in the code.
- On page 10, policy 3.3 was discussed. A member suggested it should be broadened to better reflect the intent to improve food access, including allowing farmstands.
- A member recommended that policies specific to Downtown should explicitly reference trail connections, in addition to broader multimodal connectivity.
- A question was raised about the existence of a specific architectural committee to review design standards.
    - Staff explained that clear and objective design standards are required by state law. They are reviewing which areas of the plan comply with these standards and evaluating potential updates to the design review process.
- Under policy H 1.2, a question was raised about how narrower streets could be compatible with sidewalks and bike paths.
    - Staff clarified that in low-traffic neighborhood settings, features like turn

lanes or full bike trails may not be necessary. They acknowledged that this policy might conflict with complete streets principles and may require clearer language.

- A suggestion was made to include a policy encouraging alley-loaded residential development.
- A member recommended aligning the Transportation and Housing elements more closely.
- Several comments discussed including language around tax incentives for affordable housing.
- Members noted that additional affordable housing requirements may apply to "middle housing" under state regulations.
- A land trust model was suggested as another affordable housing strategy, with the City's role limited to enabling it through policy.
- A recommendation was made to include a policy that incentivizes long-term affordable housing and acknowledges state requirements and tools such as land trusts.
    - Staff noted that policies H2-7 and H2-4 already speak to many of these strategies.
- A member asked whether the City should add a policy to reduce parking requirements for infill development to increase feasibility.
    - Staff responded that the recent state parking bill addresses this but only applies to cities with 30,000 or more residents. Camas is approaching that threshold, though.
- A comment was made that the plan should address parking availability for recreational areas, noting that it often competes with commercial parking and must also remain ADA accessible.
- Committee members emphasized the importance of consistency in language throughout the plan, pointing out variations such as "will try to" versus "will do this."
- A glossary was suggested to improve accessibility for readers, with "heat island" offered as an example of a term needing explanation.
- Members noted that the plan says little about impact fees beyond transportation. They recommended including a policy to define impact fees and describe their reasonable application, particularly in mixed-use and commercial areas.
- Concerns were raised about a lack of attention to maintenance of current investments. Members noted that while the City continues to invest in infrastructure and amenities, funding for ongoing maintenance is limited. This issue applies to housing, Downtown, parks, and trails.
- Policies should be more specific in defining how to "meet community needs" rather than simply calling for "adequate" funding.
- Members agreed that the plan should not be overly influenced by the loudest voices in the room. Policies should be grounded in broad community priorities.
- A suggestion was made to ensure policies reinforce and protect current successful

City programs so they are not deprioritized in the future.

- Several members reiterated the importance of consistent and directive language across policies. Redundancy, when purposeful, can be beneficial—particularly for decision-makers like the Planning Commission. References between overlapping policies should be clearly made.
- On page 23, the term “critical areas” should be defined in the glossary.
- Also on page 23, Shoreline policies should “reference” goals and policies rather than adopt them outright.
- On page 48, policy ED 1.6 prompted a discussion about the need for an economic development manager. The committee recommended either strengthening the language or identifying the position as a separate policy.

Next Steps

Nicole reviewed the project schedule. The CAC will meet one more time in the next few months to review development code concepts for implementation. Next steps include rolling out the draft Plan to the community. Nicole thanked the committee for their attendance and adjourned the meeting at 7:30pm.

Comprehensive Plan Update and Downtown Subarea Plan
Community Advisory Committee (CAC)

CAC Meeting #8
September 8, 2025, 5:30-7:30 PM
City Council Chambers

AGENDA

Time	Subject	Lead
5:30 (5 min)	Welcome and Introductions	Alan Peters, City of Camas
5:35 (15 min)	Engagement Plan and Project Schedule Update	Nicole McDermott, WSP
5:50 (60 min)	Zoning Code and Comp Plan Updates • Review draft ADU and Middle Housing codes	Alan/Nicole
6:50 (30 min)	Downtown Subarea Plan Updates • Overview of Design Manual components and status	Nicole
7:20 (10 min)	Next Steps	Nicole
7:30	Adjourn	Alan

Community Advisory Committee (CAC)
Meeting Summary #8

September 8th, 2025, 5:30-7:30 PM

Meeting Attendance
Carol Collier
Betty Peng
Richard "Rick" Melching
Kim Sogge
Carrie Schulstad
Marlo Maroon
Greg K. Anderson
Heidi McNealy
Samantha Horner

City staff
Alan Peters, Community Development Director
Madeline Coulter, Planner

Consultant Team
Nicole McDermott, WSP
Aaron Carpenter, WSP

Welcome and Introductions
Alan Peters, Community Development Director, opened the meeting and welcomed CAC members.

Work-to-Date
Alan provided a recap of the project and work done to date since the last CAC meeting. He reviewed the continued engagement over the summer including tabling at Camas Days. Alan then discussed the project schedule including the roll out of Summit #3 engagement plan, discussed further below. Alan provided an overview of the continued work on the draft comprehensive plan, downtown subarea plan, downtown design manual, and zoning code amendments and explained that the comprehensive plan adoption timeline is dependent on Clark County's comprehensive plan adoption timeline in 2026.

Discussions at this point in the meeting included the following:

- Will the jobs and housing allocation numbers change by 2026?
    - *Response:* This will likely depend on the outcome of the County's agricultural/resource land study that is currently underway. If the County determines expansion onto resource lands is not needed to meet population and employment projections, then other cities in the county may not be able to meet their housing or job allocations and the County may reallocate across all the cities within the County. The City can currently meet the jobs and housing allocations without Urban Growth Area (UGA) expansion onto resource lands.

- Do we have land use alternatives that include resource land or UGA expansion?
    - *Response:* Yes, City Council asked staff to look into an alternative that includes UGA expansions or urban reserve designation on to land currently designated for agricultural use.
- Has there been community agreement on the land use alternatives?
    - *Response:* The UGA expansion onto resource lands was a specific property owner request, which the Council discussed during their workshops. Depending on the outcome of the County's study, Community Summit #3 will provide the community an opportunity to weigh in further on the alternatives.
- Are there people lobbying the County to open resource lands expansion?
    - *Response:* Yes, other cities, specifically Ridgefield and La Center have pushed for UGA expansion onto resource lands. Camas has remained neutral, since we can accommodate either way.
- Who's the representative that represents Camas as part of the County's process?
    - *Response:* Alan indicated he is the staff representative and Mayor Hogan has also provided comments at Clark County meetings.
- What are resource lands?
    - *Response:* Alan provided GMA background and described one of the purposes of the UGA is to preserve forest lands, mineral lands, and agricultural lands. Those resource lands are preserved and have to meet requirements before they are enveloped in UGA/developed.

Engagement Plan

Alan presented the new summit format. Instead of a single, one-location event, the City will engage the community online and at several in-person events over the span of a few months to answer questions and seek feedback on the draft Comprehensive Plan and Downtown Subarea Plan. The City will focus on a different comprehensive plan element every two weeks, with activities including attendance at community events, presentation to Strong Towns Camas, and online surveys.

CAC members discussed the best location to table during First Fridays in order to maximize visibility and participation. Most agreed City Hall and the Library were too far from the majority of the activity during the First Friday event. Alan indicated he would discuss with staff and identify potential locations. Additional discussions at this point in the meeting included the following:

- *Question:* Are you doing anything to engage high school students?
    - *Response:* Not directly but we certainly could notify the school district and send materials out to their email list/classrooms. City could tag school districts' social media handles to drive engagement when element posts go live.

- *Question*: Will people be able to take the survey online at the tabling event?
    - *Response*: Yes, they can benefit from the conversation with staff and respond to the survey then and there. The goal is to capture as much feedback at the events as possible. In addition to engagement at the events, the purpose of this format of the summit is to give people the opportunity to comment at their own pace over the duration of the summit.
- *Question*: Did the last comprehensive plan update have the same level of engagement as this?
    - *Response*: Community engagement was different 10 years ago during the last update, but the City did provide multiple avenues for feedback/engagement.

Zoning Code and Comprehensive Plan Updates

Alan reviewed the housing code updates that are required to meet State mandates, which include a new middle housing code and updates to the Accessory Dwelling Unit code. Draft Middle Housing and updated ADU Codes must be adopted by Dec 31, 2025 to comply with State Housing bills HB 1110 and 1337. Alan walked through the code update slides, which are included in the attached presentation.

Discussions at this point in the meeting included the following:

- *Question*: The new State mandate would allow cities to determine if ADUs would count towards the unit densities of a parcel or if ADUs would be allowed in addition to the maximum of four primary units on a parcel. Camas proposes to count ADUs towards the density count, therefore being more restrictive in the number of dwelling units on a parcel. Why be more restrictive with our ADU code than what the State allows?
    - *Response:* The City's proposed code is a more gradual change from what is in the current code while still meeting the State mandate. The new code proposes a maximum density, not minimum requirement, so neighborhood character is likely to not shift much. Redeveloping a site will not require a developer to meet a new minimum density.
- *Question:* Regarding Unit Lot Subdivisions, is there a financial tipping point when it becomes more viable to raze old homes (that may be historical/ or generally fine) to get rebuilt to max out density? Seattle/Portland is there, where old residences are demolished and rebuilt.
    - *Response:* It's unlikely for that type of redevelopment to make sense in Camas over the planning horizon given the relatively high value of homes in the City. Even without full redevelopment of a site, the new Unit Lot Subdivision requirements can provide ownership opportunities of smaller lots/units, but it is not anticipated this will be a major driver of

redevelopment in Camas.

- The CAC discussed how water and sewer connections and impact fees can affect the feasibility for property owners to develop properties under new housing codes, especially for ADUs and infill projects. Utility connections and fees/costs will severely affect affordability of this process. The City has a tiered set of fees for ADUs, and the development community continues to provide feedback on building/permitting issues for affordability. It was recommended that City staff come up with a proposal on additional affordability measures (utilities etc.) for a Council workshop.

Downtown Subarea Plan Updates

Nicole provided an update on the Draft Downtown Subarea Plan process. Aaron provided a summary of the purpose of the Downtown Design Manual and gave an overview of some of the major points for the design standards and guidelines. The meeting was coming to a close and the CAC did not have much time for discussion of these items, but offered a few questions related to parking requirements downtown, including parking requirements for new mixed-use development. The draft design manual is in process and will be reviewed by the Downtown Advisory Committee as part of their next meeting.

Next Steps

Nicole reviewed the project schedule and reminded the CAC of the upcoming Summit engagement events. Nicole thanked the committee for their attendance and adjourned the meeting at 7:30 pm.

Comprehensive Plan Update and Downtown Subarea Plan
Climate Policy Advisory Team (CPAT)

CPAT Meeting #1
March 14th, 2024, 5:00- 7:00 PM
City of Camas City Hall – Council Chambers
616 NE 4th Avenue, Camas, WA 98607

AGENDA

Time	Subject	Lead
5:00	Welcome and Introductions • *What do you love about Camas and why do you want to be on this committee?*	Alan Peters, City of Camas Nicole McDermott, WSP
5:10	*Our Camas 2045* and *Our Downtown Camas 2045* Project Overview • City goals and objectives • What is a Comprehensive Plan and Downtown Subarea Plan? • Key Milestones and schedule • Public Participation Plan • Community Conversations • CPAT roles and responsibilities	Alan Nicole
5:30	Climate Planning Overview • State and federal planning requirements and guidance • Local planning resources • Existing conditions in Camas • Discussion	Sean McElroy, WSP
6:00	Equity Framework • State guidance • Example frameworks • Discussion	Nicole
6:20	Next Steps • Periodic updates via email and EngageCamas • General meeting logistics	Nicole
6:30	Adjourn	Alan

Climate Policy Advisory Team (CPAT)

Meeting Summary #1

March 14th, 2024, 5:00- 7:00 PM

Meeting Attendance
Kim Lottig
Cassi Marshall
Dan Davis
Kaitlin Tullis
Paul Henderson
Robert Carter
Morgan Van Fleet (online)
Nelson Holmberg
City staff
John Svilarich – *City Council Liaison (online)*
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Steve Wall, Public Works Director
Trang Lam, Parks and Recreation Director
Madeline Sutherland

Consultant Team
Nicole McDermott, WSP
Sean McElroy, WSP

Welcome and Introductions

Alan Peters, Community Development Director, provided opening remarks. All attendees were invited to introduce themselves and share what they love about Camas and why they want to be on this committee. CPAT members shared the following opening reflections:

What do you love about Camas?

- Easy access to greenspace
- Sense of place and civic and community pride
- People invest in the community
- Downtown walkability
- Downtown main street
- Love the small-town feel, recreation opportunities, and trail system
- Parks, recreation, open space
- People know their neighbors and there are good schools

Why do you want to be on the committee?

- Civic duty
- Concerned citizen
- Importance of climate change impact in Camas
- Policy and systemic changes can make a difference
- Be a part of growth and help climate be a priority
- Desire to serve the community
- Want to lend expertise and prior experience – members shared varying past and present

experiences that could benefit the committee, such as work on the Clark County Climate Advisory Group, experience with climate vulnerability assessments, environmental and climate justice, marketing, and vehicle electrification.
- Trang Lam, Parks and Recreation Director, shared that the Parks Department is working on a Parks and Open Space Management plan and will make recommendations to this group.

Our Camas 2045 and *Our Downtown Camas 2045* Project Overview

Alan provided an overview of the City's goals and objectives for the Comprehensive Plan and Downtown Plan, touching on topics like housing, economic development, climate, and downtown. Nicole McDermott, WSP, provided an overview of the project process, describing each phase of work from the existing conditions analysis, equity framework, visioning outreach, plan development, implementation and to eventual adoption. Nicole reviewed key milestones and the overall project schedule. CPAT members asked the following clarifying questions:

- *Is the geographic scope just the city boundaries for the existing conditions?* The existing conditions analysis looks at city boundaries and the Urban Growth Area as well as nearby influence areas. Clark County is leading the charge on climate change technical analysis (GHG inventory and vehicle miles traveled per capita). Neighboring municipalities are going through the same periodic update requirement.

CPAT Roles and Responsibilities

Nicole discussed the Committee's roles and responsibilities, and described the function of other project committees, such as the Project Advisory Committee (PAC) and the Community Advisory Committee (CAC). She noted that CPAT members are expected to meet four times over the course of the next year. The meetings will cover climate planning work currently in process by the County. Meetings will also be an opportunity for committee members to provide input on goals and policies for the new climate element in the comprehensive plan and an opportunity for members to incorporate climate goals and policies into the downtown subarea plan. CPAT members had no questions or comments.

Public Participation Plan

Nicole briefly discussed the public participation plan and its objectives and stakeholders that will be engaged in the process. Attendees received a copy of the plan for review prior to the meeting. CPAT members asked the following questions:

- *Would it be possible to receive a google drive link to access the public participation plan and other documents shared with the committee?* A similar effort is being done for the CAC and a link will be provided.
- *Renters are often neglected. Have you thought about a way to engage that subgroup of people?* In the broader engagement plan, social media channels might be reaching this group. Direct mailer will reach each community member and directs residents to visit the City's website to complete a survey. The team will discuss other ways to reach this group and could include a question in future outreach asking if the resident is an owner or renter.
- *In the Northshore subarea process, there was a disconnect between requesting feedback and*

the City's ability to change the process or outcomes to address that feedback. Is there a way for the public to understand the public engagement process and what guidelines are involved? Could work on messaging to help the public understand the limitations of the City and what can be achieved through the comprehensive plan and downtown subarea plan. It's important to communicate that goals and objectives should be attainable and that will vary for each agency and across cities.

CPAT Community Conversation Kit

Nicole covered the community Conversations Kit and Tracking Log, describing the method, approach and objectives. CPAT members did not have comments or questions.

Climate Planning Overview and Group Discussion

Sean McElroy, WSP, discussed the federal and state climate planning requirements, state guidance, and local planning resources used in the current draft of the existing conditions analysis for Camas. Nicole introduced discussion questions to help attendees brainstorm which communities in Camas are vulnerable to climate hazards. The discussion questions also invited attendees to share their experience with climate hazards in Camas. CPAT members shared the following information and asked the following questions:

Climate Hazards:

- Local schools are not prepared or equipped to respond to inclement weather days, particularly extreme heat.
- The hills in Camas could be considered a hazard for individuals with limited mobility.
- Older buildings in the city often have substandard foundations and might be more vulnerable to certain climate hazards such as flooding or severe weather.
- Most of the low-income housing in the city is located at a lower elevation and could be more vulnerable to flooding.
- Multiple members recalled a recent heat dome and fire that occurred near downtown. During the heat dome there were many residents who did not have access to air conditioning, cooling centers, or air filters. Smoke from the fire impacted residents with respiratory or lung diseases such as asthma. Communication during the fire event lacked efficiency as there was no preparedness plan.
- The increasing number of heat events raises the concern of increased demand for electricity and more pressure on the local energy grid.
- Streams, lakes, and waters surround Camas and water resources and residents living in close proximity are vulnerable to flooding and drought conditions. One member mentioned observing changes in water levels at Lacamas Lake in the summer.
- In addition to heat and cold extremes, strong east winds have had an impact on the local tree canopy.

CPAT Questions:

- *Is there a similar climate element for a similar sized city in Washington that is not that old?* There is a model element from the state guidance. The project team can look into examples from cities in other states.

- *Is the University of Washington webtool publicly available?* Staff will provide a link to the webtool.
- *What is the scope of the CPAT for dealing with hazards?* Implementation measures could arise through discussions with the CPAT. One of the priorities for the CPAT is to identify goals and policies for the climate element to address hazards. The project team involved in the Parks and Open Space Management plan will also have action items and recommendations for the climate element.
- *Are we going to be discussing whether each hazard is climate related, or will the discussion be on what we can do to prevent and adapt to each hazard?* The focus is on resiliency and the hazards likely exacerbated by climate change.

Equity Framework

Nicole discussed the intersection between equity and climate planning. Nicole provided two examples of equity frameworks from the City of Vancouver and King County that address the equity and climate nexus.

- *Will there be a metric in the framework to track success of meeting equity or climate goals?* A metric of success can be part of the equity framework that is developed. It will be important to get buy in from the community on equity priorities.
- *Will equity and climate be embedded in the comprehensive plan beyond a separate element?* This is an important question for developing the plan. Yes, the intention is to embed climate throughout the comprehensive plan and have the separate element. How this is achieved will be a topic for discussion as the project progresses.

Next Steps

Nicole reviewed next steps and general meeting logistics. The next CPAT meeting will likely be in the fall, following completion of the County's climate work. The project team will keep the group updated on the process through email. Nicole reminded CPAT members to reach out for questions and encouraged members to host community conversations.

- CPAT members agreed that the meeting day and time generally works. A zoom link would be preferable as well.
- *Can CPAT members receive a contact sheet?* Yes, the team can set up a file-sharing platform to share a contact sheet. Materials will also be posted to the EngageCamas website following the meetings.

Project staff thanked the committee for their attendance and adjourned the meeting at 7:00pm.

Comprehensive Plan Update and Downtown Subarea Plan
Climate Policy Advisory Team (CPAT)

CPAT Meeting #2
September 24th, 2024, 5:00- 6:30 PM
City of Camas City Hall – Council Chambers
616 NE 4th Avenue, Camas, WA 98607

AGENDA

Time	Subject	Lead
5:00 5 mins	Welcome and Introductions	Alan Peters, City of Camas Emma Johnson, WSP
5:05 15 mins	*Our Camas 2045* and *Our Downtown Camas 2045* Project Overview • Project updates • CPAT role and responsibilities	Alan Emma
5:20 25 mins	Greenhouse Gas (GHG) Inventory • Overview of analysis and results • Q&A	Claudia Denton, Parametrix
5:45 10 mins	Vulnerability and Risk – Overview • Overview of the relationship between climate hazards, vulnerability, and risk	Emma
5:55 30 mins	Vulnerability and Risk – Group Activity • Identification of vulnerable assets in Camas o Participants will use sticky notes to identify assets vulnerable to climate hazards • Group discussion of assets and potential policies to improve resiliency	Sean McElroy, WSP Emma
6:25 5 mins	Next Steps • CPAT Meeting #3 • Upcoming events and activities	Emma
6:30	Adjourn	Alan

Climate Policy Advisory Team (CPAT)
Meeting #2 Summary

September 24th, 2024, 5:00- 6:30 PM

Meeting Attendance

Committee Members
Kim Lottig
Cassi Marshall
Dan Davis
Kaitlin Lee
Paul Anderson
Nelson Holmberg
Diana Rutherford (online)
John Svilarich – *City Council Liaison*

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Bryan Rachal, Director of Communications (online)
Madeline Sutherland, Assistant Planner

Consultant Team
Emma Johnson, WSP
Sean McElroy, WSP
Claudia Denton, Parametrix (online)

Welcome and Introductions

Alan Peters, Community Development Director, provided opening remarks. All attendees were invited to introduce themselves and share why they wanted to be on this committee. CPAT members shared the following opening reflections:

- Concerned citizen
- Importance of climate change impacts in Camas
- Policy and systemic changes can make a difference
- Want to lend expertise (background in marketing)
- Work in urban forestry
- Member of EatWell Camas
- Background in environmental consulting and environmental justice

Our Camas 2045 and *Our Downtown Camas 2045* Project Overview

Alan provided an update on the Comprehensive Plan and Downtown Subarea Plan, touching on the allocations for population, housing, and employment provided by Clark County, as well as adoption of the draft vision statement.

CPAT Roles and Responsibilities

Emma Johnson, WSP, discussed the Committee's roles and responsibilities, and described the function of other project committees, such as the Project Advisory Committee (PAC) and the Community Advisory Committee (CAC). She noted that CPAT members will meet two more times over the course

of the project. Upcoming meetings will likely cover goals and policies for the new climate element as well as future climate planning actions. CPAT members had no questions or comments.

Climate Change and Resiliency Element

Emma reviewed the purpose of the Greenhouse Gas (GHG) Emissions Reduction sub-element and Resilience sub-element, as well as supporting analysis for each. The GHG inventory report, which is complete, will support the GHG reduction sub-element. As part of the Resilience sub-element, attendees will participate in a vulnerability and risk assessment exercise to identify vulnerable assets and potential ways to improve Camas' resiliency. A focused vulnerability and risk assessment is also being prepared under the City's agreement with Clark County, which will evaluate the vulnerability of lakes and outdoor recreational areas in Camas to extreme heat. CPAT members had no questions or comments.

Camas GHG Inventory Results Presentation

Claudia Denton, Parametrix, gave a presentation on the results of a GHG emissions inventory prepared for Camas. The presentation summarized the purpose, methodology, and results of the inventory for Camas, including topics such as total, local, and imported emissions, and GHG emissions by sector. CPAT members asked the following questions:

- *Are the metrics showing total emissions or per capita emissions?* Metrics for Camas include total citywide emissions and per capita emissions, both of which include a combination of local and imported emissions (i.e., local plus imported emissions equal total emissions in Camas). There are four sectors within local and imported emissions.
- *How do emissions in Camas compare to other cities? How are we doing overall?* Some caution is recommended when comparing Camas directly to other cities, as methodologies may differ, as well as existing conditions. The best comparison will be to evaluate how emissions in Camas change over the next 3-5 years. However, generally Camas is doing well in the Building Energy sector due to the electricity grid from Clark PUD, and Goods Production emissions are slightly better than some other cities. The largest impact for GHG emissions in Camas is from large industries and refrigeration. It is recommended that communities work with local industries to reduce emissions, rather than push for them to relocate, as it is more effective to keep industries within communities that care about climate change.
- *Is the state looking into adopting a standard methodology for inventories, so that the inventories can be used to compare cities?* There are no plans at the moment, which helps avoid barriers to entry for jurisdictions or consultants wanting to conduct inventories.
- *Is the metric for solid waste based on consumption?* Actual emissions for solid waste are recorded by each landfill operator/owner and reflect the amount of methane emitted. The metric for Camas is based on the waste that is produced by Camas and transported to the landfill.
- *Some cities are requiring air conditioning for new construction. How does that counter with the policy recommendation to reduce electricity demand?* We will need to balance reducing GHG emissions with other needs, like keeping our communities safe and healthy. There are some options to reduce emissions associated with air conditioning. Heat pumps release fewer

fugitive gases and are more efficient. Supporting policies that encourage denser land uses, particularly housing, also increase energy efficiency since smaller units have smaller electricity demand.

- *Which sector includes new construction and construction vehicles?* The transportation sector includes construction vehicles. Stationary vehicles and equipment are included under the buildings and energy sector. Building materials and construction or demolition fall under the industrial processes sector.
- *Is there a breakdown of energy use by source (e.g., heating, cooling)?* No, but there are other resources and studies that can be used as a comparison to the GHG inventory data for Camas.

A copy of the Camas GHG inventory report will be sent to CPAT members following the meeting.

Climate Hazards in Camas

Emma provided an overview of the hazard rankings for climate hazards in Camas. Climate hazards with a "high" ranking include extreme heat and extreme precipitation. She also described the two maps that were prepared to visualize the location of climate hazards in Camas, but cautioned that hazards are often citywide and/or unpredictable.

Group Activity - Vulnerable Assets in Camas

Sean McElroy, WSP facilitated a group activity and discussion on vulnerable assets in Camas as part of the vulnerability and risk assessment for the Resilience sub-element. The purpose of the activity was to obtain feedback from the CPAT members about vulnerable assets in Camas that should be prioritized in the climate element. CPAT members used sticky notes to identify local assets on the climate hazard maps. The following list identifies the priority local assets/asset themes that were frequently identified:

- The lakes
- Trees (tree canopy, street trees, mature trees, native species)
- Open space (parks, trail system)
- Schools
- Emergency shelters and evacuation routes
- Power lines
- Elderly and low-income populations
- Urban development in northeast Camas

The following asset-hazard pairings and other considerations were identified on the two maps:

Map: Wildfires, Extreme Heat, & Drought

- Open space and wildfires
- Fire risk due to dead/dying vegetation
- Fire danger due to mass weed remove (fuel)
- Need for coordination with larger region fire fighters

- Fireworks
- Financial stability of schools (enrollment up and down)
- Non-point source pollution
- Private shade trees
- Tree health/canopy and heat
- Loss of native species
- Parks and loss of vegetation
- Air quality in dense neighborhoods adjacent to polluting entities
- Heat stress on low-income and elderly populations
- Heat and social networks
- Street trees, heat stress/death
- Drought and wind, resulting in large trees falling on power lines and impacting ecosystems

Map: Flooding, Landslides, & Extreme Precipitation

- Trail system and erosion
- Trees and power lines (interaction during weather events)
- Power lines and transportation
- Flooding and transportation
- Haight dam
- PFAS
- More development near the lakes – dangerous runoff
- Precipitation (snow) and tree canopy
- Snow, flood, and smoke days impact schools
- Parks and flooding
- Hills and ice
- Old/irreplaceable trees
- Trail erosion, overuse, lack of maintenance – trees dying
- Insufficient emergency shelters/backup power
- Emergency routes blocked by flooding
- Drought and wind, resulting in large trees falling on power lines and impacting ecosystems
- Financial stability of schools (enrollment up and down)
- East winds
- Stormwater overflows – erosion and pollution

Following the mapping activity, CPAT members were asked to share their top concern(s) for asset-hazard pairs and/or ideas for improving resiliency. Members shared the following:

- Flooding and extreme precipitation effects on downstream pollution and stream management
- Extreme heat and wildfire smoke effects on schools and older houses
- We need to take more steps to prevent and reduce damage from wildfires (e.g., policies to remove landscaping debris from City properties)
- Wildfire smoke effects on community health
- Extreme weather and effects on the community from a widespread power outage (a response

plan would improve our resiliency to this hazard)
- Extreme weather can/has disrupted the food distribution chain in Camas and increased food insecurity
- Extreme heat and severe weather have/will have effects on walkability and transportation access, especially for people with disabilities (e.g., hills can become inaccessible and dangerous)
- Flooding caused by the Columbia and Washougal Rivers
- Camas needs to maintain large canopy/mature trees to improve resiliency to extreme heat (need more enforcement of the City's tree plan)
- Could improve our tree canopy's resiliency to winter storms through education on tree pruning

Next Steps

Emma reviewed next steps and general meeting logistics. The project team will complete a vulnerability and risk assessment based on feedback provided during this meeting, as well as feedback from the community. The purpose of the next meeting will be to review draft policies for the climate element. Emma also reminded CPAT members of the upcoming Community Summit where attendees will have an opportunity to review land use alternatives, and the community will be asked to weigh in on climate hazards and resiliency.

Project staff thanked the committee for their attendance and adjourned the meeting at 6:30pm.

Comprehensive Plan Update and Downtown Subarea Plan
Climate Policy Advisory Team (CPAT)

CPAT Meeting #3
November 12th, 2024, 5:00 - 7:00 PM
City of Camas City Hall – Council Chambers
616 NE 4th Avenue, Camas, WA 98607

AGENDA

Time	Subject	Lead
5:00 5 mins	Welcome	Alan Peters, City of Camas Emma Johnson, WSP
5:05 15 mins	*Our Camas 2045* and *Our Downtown Camas 2045* Project Updates	Alan
5:20 10 mins	Community Summit #2 and Survey Results • Review community feedback on climate hazards, GHG inventory, vulnerability, and resiliency	Sean McElroy, WSP
5:30 45 mins	Climate Resilience and GHG Reduction Goals – Group Activity • Review Department of Commerce guidance on selection of goals and policies for each sub-element • Group discussion of potential goals to improve resiliency and reduce GHGs	Emma
6:15 15 mins	Climate Policy Criteria • Review guidance and discuss approach to prioritizing climate policies	Emma
6:30 25 mins	Overburdened Communities – Group Activity • Review state requirements and guidance for addressing environmental justice • Group discussion of overburdened communities and vulnerable populations within Camas	Sean
6:55 5 mins	Next Steps • CPAT Meeting #4 • Upcoming events and activities	Emma
7:00	Adjourn	Alan

Climate Policy Advisory Team (CPAT)
Meeting #3 Summary

November 14th, 2024, 5:00- 7:00 PM

Meeting Attendance
Kim Lottig
Cassi Marshall
Dan Davis
Kaitlin Lee
Paul Anderson
John Svilarich – *City Council Liaison*

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Steve Wall, Public Works Director
Madeline Sutherland, Assistant Planner

Consultant Team
Emma Johnson, WSP
Sean McElroy, WSP

Welcome and Introductions
Alan Peters, Community Development Director, provided opening remarks. All attendees were invited to introduce themselves and participate in a short icebreaker.

Our Camas 2045 and *Our Downtown Camas 2045* Project Overview
Alan Peters provided an update on the Comprehensive Plan and Downtown Plan as well as a recap of the second Community Summit.

Community Summit #2 and Survey Results
Sean McElroy, WSP, discussed the results from an online survey, which included questions related to the impacts of natural hazards and climate resiliency and vulnerability. Community members were invited to participate in an online survey as part of the second Community Summit and provided feedback on the impact of climate hazards in their community.

Climate Resilience and GHG Reduction Goals Group Activity
Emma Johnson, WSP, reviewed the purpose of the model climate element created by the Department of Commerce (Commerce) and the role of the CPAT in reviewing, selecting, and customizing measures to reflect local conditions, values, and climate goals and targets. Clark County has shared their draft countywide planning policies, which contain the following policies related to GHG and VMT targets.

- Greenhouse gas reduction subelements shall be developed with an overall target of reaching net-zero greenhouse gas emissions by 2050 in alignment with the statewide greenhouse gas emissions reductions set forth in RCW 70A.45.020(1). Individual jurisdictions may choose to set

greenhouse gas reduction targets to achieve net-zero emissions faster than the statewide goal.

- Greenhouse gas reduction subelements shall be developed with an overall vehicle miles traveled per capita goal in alignment with the statewide vehicle miles traveled per capita goal of fifty percent reduction in annual per capita vehicle miles traveled by 2050 compared to the baseline set forth in RCW 47.01.440. Individual jurisdictions may choose to set vehicle miles traveled per capita reduction goals more ambitious than the statewide goal.

CPAT members discussed the above targets, and noted it will be difficult for a small community such as Camas to achieve. The cumulative impact on those targets would also be led by larger cities in the county such as Vancouver. The group agreed to use the statewide targets, as setting more ambitious targets would likely not be feasible.

Lead by Kim Lottig, the group reviewed each GHG reduction and resiliency goal from the model element and voted on whether the goal is a priority for the City and whether revisions are needed to tailor the goal to Camas. One key decision was to develop at least one goal to address each emissions source category from the GHG emissions inventory (Buildings & Energy, Transportation, Solid Waste and Wastewater, and Industrial Process and Product Use). CPAT members also provided notes on their worksheet for each suggested goal.

A list of the draft goals, including feedback from the meeting and potential policies, will be sent to the CPAT members following the meeting.

Climate Policy Criteria

Emma briefly reviewed the guidance recommendation for selecting GHG and resiliency policies. Most of the meeting was dedicated to reviewing the draft goals from the model element and policies will be selected once the preliminary list of goals is finalized.

Overburdened Communities Group Activity

Sean briefly discussed the state requirements and guidance for addressing climate change and environmental justice, including the definition of overburdened communities and vulnerable populations. The *Our Camas 2045* Equity Framework identifies equity communities. CPAT members were invited to share their thoughts on areas in the city that could be considered overburdened communities, and which other groups of people could be considered vulnerable populations in Camas. CPAT members identified the following as either overburdened communities or vulnerable populations:

- Oaks Park
- Housing near SR 14 and along 192nd Avenue
- Steep streets
- Lacamas Creek Post Acute
- Areas near the waterfront and mill
- Overhead utilities (e.g., power lines) near housing

- Green Mountain community

Next Steps

Emma reviewed next steps and general meeting logistics. The project team will put together a list of draft goals for the GHG and Resiliency sub-elements based on feedback provided during this meeting. The purpose of the next meeting will be to review draft policies for the climate element. Emma mentioned that the preferred land use concept will be developed based on feedback from the Community Summit and it will be reviewed by the Community Advisory Committee, Planning Commission, and City Council in late 2024/early 2025. The comprehensive plan and subarea plan will be adopted by the end of 2025, including zoning code amendments and new downtown development standards.

Project staff thanked the committee for their attendance and adjourned the meeting at 7:00pm.

Comprehensive Plan Update and Downtown Subarea Plan
Climate Policy Advisory Team (CPAT)

CPAT Meeting #4
January 23rd, 2024, 5:00 - 7:30 PM
City of Camas City Hall – Council Chambers
616 NE 4th Avenue, Camas, WA 98607

AGENDA

Time	Subject	Lead
5:00 5 mins	Welcome	Alan Peters, City of Camas Emma Johnson, WSP
5:05 5 mins	*Our Camas 2045* and *Our Downtown Camas 2045* Project Updates	Alan

5:10
135 mins
	Climate Resilience and GHG Reduction Policies – Group Activity
	• Group discussion of potential policies to improve resiliency and reduce GHGs
	• Discussion questions:
	  ○ Is this policy a priority for Camas?
	  ○ Is this policy Camas-specific?
		Sean McElroy, WSP
		Emma

7:25 5 mins	Next Steps • Upcoming events and activities	Emma
7:30	Adjourn	Alan

Climate Policy Advisory Team (CPAT)
Meeting #4 Summary

January 23rd, 2025, 5:00- 7:30 PM

Meeting Attendance

Kim Lottig
Cassi Marshall
Dan Davis
Kaitlin Lee
Paul Anderson
Amy Hyland
John Svilarich – *City Council Liaison*

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Steve Wall, Public Works Director
Madeline Sutherland, Assistant Planner

Consultant Team
Emma Johnson, WSP
Sean McElroy, WSP

Welcome and Introductions

Alan Peters, Community Development Director, provided opening remarks.

Our Camas 2045 and Our Downtown Camas 2045 Project Updates

Alan provided a brief update on activities for the comprehensive plan, including development of the land use alternatives and upcoming activities for the Downtown Advisory Committee and Community Advisory Committee.

Climate Resilience and GHG Reduction Policies – Group Activity

Emma Johnson and Sean McElroy, WSP, facilitated a group discussion to refine and narrow down the potential list of climate goals and policies. CPAT members were provided a handout with the current list of goals and policies as well as a table organized by goal, policy, and measure type (GHG reduction or resiliency). The group was invited to review the set of policies under each goal and indicate their preference of either removing, revising, or leaving each policy as is. CPAT members could indicate their preference with a thumbs up to keep the policy as is, thumbs to the side to revise or move the policy to another goal, or thumbs down to remove the policy.

The group decided to begin with reviewing the larger set of resiliency policies (37) before reviewing the shorter list of GHG reduction policies (27).

CPAT members provided the following general feedback:

- Revise goal and policy text to be more specific to the Camas's priorities and needs. This includes removing policies or goals that could be addressed under other elements or existing City plans (e.g., RES-8 was recommended for deletion as sustainable waste practices are

already widely adopted by the community).

- Combine GHG reduction and resiliency goals and policies to reduce redundancy (e.g., combine GHG-3 and RES-4 to address the efficiency and resiliency of the transportation system).
- Some policies are better suited as potential action items to support climate policies under the same topic (e.g., renewable energy sources).
- Confirm whether some policies are already addressed in the City's code during the code audit for Camas 2045.

Project staff thanked the committee for their attendance and adjourned the meeting at 7:30pm.

Comprehensive Plan Update and Downtown Subarea Plan
Climate Policy Advisory Team (CPAT)

CPAT Meeting #5
March 27th, 2024, 5:00 - 6:30 PM
Virtual – Zoom
https://us06web.zoom.us/j/87050212245?pwd=pQ29J4MGJ7MbaB8LRpqbY5ezOSI4eM.1

AGENDA

Time	Subject	Lead
5:00 5 mins	Welcome	Alan Peters, City of Camas Emma Johnson, WSP
5:05 10 mins	Climate Goals & Policies – Changes since CPAT Meeting #4	Sean McElroy, WSP Emma
5:15 30 mins	Looking ahead – Ways to keep the momentum going • Examples of Climate Change Advisory Committees • Discussion questions	Alan Emma
5:45 40 mins	Action items – GHG reduction & Resilience follow up measures • Action items recommended by CAPA and City staff • Action items recommended by CPAT	Dana Hellman, CAPA Strategies Alan Emma
6:25 5 mins	Next Steps • Upcoming events and activities	Sean
6:30	Adjourn	Alan

Climate Policy Advisory Team (CPAT)
Meeting #5 Summary

March 27th, 2025, 5:00- 6:30 PM (Virtual)

Meeting Attendance
Kim Lottig
Cassi Marshall
Dan Davis
Kaitlin Lee
Paul Anderson
Nelson Holmberg
John Svilarich – *City Council Liaison*

City staff
Alan Peters, Community Development Director
Robert Maul, Planning Manager
Madeline Coulter, Assistant Planner

Consultant Team
Emma Johnson, WSP
Sean McElroy, WSP
Dana Hellman, CAPA Strategies

Welcome and Introductions
Alan Peters, Community Development Director, provided opening remarks. Dana Hellman introduced herself to the group.

Climate Goals & Policies – Changes since CPAT Meeting #4
Sean McElroy, WSP, provided an update on revisions to goals and policies included in the draft climate element. Following the previous CPAT meeting, a condensed list of goals and policies was created by moving some policies to other elements (e.g., transportation) and eliminating redundancies with other elements. The draft climate element now has 21 policies, which is down from 39 policies at the prior meeting. Policies in other elements that support climate goals will be flagged with a leaf symbol.

Looking ahead – Ways to keep the momentum going
Alan Peters gave a short introduction on the City's interest in continuing the CPAT group once the climate element is adopted, and some potential ideas for doing so. Following Alan's introduction, Emma Johnson, WSP, described examples of advisory groups from other Washington cities and counties that focus on climate change. Examples included:

- City of Bainbridge Island – Climate Change Advisory Committee
- City of Redmond – Environmental Sustainability Advisory Committee
- City of Port Townsend/Jefferson County – Climate Action Committee
- City of Pullman – Environmental Resilience Commission

Similar to the Camas Parks and Recreation Commission, these advisory committees are formed to advise the City on specific topics, such as GHG reduction, and key actions include annual progress

reports or work plans, GHG inventories, and developing or implementing a climate action plan. Members are typically appointed by each jurisdiction and include term limits. Members often include technical professionals with expertise in areas such as energy or climate science, as well as members of the public, and liaisons from government, agencies, and the business community. Emma also briefly described two examples of actions plans from the City of Redmond (Sustainability Action Plan) and Port of Vancouver (Climate Action Plan).

CPAT members provided the following feedback:

- The City of Vancouver has community engagement activities for climate topics. The City hosted a "climate pub" where residents could participate in trivia and a brainstorming session.
- Farmers markets could serve as a venue for future community engagement and education on climate action within Camas.
- Membership from NW Natural or Clark PUD on the advisory committee would add perspective from local utilities.
- The committee could collaborate with the library and serve as a standing committee for climate change or environmental sustainability.
- Members agreed that the formation of a climate focused advisory committee would be valuable to support City staff. If a climate action plan is explored, the advisory committee could help to encourage achieving goals associated with the plan. The advisory committee could also help staff apply policies from the climate element during development proposals and provide technical expertise during staff decisions.
- Members suggested that some immediate steps should be taken before presenting the idea to City Council. An initial step would be to identify how the advisory committee could support existing work or a future climate action plan.

Action items – GHG reduction & Resilience follow up measures

Dana Hellman, CAPA Strategies, reviewed a list of action items that could support the climate goals and policies, with a focus on actions that would improve community health and well-being. Dana also provided a list of actions based on the Vulnerability and Risk Assessment that was prepared by CAPA Strategies for Camas. The assessment focuses on the risk of extreme heat on outdoor recreation sites in Camas. One of Dana's recommendations includes adding language in CL-7.2 about "adaptive measures" such as short-term cooling amenities and community education/awareness building.

After Dana's overview of recommended action items, the group reviewed the current list of goals and policies to brainstorm additional ideas for action items. CPAT members shared the following feedback:

- There is an opportunity on private property to implement action items related to maintaining and expanding tree canopy.
- Friends of Trees is a nonprofit organization that helps private property owners plant trees. A partnership with this organization or similar organization could help homeowners in replacing dead or unhealthy trees.
- Action items could be developed specific to natural hazards and potential impacts such as

winter weather, erosion from heavy rains, snowplows, and downed trees.

- Proper pruning techniques for trees (e.g., removing tree suckers) should be encouraged, particularly when trees are covered with ice. The expertise of private property owners could be leveraged and shared within the community.
- Tree maintenance should be tailored to each tree species.
- Climate adaptive trees should be encouraged consistent with the Parks & Open Space Management Plan.
- Backup generators could be introduced at resiliency hubs.
- Permanent or temporary structures in the city could be identified for warming and cooling shelters. City Council has been discussing the potential need for emergency shelters.
- Action items should acknowledge the health aspects of impacts from natural hazards.

Next Steps

Sean reviewed next steps. The project team will review feedback from the meeting on action items and continue to revise the draft goals and policies for the climate element. Sean also mentioned that the Downtown Advisory Committee is currently reviewing the Downtown goals, policies, and design manual outline and the Community Advisory Committee will review all goals and policies in April. Other upcoming activities for the comprehensive plan update include finalizing the preferred alternative with City Council in April or May and community review of the draft comprehensive plan this summer.

Project staff thanked the committee for their attendance and adjourned the meeting at 6:30pm.

Downtown Subarea Plan
Our Downtown Camas 2045

DCA Meeting #1
February 6th, 2024, 3:00- 4:00 PM
Camas City Hall – Council Chambers
616 NE 4th Ave, Camas, WA 98607

AGENDA

Time	Subject	Lead
3:00	Welcome and Introductions	Margaret Raimann, SERA Design City Staff All
3:15	Project Overview and Schedule	Margaret Nicole McDermott, WSP Anais Mathez, 3J
3:25	Urban Design 101 & Initial Downtown Camas Site Assessment	Matt Arnold, SERA Design
3:55	Next Steps	Margaret
4:00	Adjourn	

MEETING SUMMARY

Welcome & Introductions

- Downtown Camas Association attendees introduced the organization, themselves, their history with Downtown, and their hopes / concerns for this process. City staff and the consultants also made their introductions.

Project Overview & Schedule

- The consultants reviewed the project purpose and schedule, placing the Downtown Subarea Plan into the context of the Comprehensive Plan efforts. In so doing, they also described the Public Participation Plan and its associated tools.

Urban Design 101

- SERA staff reviewed high level urban design principles that foster thriving downtowns, connecting those to the strengths and opportunities present in Downtown Camas today. They also previewed an activity in which the committee will be engaged at their March 2024 meeting – wherein participants will map their own assessment of Downtown.

Next Steps

- SERA and the rest of the consultant team will be preparing an existing conditions assessment for Downtown; SERA will also be conducting a series of interviews with Downtown stakeholders. Findings from these activities will be presented at the committee meeting in March 2024.

Downtown Subarea Plan
Our Downtown Camas 2045

DCA Meeting #2
March 20th, 2024, 3:00- 5:00 PM
Camas Public Library – Eva Santee Meeting Room
625 NE 4th Ave, Camas, WA 98607

AGENDA

Time	Subject	Lead
3:00	Welcome and General Updates	Margaret Raimann, SERA Design
3:15	Downtown Site Assessment: Existing Conditions • Assessment of physical conditions, transportation and infrastructure systems, and high-level market conditions. • Summary of stakeholder interviews	Margaret
3:40	Downtown Site Assessment: Opportunities & Constraints • Basemap drawing exercise • *What are the edges, districts, nodes, landmarks, and paths that define Downtown Camas?* • *Where are the key opportunities and constraints in Downtown Camas over the next 20 years?*	Matt Arnold, SERA Design All
4:10	Break	All
4:15	Opportunities & Constraints Mapping Exercise • To elucidate participant feedback	All
4:55	Next Steps • Community Visioning • Draft Opportunities & Constraints Memorandum	Margaret Nicole McDermott, WSP
5:00	Adjourn	

MEETING SUMMARY

Downtown Site Assessment

- Existing Conditions: SERA staff reviewed existing conditions for Downtown, highlighting key findings in terms of topography / slopes, development patterns, building forms, parks and open space, zoning, historic resources, connectivity and mobility (for automobiles, pedestrians, bicyclists, and transit), parking, and utilities.
- Market Analysis: SERA also presented market analysis findings prepared by ECONorthwest, including an assessment of retail rents and vacancies and visitor data.
- Opportunities & Constraint:
    - The SERA team presented a summary of the results from a range of stakeholder interviews conducted over the preceding weeks. Particular findings included:
        - The strong sense of place in the Downtown core and an interest in expanding that beyond 4th Avenue. Related: historic structures should be preserved and complemented somehow with new uses and buildings.
        - Positive support for Downtown businesses, and concerns that new development and investment may displace existing businesses
        - A desire to continue increasing housing density and a recognition that there is additional development potential in the area. (This was somewhat offset by concerns about the pace of development and concerns about existing zoning and development controls.)
        - An urge to improve the public realm and create more gathering places
        - Concerns about parking with increased development / density
        - Safety issues for pedestrians, particularly along 3rd and 5th Avenues.
        - Interactions with the City have generally been seen as positive.
    - The SERA team led an interactive session wherein participants created their own mental maps of Downtown, focusing on paths, edges, nodes, districts, landmarks, and gateways. Participants shared their own key findings with the group, and these will next inform the Draft Opportunities & Constraints Map and Assessment that will be presented at the committee's meeting in May.

Next Steps

- First Community Summit: 430-630p on June 12, 2024 (227 NE Lake Road, Camas)

Downtown Subarea Plan
Our Downtown Camas 2045

DAC Meeting #3
May 16th, 2024, 3:00- 5:00 PM
Council Chambers – Camas City Hall
616 N E 4th Ave, Camas, WA 98607

AGENDA

Time	Subject	Lead
3:00	Welcome and General Updates	Matt Arnold, SERA Design
3:15	Downtown Subarea Plan Recap • DAC Roles & Responsibilities • Recap of work and meetings to-date	Matt
3:20	Downtown Opportunities & Constraints Discussion • Downtown Subareas • Gateways • Transportation • Parks & Open Space	Matt All
4:15	Break	All
4:15	Downtown Vision & Goals • Draft Vision Statement • Draft Goals	All
4:55	Next Steps	Matt Nicole McDermott, WSP
5:00	Adjourn	

MEETING SUMMARY

Downtown Subarea Plan Recap

- Committee Make-up: While the committee began with solely representation from the Downtown Camas Association, additional members were added from the project's broader Citizen Advisory Committee (CAC) and was thus renamed the Downtown Advisory Committee (DAC).

Downtown Opportunities & Constraints

- Transportation:
    - DAC members raised several questions about the pedestrian and bikeway networks, and requested that DKS (the project's transportation consultant) provide additional information to inform refinement and improvement to these facilities.
        - When considering bike movements in particular, it should be noted that e-bikes are really changing the potential for more biking by more people in Camas as the topography can be more easily overcome with an e-bike.
        - There should be more covered bike parking / end-of-trip amenities/services.
    - Could some streets be made pedestrian-only? This has previously been considered for 4th, but parking and delivery may provide challenges. Perhaps a better system for regular, temporary closures could be looked at. There was also a question as to how this might relate to the proposed plaza associated with the new fire station.
    - There are challenges at the Dallas / 6th intersection related to the lack of stop control. This causes issues for pedestrians, who have difficulties crossing at this location.
- Historic Resources:
    - DAC members stressed how important preservation is – particularly for buildings not currently on the Register (and therefore not subject to the Register's protections). It was noted that the Design Guidelines that emerge from this project could be a key piece here, but that the City could also look at incentives for maintenance of historic structures. It was noted that seismic upgrades are typically triggered by a change in use / occupancy, but that damage could cause a safety issue that would be addressed through the City's Code Enforcement.
- Land Use:
    - Consider integration of 2nd and 3rd into the development pattern of the historic core –

with complementary uses.

- Parking standards are an important consideration for new and redevelopment.

- Gateways:
  - Are gateways meant for visitors or residents? The answer may tilt the design one way or the other (but perhaps they could serve both users).
  - The Gateway off 6th from the Railroad Bridge – where should this be located? At 2nd? Or the traffic light at 3rd? Would its location change if more of the Downtown energy and development pattern crossed 3rd? Could this be a multi-block / transition gateway?
  - Another Gateway location could be along 3rd near Louis Bloch Park. (Issues with sideways in this area were noted.)

- Parks & Open Space:
  - There is a strong need for more parks / open spaces / gathering areas downtown.
  - The Mill Ditch is an important trail opportunity – and connecting downtown to the Three Lakes area is a long-held community notion. The ditch itself could be filled in to make more space for trail users, but a comprehensive plan should be developed. Also, road crossings will be key. (Question: could it be named the Virginia Warren Memorial Trail?)

Downtown Vision & Goals

- Draft Vision:
  - Consider an addition that reflects the need to nurture *current* businesses and maintain business longevity.
  - Some DAC members questioned whether the Draft statement is too packed and too long – perhaps formulaic and not 'human' enough. (The "our town" and "our downtown" sentiment is missing, as is the 'heart.')
  - The draft statement is currently missing sustainability and climate elements. (Perhaps it could mention tree-lined streets?)
  - While it speaks to the commercial and economic aspects of downtown, the sense of belonging / place is missing. (Downtown should be 'welcoming' to everyone.)

- Goals:
    - These should be more action oriented.
    - We should "retain *and expand* Downtown's historic charm" (while recognizing that there may be some tension there).
    - Could add a new goal related to growth.
    - There should be something that relates to preserving existing economic vitality.

Downtown Subarea Plan
Our Downtown Camas 2045

DAC Meeting #4
September 19th, 2024, 3:00- 5:00 PM
Council Chambers – Camas City Hall
616 N E 4th Ave, Camas, WA 98607

AGENDA

Time	Subject	Lead
3:00	General Announcements	All
3:05	Comprehensive Plan Update	Nicole McDermott, WSP
3:10	Vision and Goals	Matt Arnold, SERA Design
3:15	Existing Conditions, Opportunities & Constraints	Matt
3:20	Land Use Concepts	Matt
3:45	Development Opportunity Studies	Matt
4:10	Break	All
4:15	Open Space Studies	Matt
4:35	Transportation Studies	Matt
4:55	Next Steps	Matt, Nicole
5:00	Adjourn	

MEETING SUMMARY

Comprehensive Plan Update

- Nicole M. provided an update on Our Camas 2045, the update of the City's Comprehensive Plan and a preview of the upcoming Community Summit #2 (10/22/24).

Vision and Goals

- Matt A. recapped the Vision Statement for Downtown (accepted by City Council) and the associated Goals.

Existing Conditions, Opportunities & Constraints

- Matt A. reviewed key pieces of the existing conditions for Downtown, emphasizing in particular the existing zoning. He then described the projected work flow for the project, explaining that the land use, development, open space, and transportation concepts being presented and worked on today by the DAC will inform not only the Downtown Plan, but the eventual zoning and design guidelines for Downtown and the broader Comprehensive Plan.

Land Use Concepts

- Matt A. described a series of land use concepts for the various subdistricts of Downtown Camas. The concepts described a range of residential / mixed-use densities and locations, and presented key questions about the desired future for the 3rd Avenue corridor.
    - Participants noted that 3rd Avenue is often seen as a barrier, and that walkability should be improved there.
    - While a couple participants thought the auto-oriented uses should be maintained on 3rd, and others leaned towards the high-density option, most felt that a mix of medium-density uses with a stronger street presence would be most appropriate. (One participant noted that there has been some reinvestment pointing towards retail and office uses along 3rd and to the south.) It was noted that taller buildings here could affect views to the river from further upland, and that this should be given further consideration.
    - Participants generally agreed that land uses and development forms adjacent / proximate to the historic core of 4th Avenue should complement and support the character and sense of place along 4th.
- Matt A. described concepts for frontages along the various corridors in Downtown, noting

that some areas should emphasize active, commercial ground floors, while others may have larger setbacks and landscaping.

Open Space Studies

- Mill Ditch:
    - Connecting Downtown to the Three Lakes continues to be important for participants, who also reminded the team that a name for a revamped Mill Ditch trail could be the Viriginia Warren Memorial Trail (as had been discussed in but not adopted through previous processes).
- New Civic Plaza:
    - Participants were generally supportive of transforming 4th between the Library and (a new) City Hall in order to create a larger public plaza there.
- Dallas Greenway:
    - While participants were somewhat skeptical about closing a portion of Dallas to auto traffic, they were generally supportive of significant enhancing Dallas to promote pedestrian and bicycle use (and safety). They wondered what this could look like on a block-by-block basis as Dallas moves through Downtown and up the hill to the north.

Transportation Studies

- Participants generally appreciated the "Slow L" option, but more broadly supported the slowing of traffic generally through Downtown, recognizing that this could be achieved via a variety of means (road diets, new development, streetscape enhancements, traffic calming improvements, etc.).
- Dallas / 3rd and Adams / 6th were suggested as possible roundabout candidates.
- Additional consideration should be given to the role of the 5th, 6th, and 2nd corridors through Downtown, and how their changing development character affect mobility.
- It was noted that the Mill property, once master planned / redeveloped, could play a key role in the overall transportation system for Downtown.

Downtown Subarea Plan
Our Downtown Camas 2045

DAC Meeting #5
December 9th, 2024, 3:00- 5:00 PM
Council Chambers
616 NE 4th Ave, Camas, WA

AGENDA

Time	Subject	Lead
3:00	Welcome and General Updates	Margaret Raimann, SERA
3:05	Community Summit #2 and Survey Recap • Brief overview of Community Summit #2 and survey feedback	Margaret Nicole McDermott, WSP
3:15	Downtown Subarea Plan: Updated Concepts • Review and discuss updated land use concepts, open space, and civic hub	Margaret All
4:00	Break	All
4:05	Downtown Subarea Plan: Draft Plan Outline • Review a preliminary outline for the Downtown Subarea Plan ○ *Who is/are the key audience(s) for the Plan?*	Margaret All
4:25	Downtown Subarea Plan: Policy Discussion • Review existing policies that inform planning in Downtown • Review Subarea Plan vision and goal statements • Discuss initial ideas for policies that will implement the Downtown Subarea Plan ○ *Who do you see as champions for implementing the goals of the Downtown Plan?*	Margaret All

4:55	Next Steps • Draft Subarea Plan • Draft Policies	Margaret
5:00	Adjourn	

Downtown Advisory Committee (DAC)
Draft Meeting #5 Summary

December 9th, 2024, 3:00- 5:00 PM

General Updates and Community Summit Updates
Margaret Raimann, SERA Design, reviewed the agenda and the purpose of the meeting. Margaret provided a recap of Community Summit #2, which took place in October 2024, and a summary of the findings from an accompanying online survey. The survey was available for community members to provide input on the content from Community Summit #2, which included both the Comprehensive Plan and the Downtown Subarea Plan. Key takeaways for the feedback on the Downtown Subarea Plan were:

- Plan for moderate increases in density, including mixed-use buildings along key corridors
- Preserve historic downtown core
- Prioritize transportation concepts that promote pedestrian safety and traffic calming
- Explore flexible parking solutions and enhanced streetscapes to allow for efficient land use, walkability, and sustainability
- Provide more open spaces and gathering spaces through a connected open space network
- Support civic hub with podium parking to allow for civic plaza space

Downtown Subarea Plan: Updated Concepts
Margaret presented updates to the preferred land use concept for Downtown as well as expanded concepts for the open space network and civic hub. Feedback from Community Summit #2 led to refinement of the land use concept, which focuses on medium-density and mixed-use development in key corridors of Downtown. The preferred land use concept balances the community's vision for residential uses Downtown and preservation of the Historic Main Street Core, while addressing market feasibility of mixed-use buildings.

DAC members offered the following questions and comments:

- How are we addressing parking in the land use concepts, particularly the perception that there is limited parking Downtown? *While there is sufficient parking available in the proximity of Downtown, part of this perception comes from the lack of safety in crossing 3rd and 5th Avenues. The DAC discussed that having dedicated city parking near the Downtown Core would help with the perception. Improved crossings and transformation of 3rd and 5th Avenues in the long term would also create safer connections and a more walkable downtown.*
- How will development at 192nd and the Port of Camas-Washougal change the potential demand for mixed-use development Downtown? *The market Downtown is unique in that it has transit and might draw different residents than these other areas. The group*

discussed the need to balance the current market realities, while recognizing the long-term planning goals of the subarea plan and the vision for more mixed-use Downtown. The DAC expressed interest in seeing mixed-use in key areas, specifically along 3rd and 5th Avenues.

- Rename the Main Street Core zone to the *Historic* Main Street Core to emphasize the importance of the historic character.

Expanded concepts for the open space network included a discussion and renderings of the Dallas Greenway and civic plaza as part of the civic hub.

DAC members offered the following questions:

- Are there precedent examples of a linear park that crosses a hillside? *The Dallas Greenway would include a significant slope to the north of Downtown. The DAC requested expanding the linear park north of 6th Avenue.*
- Can the Mill Ditch be a safer route for bikes? *The plan can clearly define how this area would be used for bikes so that there is a safe bicycling route into Downtown.*

Downtown Subarea Plan: Draft Plan Outline

Margaret presented a draft outline and storyboard that showed how the content developed for the Downtown Subarea Plan would come together in a document. This started a discussion about who the audience is for the plan to provide insight on areas to focus on in the plan.

DAC members provided input on both the groups they would like to see using the plan and how they might implement the plan:

- Developers
- Building owners
- New and current City Council members
- Downtown Camas Association
- Funding agencies
- Example to other Main Street programs
- Staff for work planning and investments
- Recruitment for new businesses
- Georgia Pacific Mill
- Historic District designation
- C-Tran
- Investment recruitment tool
- Columbia River Economic Development Council
- Visit Vancouver

Downtown Subarea Plan: Policy Discussion

Margaret and Nicole McDermott, WSP, introduced how the policies developed for the Downtown Subarea Plan will help to guide the future policy direction for implementation of the plan. Policies will also be developed for the Comprehensive Plan, but a separate set of policies

will be written for Downtown. These policies help to set priorities and provide direction to the City following adoption of the Plan. The DAC discussed policies that they would like to see written for Downtown:

- Address climate issues through policies related to encouraging reuse vs full redevelopment
- Stormwater, sewer, trees, sidewalk and other infrastructure improvements:
    - Ensure adequate infrastructure to serve land uses.
    - Make sure that timing of infrastructure is considered in the plan implementation.
- Address 3rd and 5th Avenue pedestrian safety
- Connectivity: Improve connections to and from Downtown
- Expand character of Downtown to the broader boundary defined in the plan
- Focus on pedestrian activation through plazas and public spaces
- Support economic development Downtown
- Address accessibility needs both with ADA and beyond
- Accommodate a flexibility of spaces and variety of uses through use of public space (sidewalks, parking, etc.)
- Define the historic character of 4th Avenue through specific streetscape elements.

Next Steps

The consultant team and City will be working on a draft of the subarea plan in the coming months and will share a version of the draft with the DAC.

Margaret thanked the committee for their attendance and adjourned the meeting at 5:00pm.

Downtown Subarea Plan
Our Downtown Camas 2045

DAC Meeting #6
March 24th, 2025, 3:00- 5:00 PM
Council Chambers
616 NE 4th Ave, Camas, WA

AGENDA

Time	Subject	Lead
3:00	Welcome and General Updates	Margaret Raimann, SERA
3:05	Downtown Design Guidelines Manual: Presentation • Land Use Planning and Zoning-to-Date • Sample Downtown Design Guidelines • Potential Components for Consideration	Bryan Robinson and Nicole McDermott, WSP
3:20	Downtown Design Guidelines Manual: Discussion • What features / design elements of the Main Street Core area do you want to preserve? • Are you more interested in regulating the public realm or building details? And what about each is important? • Are there any design elements of the Main Street Core that you would like to see in other areas of Downtown? • How specific / prescriptive do you want the updated Design Guidelines to be? • How do you see incentives being helpful for the implementation of the Design Guidelines?	Bryan, Nicole All
4:00	Break	All

4:05	Downtown Subarea Plan Draft Policies: Discussion [see Attachment A] • Do the policies reflect your priorities for implementation of the Downtown Subarea Plan? • What's missing from the policies? • Do you have any suggested changes to the policy language?	Margaret All
4:55	Next Steps • Draft Subarea Plan • Draft Design Guidelines	Margaret, Bryan, Nicole
5:00	Adjourn	

ATTACHMENT A

Downtown Subarea Plan
Our Downtown Camas 2045
DRAFT - Policies

The draft goals and policies listed below reflect work and discussions to-date on the Downtown Subarea Plan that will advance priorities and implementation over the next 20 years.

Goal DT-1: Architecture and Design

Retain Downtown's historic design and expand its charm.

- DT-1.1: Protect and enhance downtown's design, including the integrity of the Historic Main Street Core, through clear and objective zoning standards and design guidelines.
- DT-1.2: Explore improvements to the public realm that reinforce downtown's charm through a Streetscape Plan and continued investment in community amenities.
- DT-1.3: Ensure that downtown design standards are up-to-date and reflect the goals and policies of the Downtown Subarea Plan.
- DT-1.4: Promote the addition of street trees, landscape planters, green walls, and other landscaping elements that improve aesthetics, provide shade, and enhance the pedestrian experience.
- DT-1.5: Incorporate public art, murals, and interactive elements to create a unique sense of place.
- DT-1.6: Require new buildings to complement the existing architectural character while allowing for contemporary design elements.
- DT-1.7: Encourage the use of pedestrian-scale buildings and street lighting to highlight building facades and architectural features while enhancing safety and visibility.

Goal DT-2: Downtown Housing

Provide a range of housing options that welcome more people to live Downtown.

- DT-2.1: Allow development of a range of housing types, including both rental and ownership

options, for a range of income levels within the zoning districts in the Downtown Subarea Plan boundary.

- DT-2.2: Explore incentives to increase housing capacity and encourage the development of diverse housing types, ADUs, affordable housing, senior housing, and mixed-use or live/work units downtown.
- DT-2.3: Develop specific design standards for new housing built to complement the existing development within downtown, ensuring the regulations and permitting processes are clear and objective.
- DT-2.4: Continue to implement housing affordability strategies that meet the needs of Camas households downtown while preserving existing affordable housing.
- DT-2.5: Encourage housing downtown to provide features that foster healthy living such as community gardens, open spaces, and recreation areas.

Goal DT-3: Urban Amenities

Provide the right mix of development, services, and public spaces that support ways for people to live, work, and play Downtown.

- DT-3.1: Require active ground floor uses and engaging street level design in the Historic Main Street Core zoning district.
- DT-3.2: Support park and open space improvements and improved connectivity to the Mill Ditch Trail and Louis Bloch Park, as illustrated in the Downtown Subarea Plan.
- DT-3.3: Evaluate how Camas regulations support visitor lodging and tourism activities downtown.
- DT-3.4: Explore opportunities for additional public spaces, including public plazas, pocket parks, pedestrian-only streets, and community gardens.
- DT-3.5: Create a parklet program that converts downtown curbside parking spaces, when and where appropriate, into community seating spaces available for businesses and residents.
- DT-3.6: Establish a policy requiring that new public and private projects provide public art, including murals, sculptures, or interactive elements within public spaces.
- DT-3.7: Support and incentivize business and property owners to incorporate outdoor patios, seating areas, planters, and other landscape features that contribute to an inviting and dynamic streetscape.

Goal DT-4: Economic Development

Encourage (re)development to expand opportunities Downtown for retail, office, and residential.

- DT-4.1: Support partnerships with community groups focused on advocating for the future of Downtown Camas, such as the Downtown Camas Association.
- DT-4.2: Evaluate the Camas Municipal Code and permitting procedures to identify ways to increase flexibility in enabling businesses to expand, grow, or redevelop at existing locations.
- DT-4.3: Collaborate with public agencies, private parties, and non-profits in marketing and outreach efforts that attract visitors and sustain existing local businesses and attract new development/redevelopment while maintaining the historic charm of downtown.
- DT-4.4: Partner with the Downtown Camas Association, Camas-Washougal Chamber of Commerce, and other similar organizations to expand incentives available to small local businesses such as credit improvement programs.
- DT-4.5: Prioritize City investments that capitalize on nearby redevelopment efforts to reinforce economic and physical connections to downtown.
- DT-4.6: Evaluate financing tools to help investments in community infrastructure and encourage redevelopment of key areas.
- DT-4.7: Address infrastructure improvements necessary for redevelopment projects.
- DT-4.8: Encourage development and redevelopment that reinforces the role of public spaces in Downtown Camas as a vibrant center of activity, particularly for vulnerable populations such as youth and elderly.
- DT-4.9: Develop strategies to mitigate displacement of existing businesses downtown, particularly in areas of increased investment and redevelopment.
- DT-4.10: Work to achieve a diverse set of local businesses downtown that are complementary and economically resilient, balancing needs of residents, workers, and visitors.

Goal DT-5: Civic Life

Expand on civic life and services Downtown through strategic use of City-owned property and vibrant community events.

- DT-5.1: Ensure that city hall, the library and primary services remain downtown, in the heart of

the city.

- DT-5.2: Fulfill the vision for a central gathering place in the heart of downtown through the development of a Civic Hub, which will include a civic plaza that supports existing community events and be a catalyst for new events.
- DT-5.3: Support flexibility and provide prioritized infrastructure investments at the Civic Hub along NE 4th Ave to create shared spaces to accommodate the growth of pedestrian-friendly events including the Farmers Market.
- DT-5.4: Develop guidelines and permitting procedures that allow for seasonal or temporary use of public spaces for outdoor dining, retail displays, and community events, while ensuring pedestrian flow and safety.

Goal DT-6: Multimodal Connectivity

Create a safe and connected transportation network that makes Downtown walkable and bikeable.

- DT-6.1: Encourage placemaking and wayfinding efforts downtown to develop a distinct identity and attract visitors.
- DT-6.2: Ensure downtown sidewalks are wide, unobstructed, and well-maintained to accommodate all users.
- DT-6.3: Implement traffic-calming measures such curb extensions, raised crosswalks and intersections, and unique pavement treatments that improve pedestrian safety and enhance downtown design.
- DT-6.4: Improve bicycle infrastructure with new dedicated bike lanes, sharrows, intersection improvements, and bicycle parking and racks. Encourage the use of priority bicycle parking for community events.
- DT-6.5: Enhance connections between the Historic Main Street Core and downtown residential neighborhoods, including Evergreen Terrace and south of NE 3rd Ave.
- DT-6.6: Install benches, shade structures, and public seating along pedestrian routes to create a more comfortable walking environment.
- DT-6.7: Ensure adequate parking downtown for continued business growth and consider developing a parking management plan. Seek out opportunities for shared use parking and additional parking on the edges of the downtown district, which could also serve as a park and ride transit facility.

Downtown Advisory Committee (DAC)
Draft Meeting #6 Summary

March 24th, 2025, 3:00- 5:00 PM

Downtown Design Guidelines: Presentation and Discussion
Bryan Robinson and Nicole McDermott, WSP, presented an introduction to the process of updating the Downtown Design Guidelines Manual and Zoning Code for the new zoning districts defined in the Downtown Subarea Plan. The presentation included examples from jurisdictions with similar elements to Downtown Camas across Washington and Oregon. DAC members asked questions throughout the presentation and answered specific discussion questions.

The goal of the discussion was to understand the types of elements that the DAC would like to see regulated in the zoning code and guidelines, as well as the level of restriction / flexibility that the code and guidelines should provide for future development / redevelopment.

DAC members offered the following questions and comments:

- In general, DAC members would like to preserve / enhance the following elements in Downtown:
    - Attention to charm, scale, and intimate feel of downtown
    - Continue thoughtful approach to public art
    - Bulb-outs / curb extensions to preserve walkability
    - Flower baskets and street trees
    - Building and landscaping / tree lighting, lampposts
    - Awnings / weather protections
    - Remove permanent structures that no longer serve the public realm (e.g., giant planters on NE 4th Ave.)
    - Commercial use at ground floor, specifically restaurants and retail
    - Lighting / signage regulations (e.g., brightness restrictions)
    - Regulate public realm (e.g., building design, public space between building/street)
    - Create reliable parking options, even if it's a lot that's a few blocks away

Additional / expanded discussions about specific elements are categorized by topic below:

- Lighting:
    - Lighting layers should be considered for exterior lighting on buildings.
        - The DCA currently has a grant to add lighting to existing buildings and it could be a good standard for new buildings.
        - These standards could differ by zoning district.
    - Consider a lumen level / foot-candle limit for all lighting on buildings
    - Pedestrian lighting should be spread out beyond Main Street Core
- Public Art

  - Would like to see more follow-through / clarity on the public art fee requirement for new development
  - Public art is important, but needs to be done with care
  - The City is working on a Public Art Program as part of the Strategic Plan process
- Awnings
  - Can awnings be required with a change of use / building permit?
  - Weather protection is something that is consistently missing and should be addressed
  - Do awnings cover the door or the entire length of your building? Some DAC members stated a preference for the entire building
- "Active Ground Floor" terminology
  - What does "active" mean? Can it be specific to restaurants and retail in the Main Street Core?
  - Desire to make sure uses remain commercial on ground floor
- Height
  - Interest in zoning protection for height in the Main Street Core, and potentially also in areas outside the core
- Facades, Building Materials
  - What prevents someone from changing historic character and façade? Can we regulate color?
  - More interest in regulating aesthetics than materials. There needs to be more guidance/regulation than there currently is but not super prescriptive.
    - Does this include materials on only NE 4th? Or all materials in other zoning districts?
    - The key is the aesthetic. People love downtown's eclectic nature but want to see some sideboards around future design.
- Parklets / outdoor dining
  - Uncertainty around implementing parklets if they take up parking space; they would need a set of design standards / be attractive.
  - Concern that downtown is inviting as-is, which includes the ease of finding parking and walking around. That environment would need to remain, and if it is harder to park that might change the ease of navigating Downtown.
- Parking
  - Part of the issue with parking is not being able to "count on" a spot. Designated parking areas, even if a few blocks from a destination, might be worth it since it would more/less guarantee parking spots.
- Permitting Process / Design Manual Applicability
  - Are there thresholds for when design guidelines kick in currently?
    - *City staff stated it's currently when a building permit is required.*
  - Interest in more clarity around when design guidelines would apply, what triggers it (Change of use? New development only?)
    - The goal of the new guidelines and zoning would be to be as clear and objective as possible.

- Future proofing
    - Can the guidelines account for future building materials (e.g., cutting-edge tech for siding) or future uses, since it's a 20-year plan and there will be some unknowns?
        - Opportunities to amend zoning code and guidelines as necessary in the future for new/emerging technology.
    - Consider future options for EV charging stations, downtown Wi-Fi, consider future generations
        - Implementation plan can include exploration of this.
- Incentives
    - MFTE exists now as an incentive.
    - What other incentives would be needed in the future, even if market isn't supporting certain development now, but could be in the next 20 years?
    - Where are City initiatives vs building/developer-owner driven initiatives?
- Downtown residential zone
    - Interest in setting design standards in residential areas.
        - State regulations require the same level of requirements for missing middle housing types as SF residential.
    - Some expressed concern over redevelopment that has happened in Evergreen Terrace in terms of the style/design of the housing, others expressed a desire to maintain setbacks and scale but less concerned about design.
    - Currently the code only regulates setbacks and building code/permit.
    - Can Camas establish its own historic design guidelines/designations to preserve residential areas?
        - Discussion of a potential optional program for homeowners.

Downtown Subarea Plan Policies: Policy Discussion

Margaret Raimann, SERA Design, presented the draft policies that will accompany the Downtown Subarea Plan. DAC members received the list of draft policies along with the agenda for the meeting and provided feedback during the meeting.

DAC members offered the following feedback during the meeting:

- DT-1.7: Encourage the use of pedestrian-scale buildings and street lighting to highlight building facades and architectural features while enhancing safety and visibility.
    - Be clear about the meaning of street lighting.
    - Could this also include wayfinding signage and other signage?
- DT-1.5: Incorporate public art, murals, and interactive elements to create a unique sense of place.
    - Can we be specific here about how funds for public art are used?
- DT-2.1: Allow development of a range of housing types, including both rental and ownership options, for a range of income levels within the zoning districts in the Downtown Subarea Plan boundary.
    - Should we include language about "increasing density"?

- DT-3.1: Require active ground floor uses and engaging street level design in the Historic Main Street Core zoning district.
    - Should “active ground floor” be defined here? (Restaurants/retail?)
- DT-3.2: Support park and open space improvements and improved connectivity to the Mill Ditch Trail and Louis Bloch Park, as illustrated in the Downtown Subarea Plan.
    - Can the Mill Ditch Trail improvements be specific about bicycle connections?
- DT-3.5: Create a parklet program that converts downtown curbside parking spaces, when and where appropriate, into community seating spaces available for businesses and residents.
    - Can we add language that states the parklets are temporary?
- Add to Goal DT-3:
    - Consider fees/revenue generation for maintaining urban amenities and /or a public process for review of privately funded urban amenities.
- Goal DT-4:
    - Look at combining 4.1, 4.3, and 4.4 due to redundancies.
    - Opportunity for collaboration with the city for façade improvement programs (reduce fees, streamline permitting, etc.)
    - Consider adding a policy related to job creation; there is an opportunity for living wage jobs/innovation (light industrial uses).
- DT-6.6: Install benches, shade structures, and public seating along pedestrian routes to create a more comfortable walking environment.
    - Shade or a different pavement surface is especially important in areas where Farmers Market operates.

Next Steps

Brian, Nicole, and Margaret presented the next steps for the project, which include a draft Design Guidelines Framework Document, updated draft policies, and a Draft Subarea Plan document. DAC members were encouraged to provide additional feedback on the draft policies via email if they have more comments or questions.

The meeting adjourned at 5:05pm.

City of Camas

Housing Action Plan

FINAL REPORT
2021



This page intentionally left blank.

Prepared by

Mosaic Community Planning, LLC and
Marketek, Inc.

For

City of Camas
616 NE Fourth Avenue
Camas, WA 98607

This page intentionally left blank.

Acknowledgements

The City of Camas thanks community members that shared their time, knowledge, and ideas during development of this Housing Action Plan. The City looks forward to continued engagement with residents and other stakeholders during implementation of this Plan.

Camas City Council

Ellen Burton, Mayor Pro Tem
Greg Anderson
Bonnie Carter
Don Chaney
Steve Hogan
Shannon Roberts
Melissa Smith

Camas Planning Commission

Mahsa Eshghi
Tim Hein
Shawn High
Troy Hull
Geoerl Niles
Warren Montgomery
Joe Walsh

City of Camas Staff

Phil Bourquin, Community Development Director
Robert Maul, Planning Manager
Sarah Fox, Senior Planner, Project Lead
Lauren Hollenbeck, Senior Planner
Madeline Sutherland, Assistant Planner

Consultant Team

Mosaic Community Planning, LLC
Marketek, Inc

Focus Group Participants

Kate Budd, Council for the Homeless
Carol Collier, Camas Resident
Shawn Donaghy, C-TRAN
Olivia Eagle, Camas School District
Laura Ellsworth, Council for the Homeless
Randi Sue Ford, Camas Resident
Randal Friedman, Camas Resident
Tim Hein, Planning Commission
Roy Johnson, Vancouver Housing Authority
Jacqui Kamp, Clark County Staff
Tonya Lance, Camas Resident
Cassi Marshall, Port of Camas-Washougal Board of Commissioners
Dave McCabe, Camas Resident
Caroline Mercury, Downtown Camas Association
Warren Montgomery, Planning Commission
Alan Peters, Camas Resident
Carrie Schulstad, Downtown Camas Association
Jeff Snell, Camas School District
Casey Wyckoff, LSW Architects
Phil Bourquin, Camas Community Development Director
Cathy Huber Nickerson, Camas Finance Director

Contents

CHAPTER 1: INTRODUCTION 1

Definitions 3
Data Sources 5

CHAPTER 2: COMMUNITY INPUT 7

Community Meetings 9
Focus Groups and Interviews 13
Housing Survey 15
Project Website 20

CHAPTER 3: DEMOGRAPHIC TRENDS 23

Population Growth 24
Demographic Overview 25
Economic Conditions and Trends 36

CHAPTER 4: HOUSING SUPPLY 51

CHAPTER 5: HOUSING NEEDS 79

Existing Housing Needs 80
Housing Need Projections 83
Vacant Buildable Land 87

CHAPTER 6: HOUSING POLICY REVIEW 91

Housing Goals 92
Housing Policy Framework 93
Progress Toward Housing Goals 99

CHAPTER 7: HOUSING STRATEGIES 103

Housing Action Plan Goals 104
Housing Action Plan Strategies 106

List of Figures

Figure 1: Camas HAP Project Phases....2
Figure 2: Comments on Housing Variety....10
Figure 3: Housing Survey Responses to Housing Affordability....17
Figure 4: Housing Survey Responses to Future Housing Development....18
Figure 5: Housing Survey Responses about Types of Housing Assistance....19
Figure 6: Representative Comments about Housing Concerns in Camas....20
Figure 7: Comments Received on LetsTalkCamasHousing.us....21
Figure 8: Average Annual Population Growth Rate, City of Camas, Clark County, and State of Washington, 2010-2020....24
Figure 9: Percent of Population by Age Group, City of Camas, Clark County, and Portland-Vancouver-Hillsboro MSA, 2014-2018....26
Figure 10: Population by Age Group, City of Camas, 2006-2010 and 2014-2018....27
Figure 11: Percent of Population by Race and Ethnicity, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018....28
Figure 12: Population by Race and Ethnicity, City of Camas, 2006-2010 and 2014-2018....29
Figure 13: Percent of Population by Language Spoken at Home (Population 5 Years and Over), City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018....30
Figure 14: Percent Limited English-Speaking Households, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018....31
Figure 15: Population by Income Group, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018....32
Figure 16: Median Household Income, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018....33
Figure 17: Percentages of Owner and Rental Households by Percent HUD Area Median Family Income, City of Camas, 2013-2017....34
Figure 18: Numbers of Owner and Rental Households by Percent of HUD Area Median Family Income, City of Camas, 2013-2017....35
Figure 19: Income Limits by Household Size for Selected Percentages of HUD Area Median Family Income, Clark County, 2020....36

Figure 20: Number of Jobs by NAICS Industry Sector (All Jobs), City of Camas, 2018 37
Figure 21: Principal Employers, City of Camas, 2020 37
Figure 22: Jobs Located in the City of Camas by NAICS Industry Sector, 2002, 2010, and 2018 (All Jobs) 38
Figure 23: Jobs Held by Camas Residents by NAICS Industry Sector, 2002, 2010, and 2018 (All Jobs) 39
Figure 24: Number of Jobs by Wage Level (All Jobs), City of Camas, 2010 and 2018 41
Figure 25: Percent of Jobs by Wage (All Jobs), City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2018 42
Figure 26: Jobs – Housing Ratio, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2018 (Primary Jobs) 43
Figure 27: Locations of Jobs in Portland-Vancouver-Hillsboro OR-WA MSA, 2017 (All Jobs) 44
Figure 28: Locations of Jobs in Clark County, 2017 (All Jobs) 44
Figure 29: Locations of Jobs, City of Camas, 2017 (All Jobs) 45
Figure 30: Commuting Patterns of Resident and Non-Resident Workers, City of Camas, 2018 (All Jobs) 46
Figure 31: Distance Traveled to Work by Wage, City of Camas Residents (for Primary Jobs), 2018 47
Figure 32: Projected Employment, Southwest Washington Region, 2018, 2023, and 2028 48
Figure 33: Projected Employment for Top Occupations*, Southwest Washington Region, 2028 49
Figure 34: Percentage of Housing Units in Camas by Structure Type 53
Figure 35: Percentage of Households living in Camas by Structure Type 54
Figure 36: Share of Owners and Renters in Camas, 2018 55
Figure 37: Camas Homeownership Rate, 2012-2018 56
Figure 38: Renter Occupied Housing Units by Structure Type, 2010 57
Figure 39: Renter Occupied Housing Units by Structure Type, 2014-2018 57
Figure 40: Occupied Owner Housing Units by Structure Type, 2010 58
Figure 41: Occupied Owner Housing Units by Structure Type, 2014-2018 58
Figure 42: Household Size by Housing Tenure, 2014-2018 60
Figure 43: Number of Bedrooms 61

Figure 44: Camas Housing Units by Year Structure Built 63
Figure 45: Vacancy Rate 65
Figure 46: Housing Production in Camas, 2010 and 2015 67
Figure 47: Bottom and Top Tier Home Values in Camas, 2010-2020 70
Figure 48: Existing Single Family Homes Prices in Clark County, 2010 - 2020 71
Figure 49: Median Monthly Costs for Homeowners with a Mortgage, 2014-2018 72
Figure 50: Median Monthly Renter Costs, 2014-2018 73
Figure 51: Percentage of Renters in Camas, 2014-2018 76
Figure 52: Housing Choice Vouchers in Camas, 2018 77
Figure 53: Project Based Section 8 Units in Camas, 2018 77
Figure 54: Share of Household by Income Level in Camas and Clark County, 2013-2017 85
Figure 55: City of Camas Housing Development Capacity on Vacant Buildable Land 88
Figure 56: City of Camas Housing Development Capacity by Zoning District 89
Figure 57: Percent Increase by Housing Type: 2000 to 2018 100

List of Tables

Table 1: Zoom Poll Discussion Summary – Does Camas Need Greater Variety in Housing Types and Prices? 9

Table 2: Community Meeting Discussion Summary – Development Opportunities and Challenges..... 12

Table 3: Camas Housing Survey Participant Demographics..... 16

Table 4: Projected Population Change, City of Camas and Clark County, 2020-2040..... 25

Table 5: Total Units and Households, Camas and Clark County, WA..... 52

Table 6: Total Housing Units by Structure Type in Camas 53

Table 7: Population in Housing Units by Structure Type, 2000 54

Table 8: Tenure by Households in Camas and the Region, 2014-2018..... 55

Table 9: Household Size in Camas, 2014-2018..... 59

Table 10: Housing Units by Year Structure Built, 2014-2018..... 63

Table 11: Housing Lacking Complete Kitchen or Plumbing Facilities, 2014-2018..... 64

Table 12: For Sale and Rental Vacancy Rates in Camas, 2014-2018..... 65

Table 13: Rental Vacancy in Properties with 20+ Units in Camas, September 2020..... 66

Table 14: Multifamily Apartment and Townhouse Developments in Camas, 2020..... 68

Table 15: Housing Affordability Index for Camas and Clark County, 2017 to 2020..... 69

Table 16: Median Home Value and Monthly Owner Costs in Camas, 2018..... 72

Table 17: Median Renter Costs in Camas, 2018..... 73

Table 18: Average Rental Rates in Properties with 20+ Units in Camas, September 2020..... 74

Table 19: Special Housing Inventory in Camas, 2010 74

Table 20: Special Housing Inventory in Clark County, 2010..... 74

Table 21: Estimated Housing Needs by Type in Camas, 2017 81

Table 22: Estimated Housing Needs by Income Group in Camas, 2017 82

Table 23: Estimated Housing Needs by Race and Ethnicity in Camas, 2017 83

Table 24: Projected 20-Year Housing Need in City of Camas..... 84

Table 25: Projected Future Housing Need by Income Level and Tenure 86

Table 26: Housing Action Plan Strategies 105

Table 27: Proposed Changes to Authorized Uses in DC and MX Zones ... 109

Table 28: Minimum and Maximum Densities and Residential Land in Camas's Residential Zoning Districts 110

Table 29: Proposed Changes to Authorized Uses in Residential and Multifamily Zones 112

This page intentionally left blank.

Chapter 1:
Introduction



The City of Camas created this Housing Action Plan (HAP) to encourage housing diversity, affordability, and access to opportunity for people of all incomes. The goal of the plan is to help the community achieve a greater variety of housing types and costs to better meet the needs and desires of individuals and families.

Additional objectives of the Plan include:

- Relying on thorough data and an inclusive public participation process to understand current and future housing needs.
- Assessing existing housing resources and policies and identify ways to build on or improve them.
- Outlining strategies the City of Camas plans to take to meet the community's housing needs over the next ten years and beyond.
- Furthering the city's Comprehensive Plan housing goals and be adopted by City Council.

Camas received a grant to support this project from the Washington State Department of Commerce under the Urban Residential Building Capacity Grant Program established by House Bill 1923. In 2019, the Washington State Legislature passed HB 1923 to encourage all cities under the Growth Management Act (GMA) to adopt actions to increase residential building capacity and prioritize affordable, inclusive neighborhoods. Developing a Housing Action Plan was one option through which cities could receive grant funds under HB 1923.[1]

This document outlines the process and findings of Camas's housing research, including community outreach through virtual meetings, a survey, and an interactive project website. It culminates with strategy recommendations for expanding housing diversity and affordability in Camas. Major components include:

- Community Engagement Overview
- Demographic Trends Analysis
- Housing Supply Analysis
- Housing Need Estimates & Gaps
- Recommended Housing Strategies
- Implementation Plan

Figure 1: Camas HAP Project Phases



[1] Washington State Department of Commerce, "Urban Residential Capacity Grant Program Overview." Retrieved from: https://deptofcommerce.box.com/shared/static/5r9951piax26mz19hez4j5d1gobi6l08.pdf

Following adoption of the HAP by Camas City Council, the City will work to implement strategies included in the Plan over the next several years.

Definitions

Affordable Housing

The definition used throughout this analysis is congruent with the U.S Department of Housing and Urban Development's definition of "affordable housing" as housing that costs no more than 30% of a household's total monthly gross income. For rental housing, the 30% amount would be inclusive of any tenant-paid utility costs. For homeowners, the 30% amount would include the mortgage payment, property taxes, homeowners insurance, and any homeowners' association fees.

Comprehensive Plan

"Comprehensive plans" are the centerpiece of local planning efforts. A comprehensive plan articulates a series of goals, objectives, policies, actions, and standards that are intended to guide the day-to-day decisions of elected officials and local government staff.

Growth Management Act (GMA)

The Washington State Legislature enacted the Growth Management Act (GMA) in 1990, following a lengthy process led by the Growth Strategies Commission. It was motivated by several factors, including rapid suburban development and traffic congestion and the decrease of farmland and open space. The passage of HB 2929 set forth 13 statewide goals, numerous new policies and requirements, and new planning and revenue authorities for counties and cities.

HB 2929 required counties with high growth rates, which includes Clark County, to plan. A city must follow the lead of the county in which it is located and must plan under the rules of the GMA. GMA-planning counties and cities are required to develop and adopt comprehensive plans, followed by zoning and other development regulations to implement those plans. The GMA also calls for communities to review and, if necessary, revise their plans and regulations every eight years to ensure they remain up to date.

Clark County is required to plan for the population projected to grow in the County over the next 20 years. The county and the cities are to work together to distribute growth forecasts across all cities, unincorporated growth areas, and rural areas, with an emphasis on accommodating growth within urban areas to preserve rural and natural resource lands.

HUD Area Median Family Income (HAMFI or MFI)

To determine household income limits for eligibility in federal affordable housing programs, the U.S. Department of Housing and Urban Development calculates

median family income by household size for counties and metropolitan areas throughout the United States. The median family income for a given geography and household size is the midpoint of the income distribution for similarly-sized households within that geography.

According to HUD's HAMFI data, Camas falls within the Portland-Vancouver-Hillsboro, OR-WA metropolitan area. As of 2021, HUD estimated the MFI for that area at $96,900.

Protected Classes

Title VIII of the Civil Rights Act of 1968 prohibits housing discrimination based on race, color, national origin or ancestry, sex, or religion. The 1988 Fair Housing Amendments Act added familial status and mental and physical handicap as "protected classes."

The Washington State Law Against Discrimination includes four protected classes in addition to those protected at the federal level. They include marital status, sexual orientation and gender identity, source of income, and veteran/ military status.

Zoning

"Zoning" establishes separate districts (zones) for different types of land use, such as commercial, residential, and industrial. These areas are shown on the city's Zoning Map. Within each zone, standards are adopted to regulate the size, use, and location of sites and buildings. Requirements for protecting critical areas, standards for landscaping and parking, and subdividing land are also addressed. Zoning regulations adopted by the City are contained within Title 18 of the Camas Municipal Code.

Commercial Zones are intended to provide services and employment primarily to residents. Commercial zones may also include residential development such as apartments as part of a mixed-use project. An example of a commercial site that includes residential development can be found at the Grass Valley Master Plan project on NW 20th Avenue.

Industrial Zones provide for a wide range of industrial and manufacturing uses. Types of activities in this zone include assembly, manufacturing, fabrication, processing, bulk handling and storage, research facilities, associated warehousing, and heavy trucking.

Light Industrial/Business Park Zones provide for uses, such as offices related to industrial usage, research and development, limited commercial, and associated warehousing uses. Development standards require a campus-like setting with generous landscaping and setbacks from roadways.

Multifamily Zones are intended to provide for dwellings, such as row houses, condominiums, and apartments. It is desirable for these zones to be adjacent

to parks and transportation systems (e.g., bus stops). The maximum number of units that are allowed per acre in a multifamily zone is 18 units per acre. Only 5% of the city is zoned for multifamily uses.

Single-Family Residential Zones are intended for dwellings that are typically a single dwelling or a duplex (attached dwelling). Approximately 48% of the city is zoned for single-family use. The city also allows for an Accessory Dwelling Unit (ADU) on single family lots that are not otherwise prohibited by restrictive HOA covenants.

Data Sources

Decennial Census

Data collected by the Decennial Census for 2010 and 2000 is used in this Assessment (older Census data is only used in conjunction with more recent data in order to illustrate trends). The Decennial Census data is used by the U.S. Census Bureau to create several different datasets:

2010 and 2000 Census Summary File 1 (SF 1) – This dataset contains what is known as "100% data," meaning that it contains the data collected from every household that participated in the Census and is not based on a representative sample of the population. Though this dataset is very broad in terms of coverage of the total population, it is limited in the depth of the information collected. Basic characteristics such as age, sex, and race are collected, but not more detailed information such as disability status, occupation, and income. The statistics are available for a variety of geographic levels with most tables obtainable down to the census tract or block group level.

2000 Census Summary File 3 (SF 3) – Containing sample data from approximately one in every six U.S. households, this dataset is compiled from respondents who received the "long form" Census survey. This comprehensive and highly detailed dataset contains information on such topics as ancestry, level of education, occupation, commute time to work, and home value. The SF 3 dataset was discontinued for the 2010 Census, but many of the variables from SF 3 are included in the American Community Survey.

American Community Survey (ACS)

The American Community Survey is an ongoing statistical survey that samples a small percentage of the U.S. population every year, thus providing communities with more current population and housing data throughout the 10 years between censuses. This approach trades the accuracy of the Decennial Census Data for the relative immediacy of continuously polled data from every year. ACS data is compiled from an annual sample of approximately 3 million addresses rather than an actual count (like the Decennial Census's SF 1 data) and therefore is susceptible to sampling errors. This data is released in two different formats: single-year estimates and multi-year estimates.

ACS Multi-Year Estimates – More current than Census 2010 data, this dataset is one of the most frequently used. Because sampling error is reduced when estimates are collected over a longer period of time, 5-year estimates will be more accurate (but less recent) than 1-year estimates. The 2014-2018 ACS 5-year estimates are used most often in this HAP.

Comprehensive Housing Affordability Strategy (CHAS)

CHAS data is a special tabulation of the U.S. Census Bureau's American Community Survey (ACS) that is largely not available through standard Census products. The special dataset provides counts of the number of households with a variety of housing needs, in a range of income brackets, and for different household types of particular interest to planners and policy makers. The most recent available CHAS data is based on 2013-2017 American Community Survey 5-year estimates.

City of Camas Building Permits

The City of Camas provided monthly residential building permit data from 2017 through 2020. Permit data included development type (single or multifamily) and unit square footage. Mosaic Community Planning analyzed building permit data for comparisons to 2010 and 2015 permit data included in *Camas 2035.*

Washington Center for Real Estate Research

The Washington Center for Real Estate Research provides housing data for local governments in Washington, including those developing Housing Action Plans under HB 1923, through its Housing Market Data Toolkit. The toolkit includes a compilation of relevant Census data, information about local for-sale and rental markets, housing permit and completion data, and a housing affordability index. The toolkit is publicly available at https://wcrer.be.uw.edu/housing-market-data-toolkit/.

Chapter 2:
Community Input



Camas residents and employees have a wide range of unique housing needs and preferences. To be successful, the Housing Action Plan must be grounded in a thorough understanding of local housing needs, as well as reflective of residents' ideas for the future. Implementation of the Plan depends on local support built, in part, through an inclusive and open community engagement process.



The City of Camas's goals for engaging the public during the HAP include:

- **Inform** residents about the Housing Action Plan, the planning process, and local housing affordability needs.
- **Understand** local housing issues, needs, and preferences, specifically those related to affordability and development opportunities and barriers.
- **Be inclusive** of a range of perspectives, including people who are particularly impacted by housing affordability, communities at risk of displacement, other vulnerable populations, and groups who have historically been left out of community planning processes.
- **Be transparent** to openly reflect the variety of viewpoints within the community, as well as the City's process used to develop and implement the Housing Action Plan.
- **Build support** for zoning and housing policies that address affordability and other issues identified by the community.

The community engagement process for the Housing Action Plan used a variety of virtual engagement tools in place of traditional face to face engagement methods. To gather input from the public, the project team conducted two virtual public meetings, seven focus groups, and maintained a website for resident engagement, including a public survey.

In total, over 300 people participated in developing the Housing Action Plan. About 50 people joined a community meeting or focus group and 307 took the survey. This section summarizes feedback received through each of these methods.

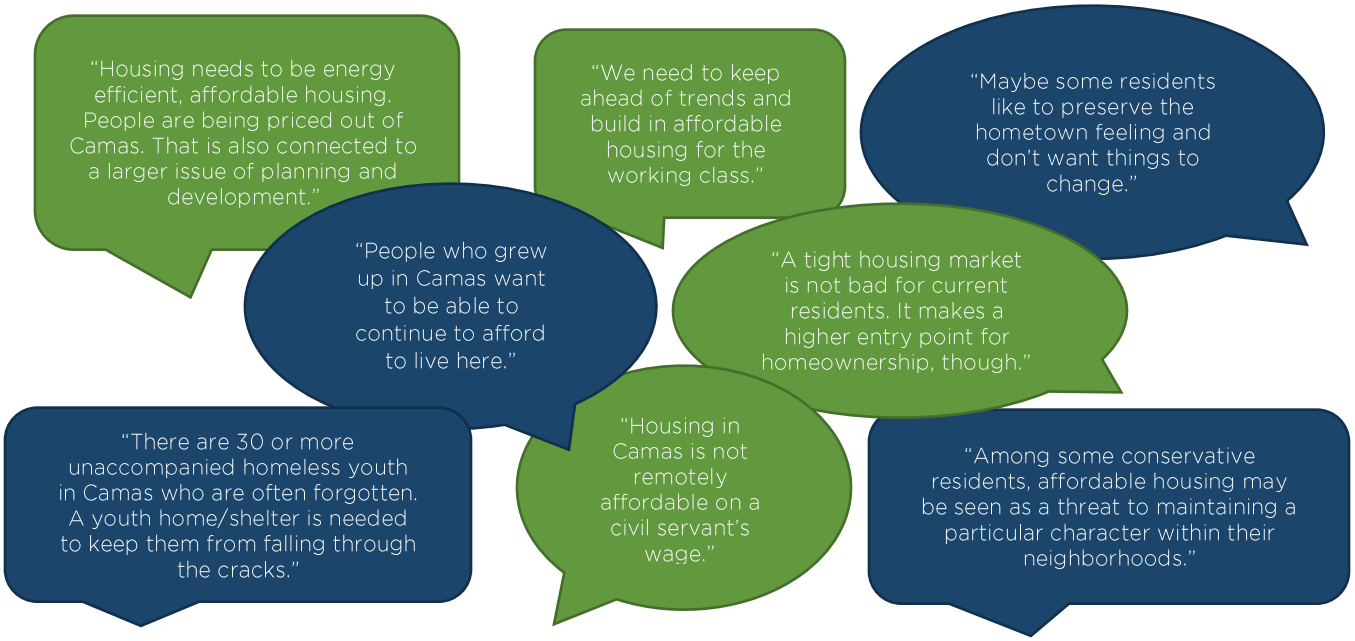
Community Meetings

Two virtual public meetings were held in September. Each meeting began with a presentation by the project team that included an overview of the HAP and a few data points about housing in Camas. The team then asked participants for their opinions on the city's housing needs and current supply through in-meeting Zoom polls and small group discussions.

Table 1: Zoom Poll Discussion Summary – Does Camas Need Greater Variety in Housing Types and Prices?

STRONGLY AGREE	NEITHER AGREE NOR DISAGREE
• Most new housing in Camas is not affordable for half of the population. • Housing should be built with a focus on active transportation, such as biking and walking, and on mitigating climate change. • With two teenage boys, I would love to have kids be able to move back as adults. However, there are not a lot of affordable or starter homes. • I was trying to help a young man who was homeless find housing but could not find anything. I do not feel like Camas has a good foothold in caring for the aging or a diverse population, including people of different ethnic backgrounds, colors, and gender identities. Camas does feel like it is a Caucasian space. I do not know that that helps us embrace a holistic view of what we could be.	• There's benefit to the vitality of a small town with some density. With a community like Camas where a lot of the population is by Vancouver, it is easy to patronize businesses there rather than downtown, so we lose vitality to businesses there. Development of downtown interests me most. • I am still learning and have no idea what we have. I thought we have a pretty diverse community, but everything can improve. • I am indifferent. What does the housing mixture look like? What are the services to provide for residents? How can new residents be supported? People are being priced out.
SOMEWHAT AGREE	**SOMEWHAT OR STRONGLY DISAGREE**
• I am still getting grounded on these issues, so I would like to know the socioeconomic spread in Camas and whether the housing needs are meeting the needs of those who live here. Are people working here having to commute because they cannot afford housing? Is it safe to bike on our roads? • There are lots of big houses in Camas and not many small housing types. • Long-time residents say they cannot afford houses here. • Retiring in Camas is questionable related to affordability and modest housing sizes. • We need more options for starter and mid-range homes. • There does need to be a greater variety of housing in Clark County as a whole. • More variety is necessary to include people 'priced out.'	• On the west side, if you look at the variety of development, there is quite a lot. Not as much strictly in the City of Camas, but in the area in general. • How would residential growth affect current homeowners, schools, and growth in the city? • I am concerned about increased density. Let us not be Portland with no parking. Impact fees do not reflect the actual price of supporting new residents. We need to pay-as-we-go and not use more bond measures to support development.

Figure 2: Comments on Housing Variety



Housing Types Most Needed in Camas

Discussion Question: What particular types of housing do you feel like are most needed in Camas (e.g. housing for students, singles, elderly, homeless, disabled, etc.)? What does housing for that population look like (apartments, single-family homes, townhomes, ADUs, etc.)?

Housing types should address the needs of minorities and homeless families (who may live "doubled-up" with other families), participants suggest. More affordable housing types might include condos, manufactured housing and mobile parks, and tiny homes – housing types that might allow the owner to accumulate equity quickly. However, additional regulations may be needed to allow these housing types in the city. Other suggestions include mixed use housing to provide walkability, access to transportation and access to nature. Some participants also posited that denser development would make service delivery more efficient. Others inquired about studying an "appropriate amount" of housing for the range of incomes in Camas, including low-income housing, as long as the city maintains its "community feel."

Families moving to Camas may be in search of good schools and greater affordability than other cities on the west coast. "Camas is still a small town asking big city questions," one participant noted. However, some feel that the prevalence of large, single-family homes does not necessarily reflect a "healthy, stable community." Some participants seek greater balance in housing types without experiencing a loss of community.

Specific housing types identified by participants include:



This Photo by Unknown Author is licensed under CC BY-SA

Starter Homes

"As kids move out, they often cannot return as adults because they cannot afford Camas."

"Potential needs are housing for kids coming back after school and family retiring here."



Accessory Dwelling Units (ADUs)

"ADUs, cluster homes could help meet need."

"From a real estate perspective, 99% of clients coming to Camas are families. Some ask for an ADU to bring a parent. Some go 'out in country' or out of Camas if that is a priority."

"There are 20 ADUs in the entire city and not very many permit applications coming in."



Accessible Housing

"Retirees or older population needs 'accessible' housing – e.g., no stairs."

Apartments and Condominiums

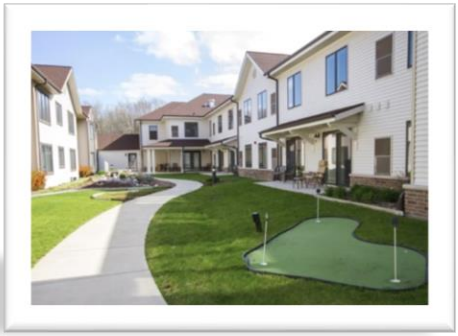
"Part of a vital downtown is going to be more residential units, apartments, or condos on those blocks."

"Camas is getting more expensive. Multifamily units are $100k/unit up north and $150k/unit here. Unfortunately, it is going to push people out."



Senior Housing

"For the elderly, we do not have much. No communities serving seniors."



Development Opportunities

Discussion Question: Are there development opportunities for housing types needed in Camas? What opportunities could Camas leverage to encourage development of housing to meet local needs? (E.g. infrastructure or amenities that would support or add value to new residential development; policy or incentive programs that would incentivize new development types, etc.)

Table 2: Community Meeting Discussion Summary – Development Opportunities and Challenges

OPPORTUNITIES
• Use tax credits to construct multi-family housing • Utilize "supports" and/or change government financing options to encourage housing diversity • Provide community amenities, such as good restaurants and other businesses that may be perceived as cool/edgy. • Increase the job base in the area to attract people. With good transportation, you may get young professionals who will want starter homes. • Continue to revitalize the downtown business district, making it easier to access. It is difficult to get downtown on a bike - roads or trails, dedicated bike path from the lake area to downtown would be good.
CHALLENGES
• Without apparent room for new housing, then one option would be to redevelop existing areas/knock down existing structures. However, I am doubtful that would be well-received. • Most HOAs do not allow ADUs on lots. • It is hard to park in downtown right now. It is not clear where housing would fit downtown or out 192nd. • Construction is occurring downtown but I do not see sites where housing could go. • Building is really expensive. The price of supplies is through the roof. • Incentives and subsidies do not work. The cost does not pencil out.

Development Barriers

Discussion Questions: Are there barriers to housing development in Camas? What barriers exist to production of needed housing types? What keeps the market from meeting these housing needs?

- Regulations, statutes, and policies.
- State laws that Camas officials must abide by and do not have control over.
- Permits and fees for single family development that are different than those for multifamily development.
- The GMA (Growth Management Act) is designed to encourage more dense building. If a city does not have much land, prices will go up.

- Available land is being used up.
- Large houses are more profitable to build.
- Demand drives housing development. Housing – attached or detached – must accommodate families since people move to Camas for schools. People do not move to Camas for the local jobs. In fact, most residents commute. People leave places like Portland and move to Camas for the natural setting and a quality of life.
- Preferences of residents who want to live in the suburbs.
- Choices made by the city on what housing to build, not what the demand is, are what matter. Participants argue that many people want to move to a good school district with affordable housing. The question, they ask, is whether the city wants to develop with more dense housing, more affordability, and with active transportation requirements.

Focus Groups and Interviews

Stakeholders participated in seven focus groups during October and November. Participants included professionals in the fields of housing and homeless services, education, government, transportation, and urban planning, as well as high school students. Several questions were posed in the focus groups and responses are summarized below.

Why are people moving to Camas?

Focus group participants describe the city as a great place to live for schools and safe neighborhoods. Residents enjoy the proximity to Portland and Portland International Airport (PDX). Camas also offers more affordability and lower taxes than Portland, Sacramento, or other California cities. The city's small-town atmosphere – resembling the feel of the old mill town – and its charming downtown provide rich and beloved character. Other features enjoyed by residents include trails and sports. Residents enjoy Camas for the quality of life available in the city.

What types of housing does Camas need more of?

Participants want housing that reflects a variety of stages of life, including housing for college students and single adults. They express a desire for entry level homes, ranging from 1,500 to 2,000 square feet or sold for less than $200,000. Stakeholders also want housing that enables seniors to age in place. There is some interest in higher density or "vertical" housing, such as apartments or condos, particularly in downtown. Some participants desire more unique housing products, and developments serving low-income residents through the local housing authority.

Is housing affordability a problem in Camas? Are there other barriers to living in Camas?

In short, yes. The city's housing supply is mostly large single-family, leaving limited housing choices for residents of a range of incomes, including lower income households. Participants acknowledge that negative perceptions about affordable housing may have racial or anti-poverty undertones. But participants suggest re-framing affordable housing, so that it is located downtown, is attractive and offers housing for professionals such as teachers. Other barriers to living in Camas include limited housing for people who want to downsize, limited housing turnover, lack of public transit, few local jobs and increasing taxes for longtime residents and retirees.

What are the challenges to the development of new housing?

One challenge may be the remaining land in the city, some of which may have steep slopes and wetlands. The cost of available land, including impact fees, may also present a challenge to development. Other challenges to having a variety of housing types may include the limited history of this product type in the city (which might make developers cautious about embarking on new housing types), limited encouragement by the city to try new housing products (e.g. building "vertically" in downtown), developers' difficulty with rezonings and difficulty making multifamily projects "pencil out." People report no incentives for affordable housing. People also report that developers are not given enough rules: that downtown zoning is too non-specific and that there should be a plan for downtown. Other indirect issues include limited bus service, the need for parking structures downtown. Although the city has a tax abatement program focused on 80% AMI, the program may not be as widely known as it could be, with some participants stating that the city offers no incentives for affordable housing. Some report that residential uses should be better balanced with commercial and industrial demands to drive down housing costs.

What are some policies or programs that Camas could enact to support a variety of housing types and price points?

Address perceptions about multi-family or affordable housing. Participants believe that, for one, the city must deal with the perceptions of current residents about multi-family or affordable housing. Where affordable housing stigma is very strong, the city should consider housing design, and should take into account how people will be welcomed in the city, or what messages they will receive if they need affordable housing. Residents desire some housing for families with lower incomes, e.g. families earning less than 80% AMI. Participants suggest new development from the Vancouver Housing Authority, inclusionary zoning, and funding for housing rehabilitation as a means to provide housing for families with lower incomes.

Try new strategies. To improve the variety of housing types in the city, participants suggest that the city address the preponderance of single-family housing, which is located even in medium density zoning districts. The city should identify new developers who are building higher densities in other locales, such as Vancouver, or inquire with developers about why they do not provide a variety of housing types (e.g. location, access to transit/bike paths/trails, etc.). There should be additional ADU development, with their use restricted for short-term rentals. Finally, the city could try out policies such as transfer of development rights, or reducing impact fees to encourage missing housing types, such as entry level housing. Some even suggest expanding the city's growth boundary.

Address parking. Participants note that a city-funded parking structure might make developers more interested in building higher density in the city. Some even suggest a parking assessment fund with designated fees per parking space.

Consider workforce housing. One downtown business, Fuel Medical Group, has younger employees and might be interested in creating housing for their workers. Workforce housing might reduce commute times and transportation costs for residents and could incentivize a range of industries in the city, allowing for a variety of workers from different educational and economic backgrounds to work and live in the city.

Address concerns about loss of character. Additional concerns address in focus groups include concerns that sprawl will have the effect of destroying natural habitats. Participants noted that there appeared to be no consequences for tree removal, nor were developers required to plant indigenous trees. While some participants like changes in the city, they acknowledge that there are genuine fears that the city will lose its small-town character and natural landscape with too much growth.

Housing Survey



A public survey was available on the *Let's Talk Camas Housing* website (letstalkcamashousing.us) from August 13, 2020 to November 12, 2020 and received 307 responses. The 19-question survey focused on participants' views on housing affordability and access, housing types and costs, and future housing development in Camas. This section shares key findings, with complete survey results available in an appendix to this Plan.

Table 3: Camas Housing Survey Participant Demographics

Participants Living and Working in Camas	• 95% of survey respondents live in Camas. • 36% of respondents work in Camas. • Respondents live in all areas of the city. The largest number of respondents (59) live closest to NE Everett Street.
Tenure and Homeownership	• 88% of respondents own their home. • 9% of respondents are renters. • 2% of respondents live with family or friends, while another 2% provide housing to more than their immediate family.
Age	• Nearly 58% of respondents are between 40 and 60 years old. • 21% were between 20 and 40 years old. Another 21% were over 60.
Income	• Just under one-third of respondent households earned between $100,000 and $149,000 annually (29%). • 40% of respondent households earn more than $150,000 per year, while 31% earn less than $100,000.
Race and Ethnicity	• 75% of respondents identified as white. 12% identified as "other," followed by respondents who were Hispanic (5.2%), Asian/Pacific Islander (4.5%), Native American (1.7%), Black (1%) and Arab or Middle Eastern (0.7%)
Representative Responses About who to Engage in the Conversation about Housing Diversity	• "Seniors, college students, unemployed, rental owners" • "BIPOC families" • "CREDC, environmental councils, public" • "Georgia Pacific" • "Only Camas citizens should have a say about Camas"

Housing Options in Camas

- More than half of all participants (56%) say they are "somewhat satisfied" or "very satisfied" with the housing options available in Camas. However, 31% are either "somewhat dissatisfied" or "very dissatisfied" with the range of available housing options.
- Cost is the leading factor that limits housing choices (identified by 49% of residents), followed by a lack of desired amenities such as outdoor space and parking (19%), and "other" reasons (14%). 31% stated that no size, cost, availability, accessibility, or qualification factors limit their housing choices.

Housing Supply in Camas

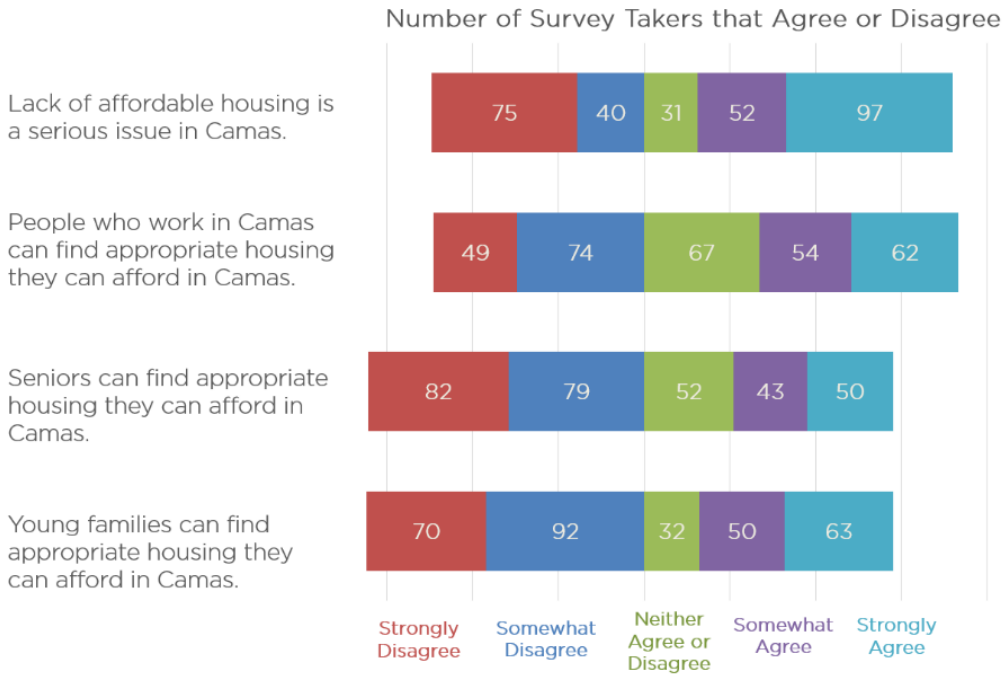
- One-third of respondents (32%) "strongly agree" that lack of affordable housing is a serious issue in Camas, while 28% "strongly disagree." Looking at responses to this prompt by income shows that respondents with lower household incomes are more likely to see affordable housing as an issue in Camas.

  For participants with household incomes under $75,000, 62% either "somewhat agree" or "strongly agree" that lack of affordable housing is a serious issue in Camas; about 24% either "somewhat disagree" or "strongly disagree."

  In contrast, participants with household incomes over $150,000 were less likely to see lack of affordable housing as a serious issue in Camas. About 42% "somewhat agree" or "strongly agree" that it is a serious issue, and 45% "somewhat disagree" or "strongly disagree."

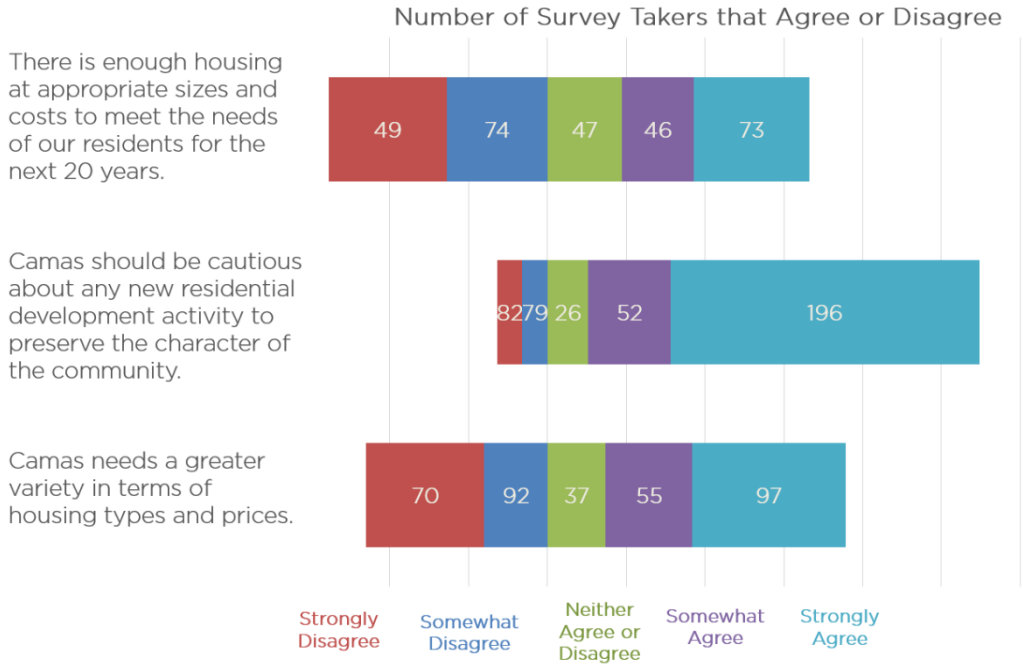
- About one-half of participants (53%) "somewhat disagree" or "strongly disagree" that young families can find appropriate housing they can afford.
- About one-half of participants (53%) "somewhat disagree" or "strongly disagree" that seniors can find appropriate housing they can afford.
- Forty percent of participants (40%) "somewhat disagree" or "strongly disagree" and 38% "somewhat agree" or "strongly agree" that people who work in Camas can find appropriate housing in Camas.

Figure 3: Housing Survey Responses to Housing Affordability



- One-third of participants (32%) "strongly agree" that Camas needs greater variety in terms of housing, while 24% "strongly disagree."
- Two-thirds of participants (64%) "strongly agree" that Camas should be cautious about any new residential development activity to preserve the character of the community.
- Forty-five percent (45%) "somewhat disagree" or "strongly disagree" that there is enough housing at appropriate sizes and costs to meet the needs of residents for the next 20 years. However, 39% "somewhat agree" or "strongly agree" that Camas has enough appropriately sized/priced housing.

Figure 4: Housing Survey Responses to Future Housing Development



Housing Needs in Camas

- Participants note that the biggest shortage of for-sale housing occurs in the $250,000 to $349,000 price range.
- The biggest shortage of rental housing occurs in the $800 to $999 price range.
- Residents primarily feel that over the next 20 years, new housing would be most appropriate in older neighborhoods and vacant/underdeveloped commercial and industrial properties, followed by mixed-use developments.
- Most Camas residents (57%) have not considered adding an accessory dwelling unit (ADU) to their property, compared to 34% who have.
- Of those residents who gave their reasons for wanting an ADU, over one-third said they would use it to provide a residence for relatives and friends. 20

percent would provide a residence for a caregiver, and another 19 percent would earn extra income by renting out the space.

- When asked what type of assistance would be helpful to meet housing affordability needs in the city, 41% identified "more affordable for-sale units." One-third of residents said that first-time homebuyer down payment assistance and more affordable rental units would also help with housing affordability.
- The greatest barrier to obtaining housing in Camas was a lack of affordable housing. However, one-third of the respondents stated that none of the issues listed were barriers to obtaining housing.

Figure 5: Housing Survey Responses about Types of Housing Assistance

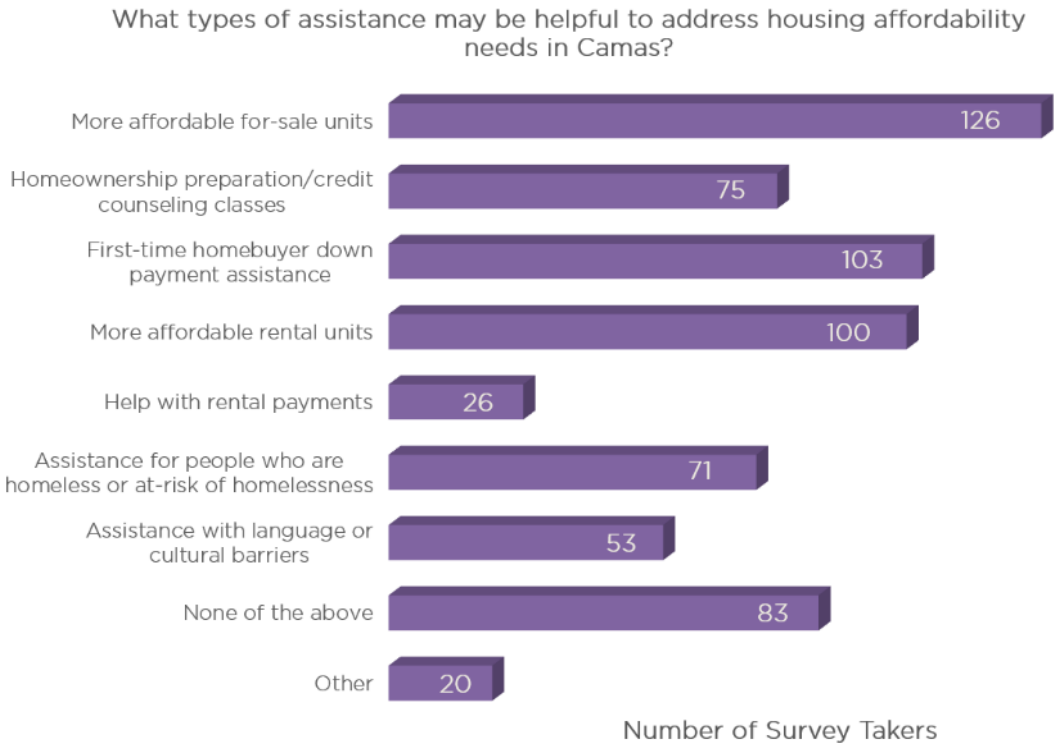
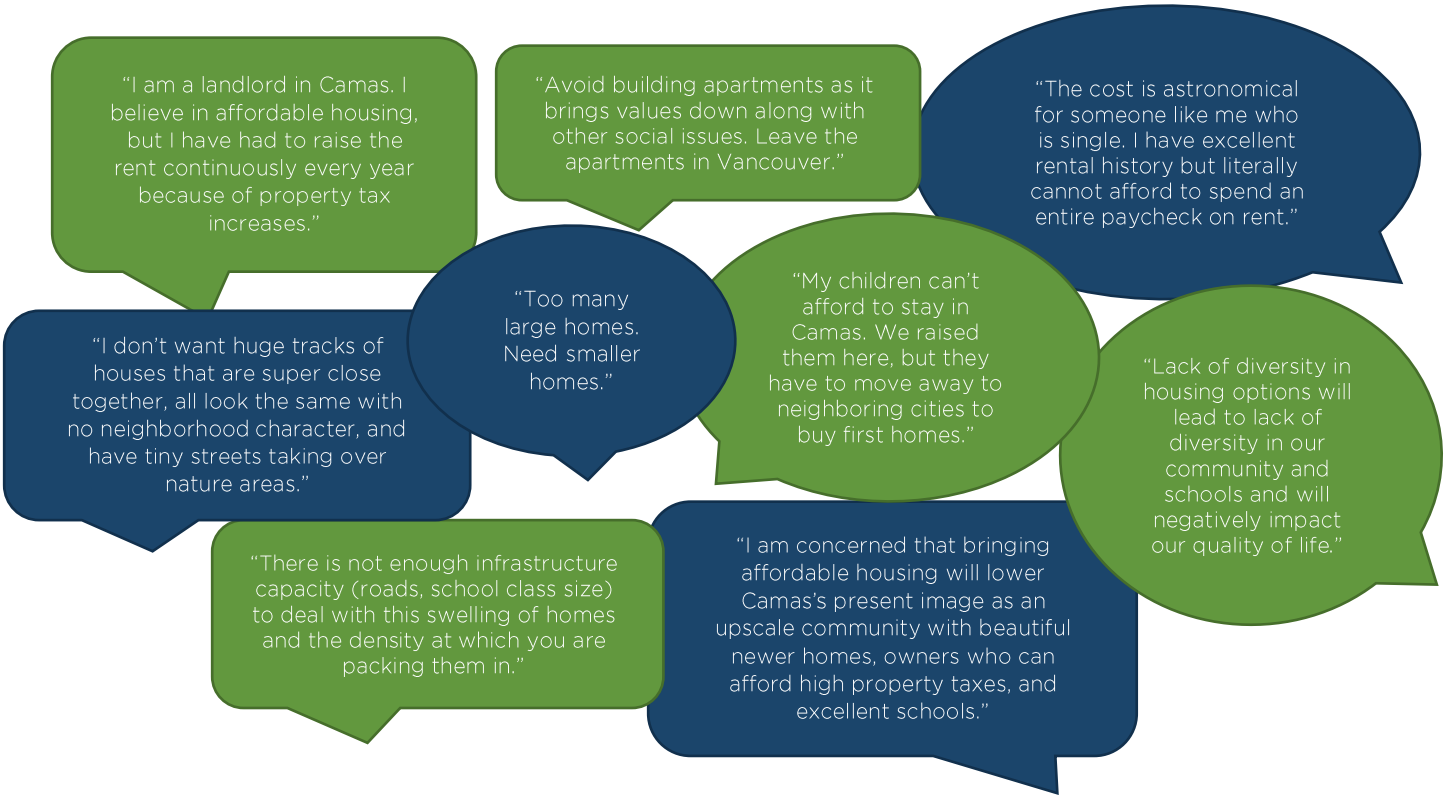


Figure 6: Representative Comments about Housing Concerns in Camas



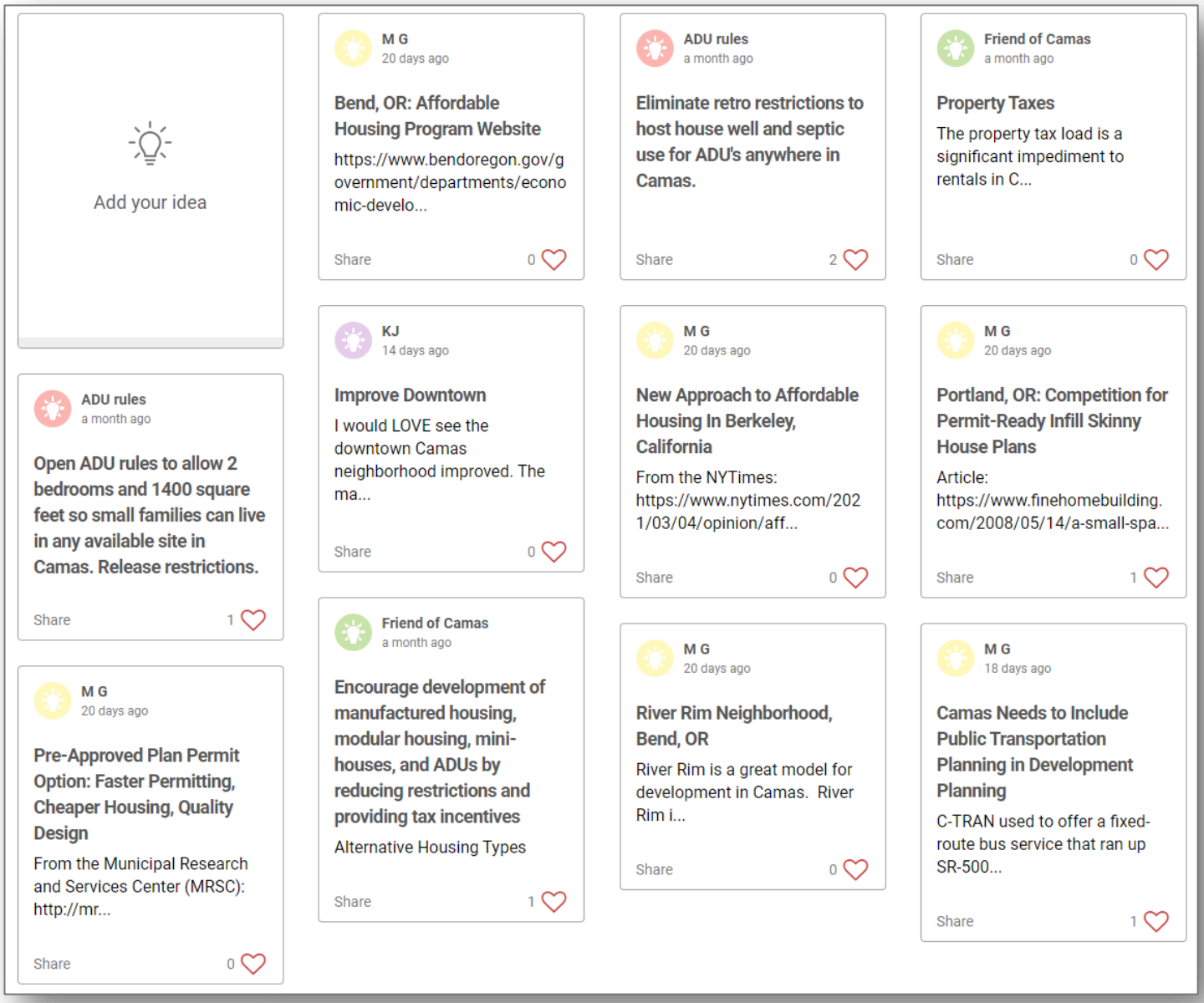
Project Website

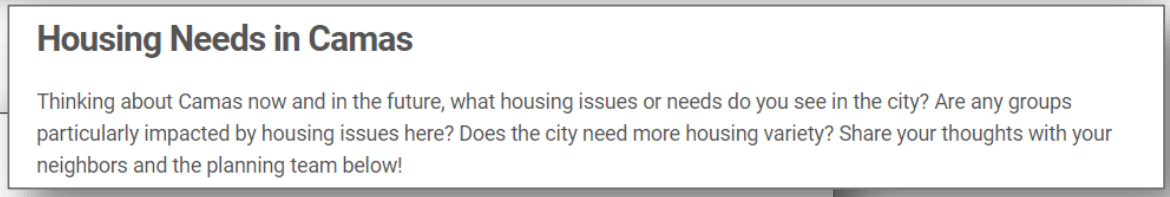
Throughout the HAP planning process, the project team maintained an interactive website at LetsTalkCamasHousing.us. The site provided background information on the project, a schedule of upcoming meetings or other key dates, videos and discussion notes from public meetings, and presentations and drafts of the HAP. The site also offered opportunities for visitors to leave questions to be answered by the project team, share their vision for housing in Camas, and view and 'like' ideas shared by others.

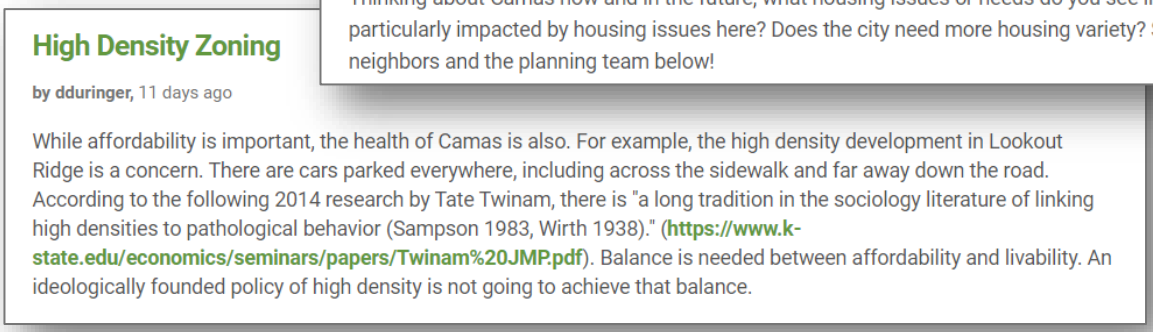
Throughout the course of the project, the site received about 2,500 visits from about 1,580 people. About 150 people downloaded the HAP Draft Existing Conditions and Housing Needs document and 100 downloaded the Draft Preliminary Housing Strategies or the complete draft of the HAP.

The figure on the following page shares ideas received on the website's interactive board in response to a question asking what housing types or approaches will best meet the community's housing needs.

Figure 7: Comments Received on LetsTalkCamasHousing.us







This page intentionally left blank.

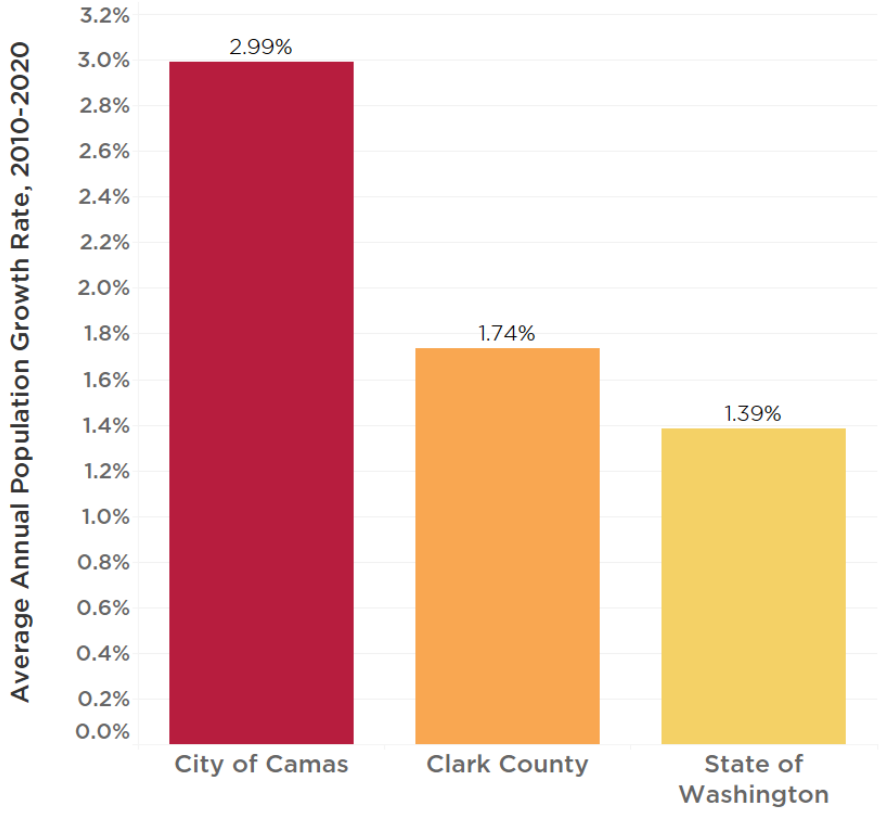
Chapter 3:
Demographic Trends



Population Growth

As of April 2020, the City of Camas had a population of 25,140, representing a 29.9% increase from its 2010 population of 19,355. This growth rate was somewhat higher than Clark County's overall rate. During the same time period, the county's population increased by 17.4%, from 425,363 to 499,200. Camas experienced an average annual population growth rate of 2.99% from 2010 to 2020, higher than that of both Clark County (1.74%) and the state of Washington (1.39%) (see Figure 6).

Figure 8: Average Annual Population Growth Rate, City of Camas, Clark County, and State of Washington, 2010-2020



Data Source: Washington State, Office of Financial Management. (2020). April 1 official population estimates

Because of the city's higher growth rate, Camas residents have made up an increasing share of Clark County's population. The city's population made up 5.0% of Clark County residents in 2020, an increase from the 2010 share of 4.6%. Camas's population increase of 5,795 residents over the 10-year period represents 7.8% of the county's overall increase of 73,837 residents.

The State of Washington Office of Financial Management projects that Clark County's population will grow to 643,522 by 2040, an increase of 28.9% from its 2020 population (see Table 4).

The City's 2016 Comprehensive Plan estimates an average annual population growth in the city of Camas of 2.46% from 2015 to 2035. The City's projected growth is based on anticipated countywide population growth, which is then allocated to each city within Clark County. Extending the city's population growth projection out through 2040 using this rate yields an estimated population of 36,912 in 2040 for Camas. Because this growth rate was adopted by the City in *Camas 2035* and was prepared in coordination with Clark County forecasts, this estimate is used in the housing need projections in Chapter 5.

Table 4: Projected Population Change, City of Camas and Clark County, 2020-2040

YEAR	2020	2025	2030	2035	2040
City of Camas with average annual growth rate of 2.46% applied to 2015 population of 22,843 (from City of Camas 2016 Comprehensive Plan)	25,140	28,471	31,284	34,098	36,912
Clark County ("medium series" projections from Washington State Office of Financial Management)	499,200	540,344	576,879	611,968	643,552

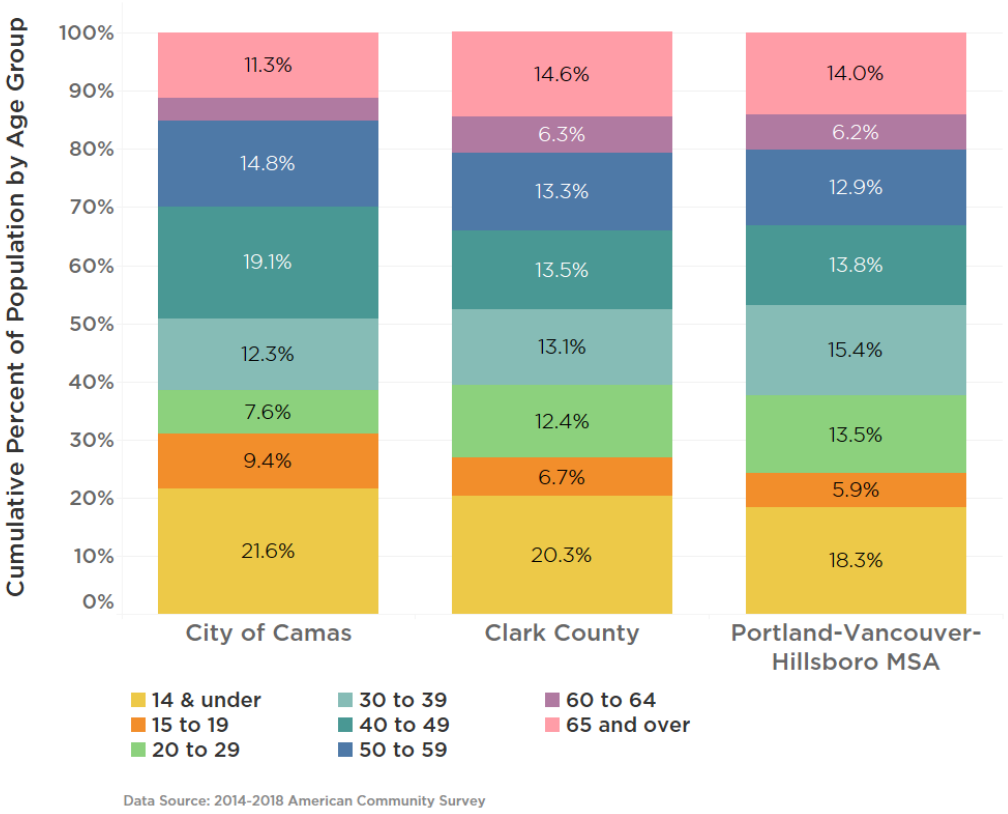
Source: Washington State, Office of Financial Management (2020), Mosaic Community Planning Calculations

Demographic Overview

Age

Composition of the population by age group varies throughout the region. Camas has slightly higher percentages of residents aged 19 and under and ages 40 to 59 compared to Clark County and the Portland-Vancouver-Hillsboro metropolitan area. At the same time, residents aged 20 to 39 and aged 60 and over comprise lower percentages of the City's population than they do that of the county and region (see Figure 9). Based on stakeholder interviews, these differences may be indicative of both push and pull factors for different age groups in Camas, including the high quality of schools in the city-- a draw for families with children-- and a lack of housing options available to meet the needs of younger adults and elderly residents, among other factors.

Figure 9: Percent of Population by Age Group, City of Camas, Clark County, and Portland-Vancouver-Hillsboro MSA, 2014-2018

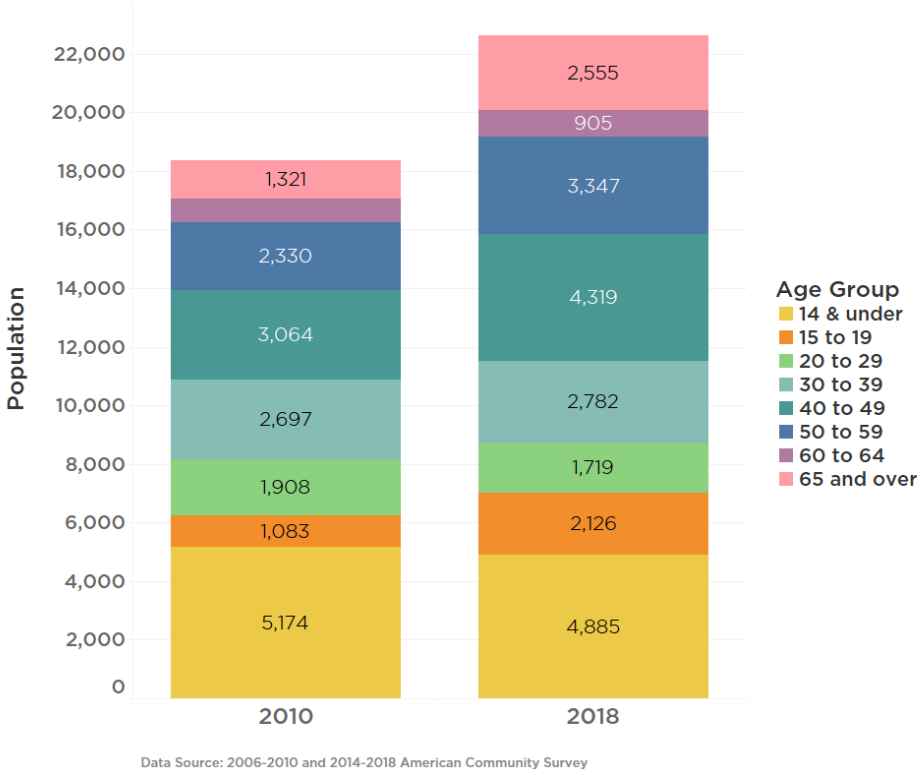


Data Source: 2014-2018 American Community Survey

The composition of the city's population by age has shifted since 2010, with much of the growth concentrated in upper age categories. About 85% of the city's population growth from 2010 to 2018 was due to increases in the numbers of residents aged 40 and over (see Figure 10). Residents in these age categories saw their share of the city's population increase during the time period, from about 40.9% to 49.2%.

Similarly, residents under age 40 declined as a share of the city's population, making up 59.2% of all residents in 2010 and just 50.9% in 2018. All age groups under 40 years old except residents aged 15 to 19 made up a smaller share of the population in 2018 than they did in 2010. The numbers of children aged 14 and under and residents aged 20 to 29 living in the city dropped slightly, while the numbers of residents aged 30 to 39 increased slightly.

Figure 10: Population by Age Group, City of Camas, 2006-2010 and 2014-2018

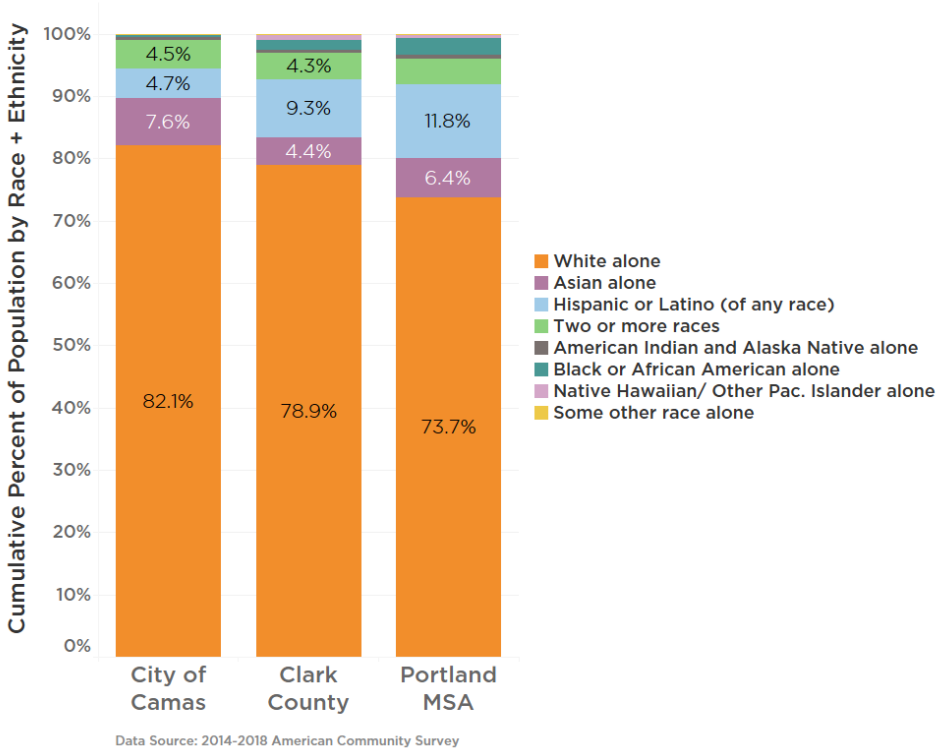


Data Source: 2006-2010 and 2014-2018 American Community Survey

Race and Ethnicity

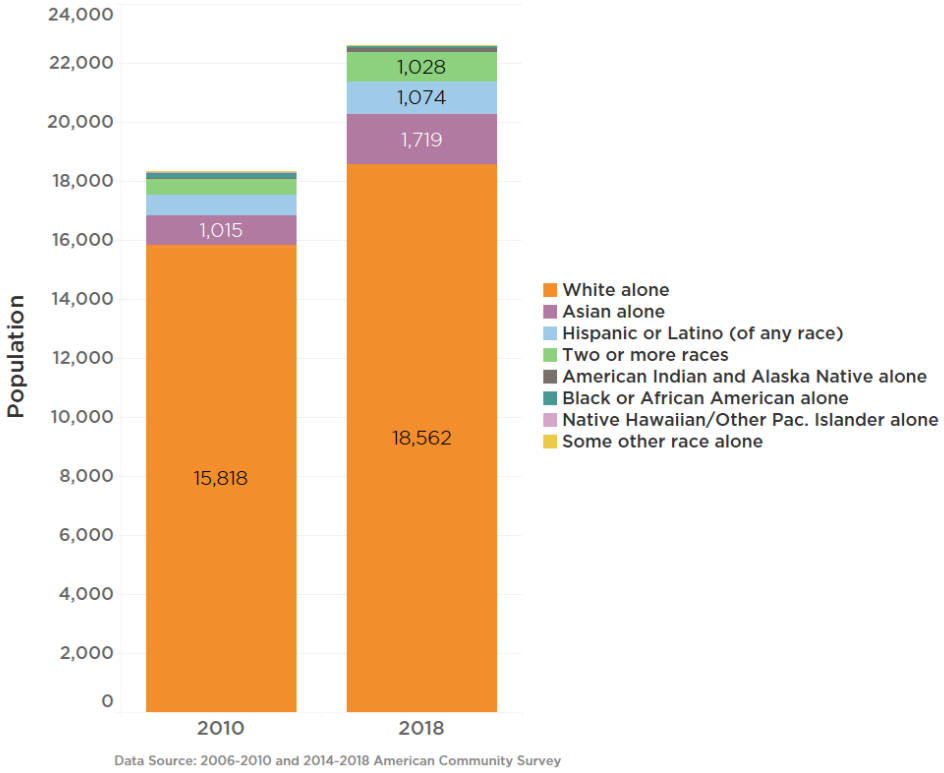
White residents make up the vast majority (82.1%) of Camas's population. Asian residents, Hispanic residents (of any race) and residents of two or more races are the next most common races and ethnicities, comprising 7.6%, 4.7%, and 4.5% of the city's population, respectively. White and Asian residents in particular make up a greater proportion of Camas's population than that of Clark County and the Portland-Vancouver-Hillsboro metropolitan area, while Hispanic and Black residents comprise a lower percentage of the population in Camas than in the county and region (see Figure 11).

Figure 11: Percent of Population by Race and Ethnicity, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018



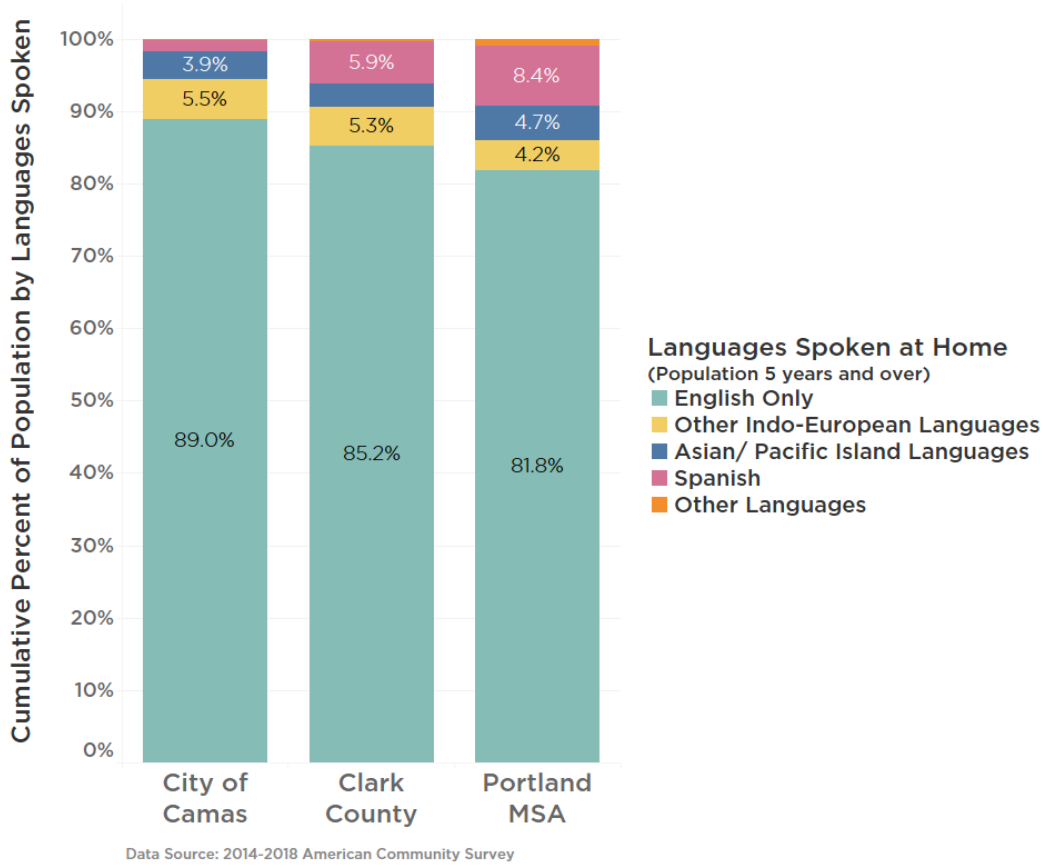
While white residents comprise 82.1% of the city's population, they make up a lower percentage of the city's population growth from 2010 to 2018, about 64.3%. During that time, the city experienced an increase in Asian residents (16.5% of population growth), residents of two or more races (11.6% of population growth), Hispanic residents (8.7% of population growth), and Native American residents (2.0% of population growth). The populations of Black residents, Native Hawaiian and other Pacific Islander residents, and residents of other races declined during the time period (see Figure 12).

Figure 12: Population by Race and Ethnicity, City of Camas, 2006-2010 and 2014-2018



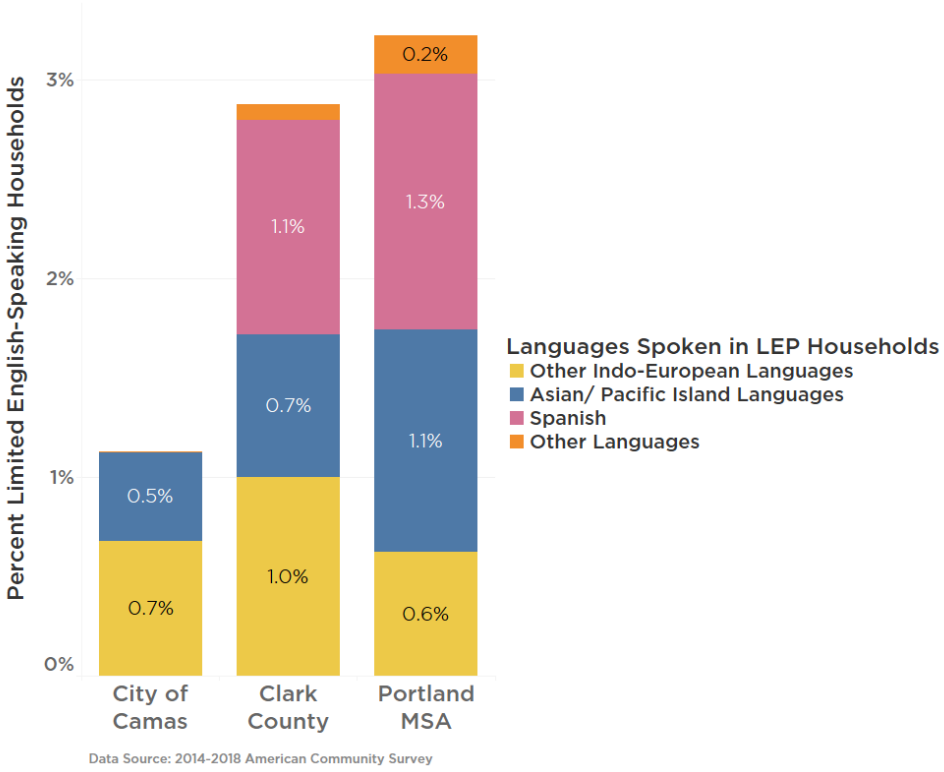
The majority of Camas residents (89.0%) speak only English at home, while smaller percentages speak other Indo-European languages (5.5%), Asian/Pacific island languages (3.9%), Spanish (1.5%), and other languages (0.2%). Residents of Camas are less likely to speak languages other than English at home (11.0%) than those living in Clark County and the Portland-Vancouver-Hillsboro MSA, where 14.8% and 18.2% of residents speak a language other than English, respectively (see Figure 13).

Figure 13: Percent of Population by Language Spoken at Home (Population 5 Years and Over), City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018



An estimated 90 households in Camas have limited English proficiency (1.1% of all households in Camas). An estimated 54 of these households with limited English proficiency (0.7% of all households) speak other Indo-European languages, and an estimated 36 of the households speak Asian and Pacific island languages (0.5% of all households). The percentage of households with limited English proficiency in Camas (1.1%) is close to one third of that in Clark County (2.9%) and the Portland-Vancouver-Hillsboro metropolitan area (3.2%).

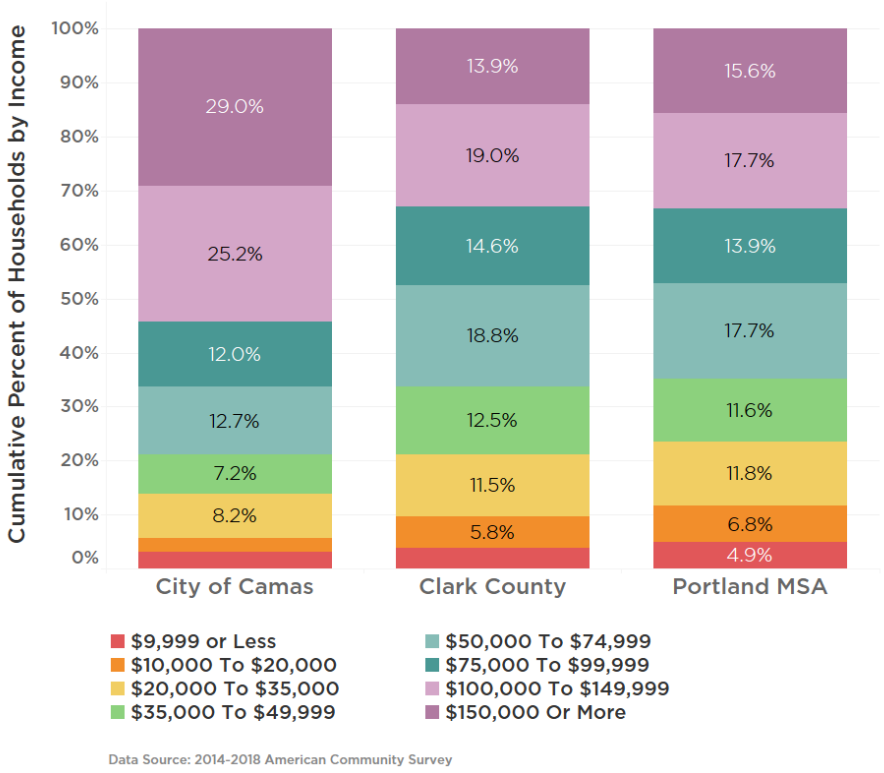
Figure 14: Percent Limited English-Speaking Households, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018



Income

Households in the city of Camas tend to be in higher income categories than those in Clark County and the Portland-Vancouver-Hillsboro metropolitan area (see Figure 15). More than half (54.2%) of Camas households earn $100,000 or more per year, while just 13.9% earn $35,000 or less. Relative to Camas, the county and region are both home to a higher proportion of households earning at all income levels $99,999 and below per year and have lower percentages of households earning $100,000 to $149,999, and $150,000 or more. Stakeholders in focus groups and community meetings noted that high rents and home prices make finding housing in Camas particularly challenging for residents with lower incomes.

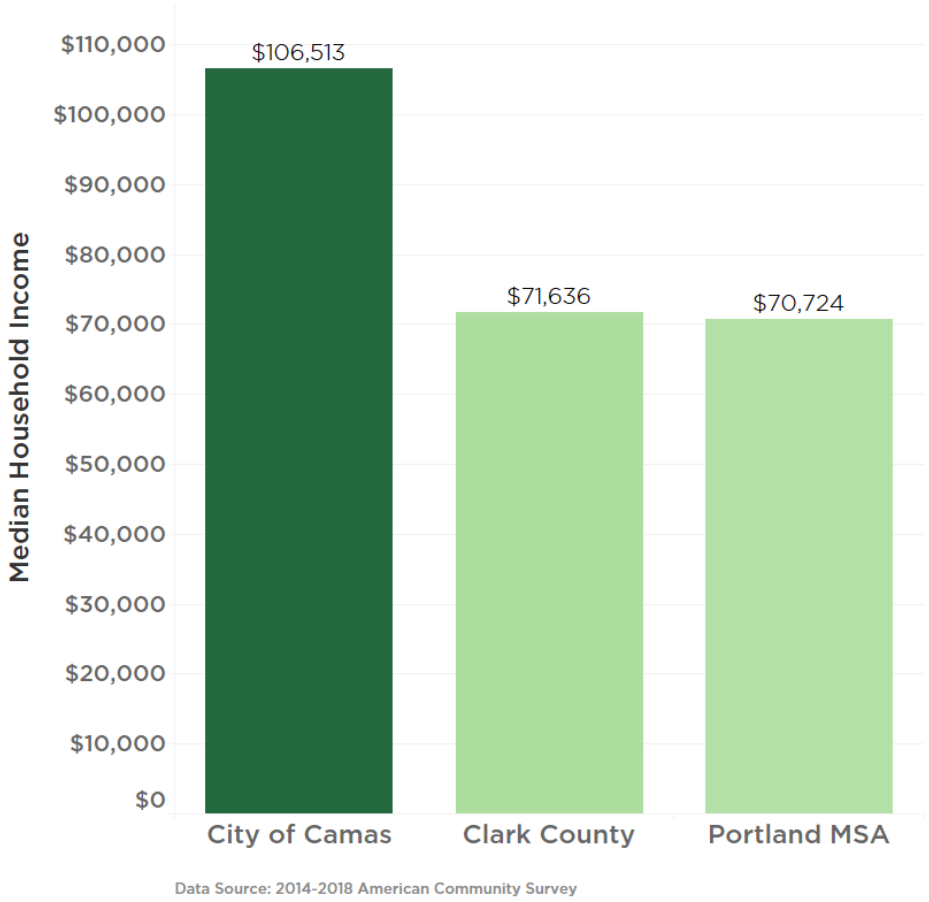
Figure 15: Population by Income Group, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018



Data Source: 2014-2018 American Community Survey

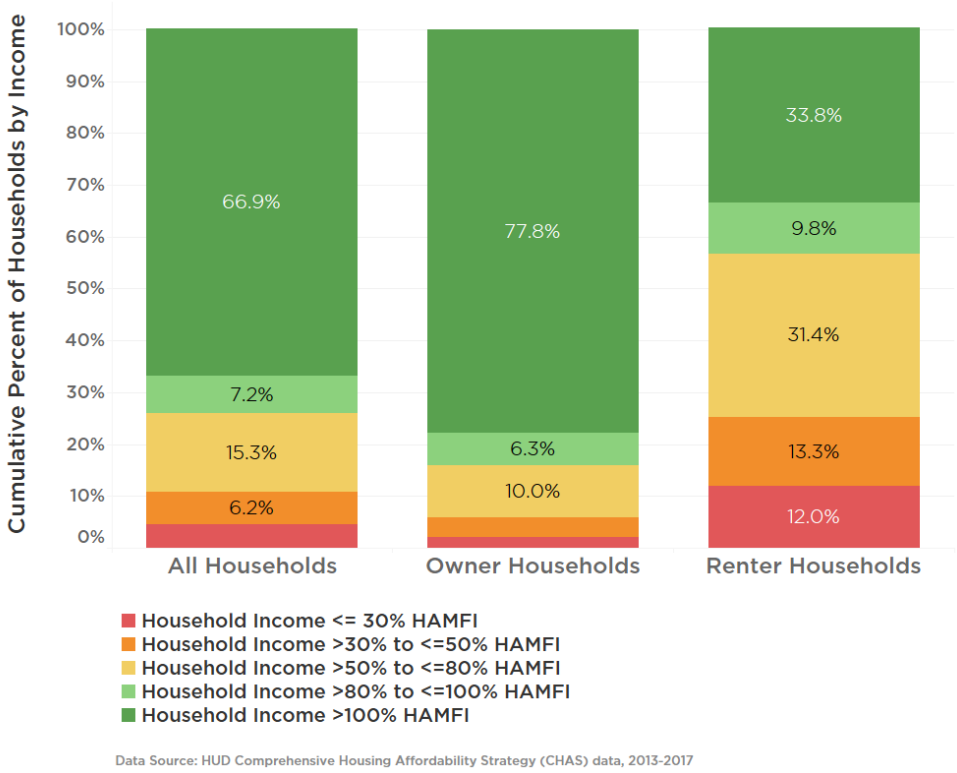
Because higher percentages of Camas households fall in the upper income categories, the city's median household income ($106,513) is significantly higher than those of both Clark County and the Portland-Vancouver-Hillsboro metropolitan area ($71,636 and $70724, respectively, see Figure 16).

Figure 16: Median Household Income, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2014-2018



An estimated 66.9% of all households in Camas have incomes greater than the HUD Area Median Family Income (HAMFI), while 33.1% of households have incomes below HAMFI (see Figure 17). Renter households in the city tend to have lower incomes than owner households, indicating that they are more likely to experience housing cost burdens. An estimated 25.3% of renter households have incomes at or below 50% HAMFI, and 31.4% have incomes between 50% and 80% HAMFI. In contrast, just 6.0% of owner households have incomes at or below 50% HAMFI, and 10.0% have incomes between 50% and 80% HAMFI.

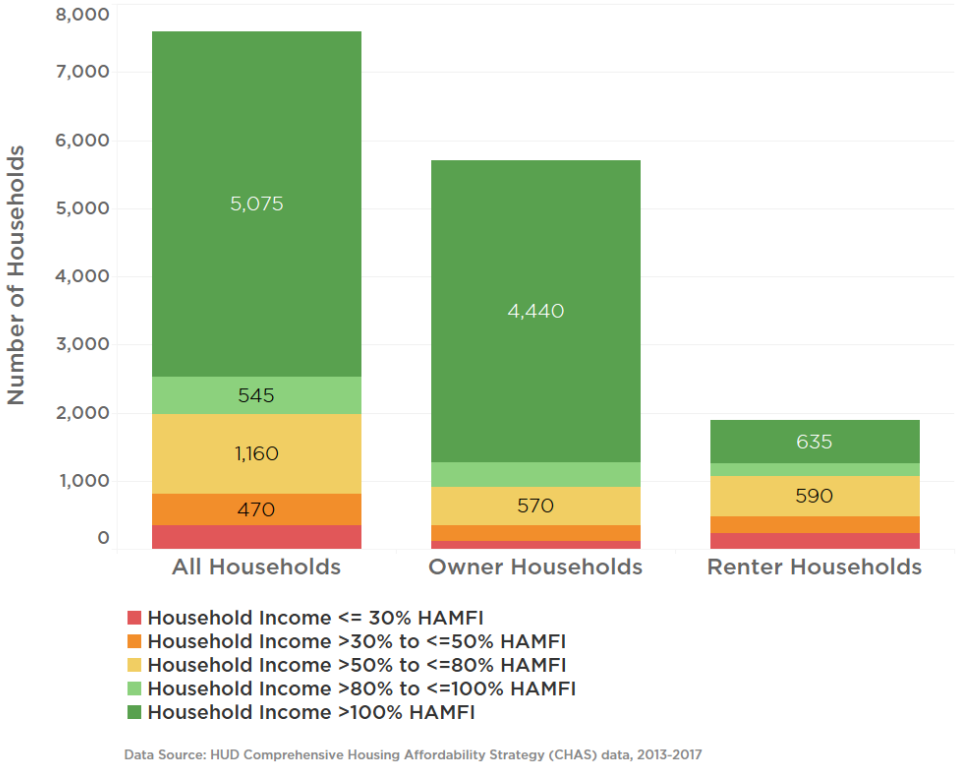
Figure 17: Percentages of Owner and Rental Households by Percent HUD Area Median Family Income, City of Camas, 2013-2017



Data Source: HUD Comprehensive Housing Affordability Strategy (CHAS) data, 2013-2017

Most households in Camas own their homes (75.2%), while a lower percentage are renters (24.8%) (see Figure 18). Renters outnumber owners in the lower income categories, while homeowners are more likely to fall in the higher income categories and, in particular, to earn more than 100% HAMFI. About seven times as many owner households as renter households earn 100% HAMFI (4,440 and 635 households, respectively). Renter households earning less than 30% HAMFI, between 30% and 50% HAMFI, and between 50% and 80% HAMFI (225, 250, and 590 households, respectively) outnumber owners in those categories (120, 220, and 570 households, respectively).

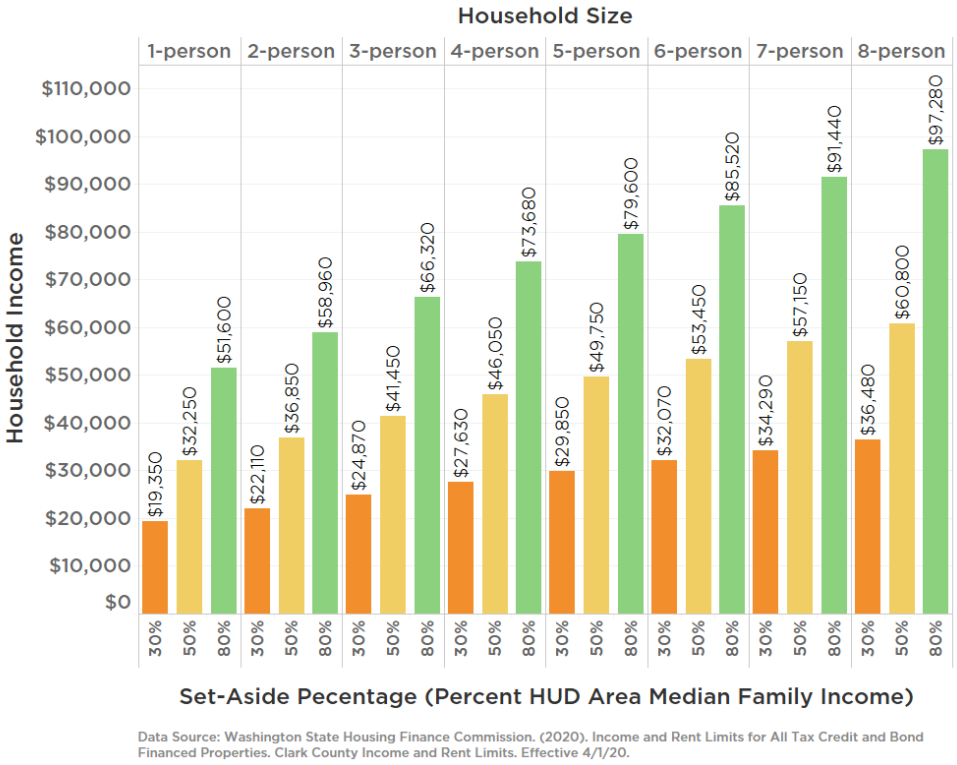
Figure 18: Numbers of Owner and Rental Households by Percent of HUD Area Median Family Income, City of Camas, 2013-2017



Data Source: HUD Comprehensive Housing Affordability Strategy (CHAS) data, 2013-2017

HUD's categorizations of households by income level in the previous graphs take into consideration differences in household size to reflect differences in living expenses by household size. Figure 19 shows the differences in income limits by family size for households to be classified as earning less than 30%, 50%, and 80% HAMFI in Clark County. Notably, households with more members may earn significantly more than smaller households and still be classified in the same income categories. For example, a family of six may earn up to $53,450 and be categorized as earning below 50% HAMFI, while a family of two would need to earn below $36,850 to be in that category. Similarly, a one-person household with an income of $50,000 would be considered just below 80% HAMFI, while a five-person household at that income level would fall just above 50% HAMFI. These income categories show that households at a wide range of income levels earn below 30% and up to 50% or 80% HAMFI.

Figure 19: Income Limits by Household Size for Selected Percentages of HUD Area Median Family Income, Clark County, 2020



Data Source: Washington State Housing Finance Commission. (2020). Income and Rent Limits for All Tax Credit and Bond Financed Properties. Clark County Income and Rent Limits. Effective 4/1/20.

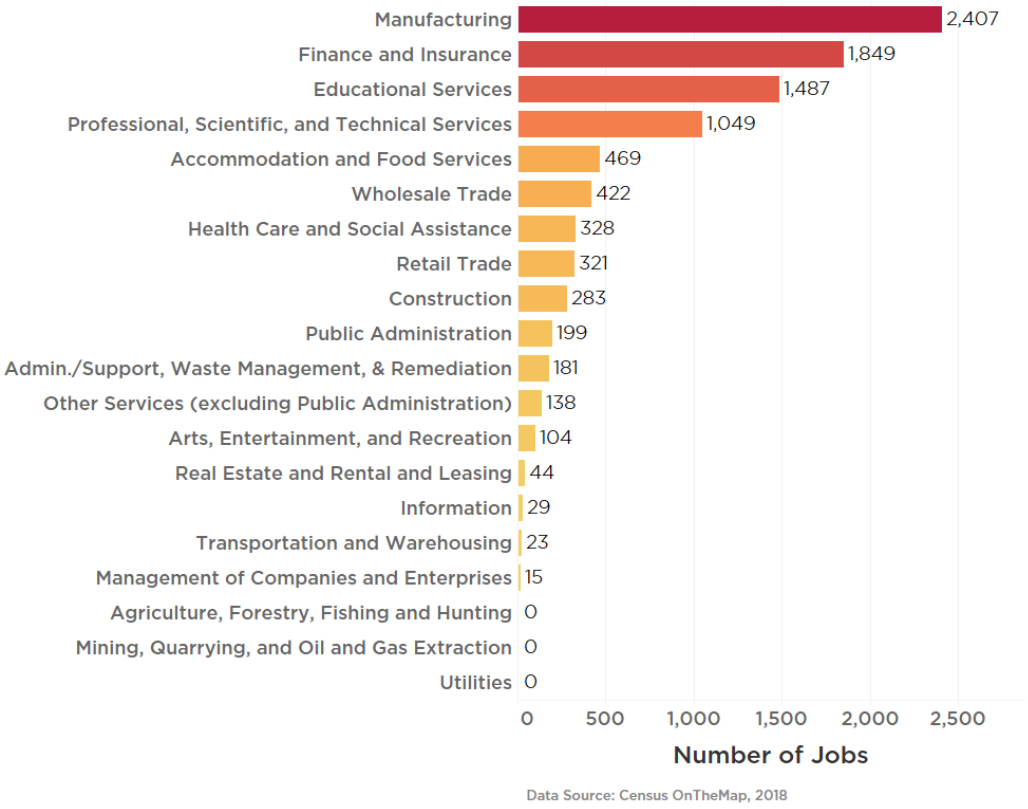
Economic Conditions and Trends

Current Workforce and Employment Trends

An estimated 9,348 total jobs were located in the city of Camas as of 2018. Jobs in the sectors of manufacturing, finance and insurance, educational services, and professional, scientific, and technical services make up most of these jobs (72.6%, or an estimated 6,792 jobs). In addition to those top sectors, the accommodation and food services, wholesale trade, retail trade, and healthcare and social assistance sectors each provide between 300 and 500 jobs in the city (see Figure 20). Of the 9,348 jobs located in Camas, an estimated 8,969 (95.9%) are workers' primary jobs,[2] indicating that some individuals working in the city hold multiple jobs.

[2] A primary job is the highest paying job for an individual worker for the year. The count of primary jobs is the same as the count of workers.

Figure 20: Number of Jobs by NAICS Industry Sector (All Jobs), City of Camas, 2018



The top employers in 2020 were Fisher Investments (1,725 employees), Wafertech (1,000), and the Camas School District (800 employees). Fisher Investments, a professional services investment firm, comprises 20.2% of the city's jobs and represents the fastest growing sector of employment in the city (see Figure 21).

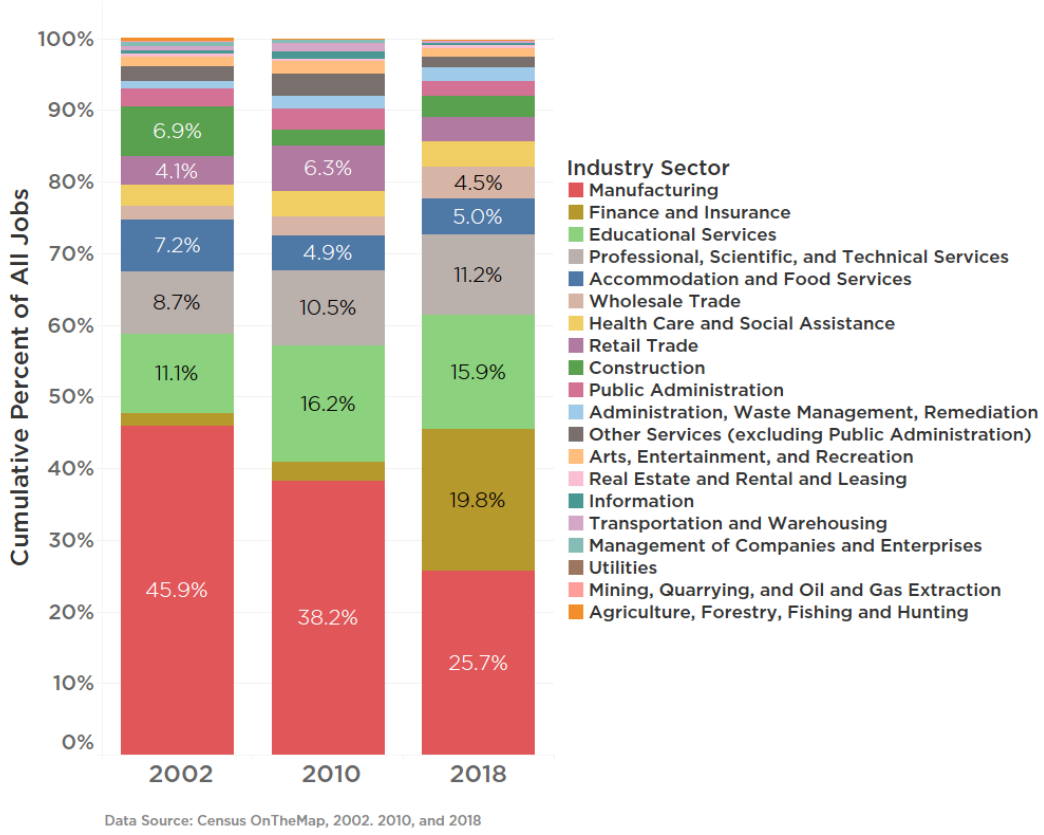
Figure 21: Principal Employers, City of Camas, 2020

EMPLOYER	EMPLOYEES	PERCENT OF TOTAL CITY EMPLOYMENT
Fisher Investments	1,725	20.2%
Wafertech	1,000	11.7%
Camas School District	800	9.4%
Linear Technology (Analog)	340	4.0%
Sigma Design	273	3.2%
City of Camas	226	2.6%
Georgia Pacific	150	1.8%
Fuel Medical	150	1.8%
Plexys	91	1.1%
Bodycote	50	0.6%
Total	4,805	56.3%

Data Source: Washington Employment Security Department, Columbian Newspaper

While manufacturing jobs made up a high proportion of all jobs in 2018 and prior decades, the share has been declining over time, and the city's economy has become more diversified. In 2018, jobs in finance and insurance, educational services, wholesale trade, and professional, scientific, and technical services made up increasing proportions of jobs in the city (see Figure 22).

Figure 22: Jobs Located in the City of Camas by NAICS Industry Sector, 2002, 2010, and 2018 (All Jobs)

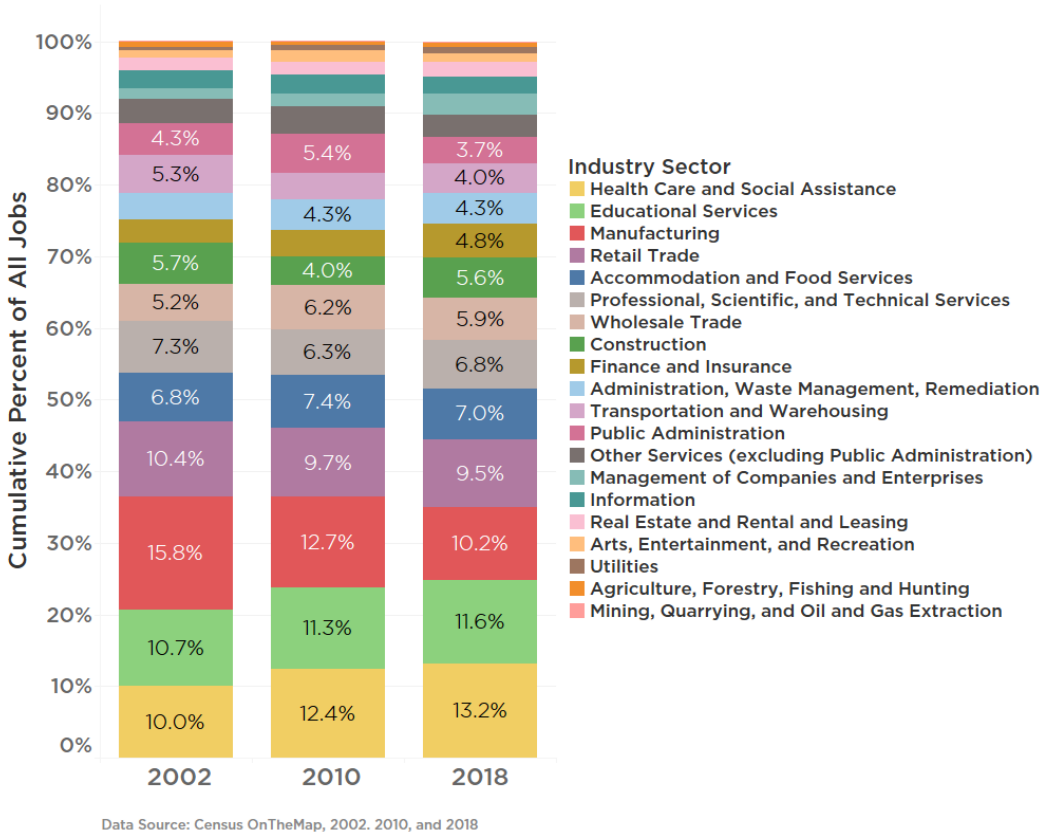


Data Source: Census OnTheMap, 2002. 2010, and 2018

While manufacturing jobs have represented the largest share of jobs based in Camas, the city's residents are employed in a more diverse array of industry sectors (see Figure 23). As manufacturing jobs declined as a proportion of jobs located in the city from 2002 to 2018, healthcare and social assistance and educational services overtook manufacturing as residents' top sources of employment. During that time period, healthcare and social assistance, finance and insurance, and management of companies and enterprises saw the greatest increases as shares of jobs held by Camas residents (3.2, 1.5, and 1.3 percentage point increases, respectively), while manufacturing and transportation and warehousing saw the greatest declines (5.6and 1.3 percentage point declines, respectively). Other industry sectors have remained relatively constant as shares of total jobs held by Camas residents, each increasing or declining as shares of jobs held by residents by less than 1 percentage point.

The differences in industry sectors of jobs located in the city and jobs held by the city's residents indicate high levels of commuting into and out of the city by workers and residents to access employment.

Figure 23: Jobs Held by Camas Residents by NAICS Industry Sector, 2002, 2010, and 2018 (All Jobs)



Data Source: Census OnTheMap, 2002. 2010, and 2018

As these shifts in industry sectors have occurred, the city has seen an increase in the numbers of jobs with higher wages, while the numbers of jobs with low and very-low wages have remained relatively constant (see Figure 24). Longitudinal Employer-Household Dynamics (LEHD) statistics track jobs in the wage categories of $1,250 per month and below ($15,000 per year and below); $1,251 to $3,333 per month ($15,001 to $39,996 per year); and $3,333 per month and above ($39,996 per year and above). Although not an exact indicator of living wages, the percentage of jobs that pay $3,333 and above can be used to approximate the potential for households to be able afford to support their families based on typical expenses, family size, composition, and location. For example, in Clark County, a household with two working adults and two children is estimated to require $73,017 per year in income before taxes to afford basic

expenses such as housing, food, childcare, medical care, transportation, taxes, and other expenses.[3]

In this way, if two workers in a household with that composition earn $39,996 per year and above, the household would typically be able to afford estimated basic expenses in Clark County. However, in the case of some other household compositions—for example, a household with two adults in which only one is working, or with two working adults and three or more children—the working individuals would need to have incomes significantly more than $39,996 per year, making the wage categories less useful in some cases. Still, these categories provide a useful benchmark for examining changes in employee wages and ability to afford basic expenses over time.

From 2010 to 2018, Camas gained an estimated 2,814 jobs with wages of $3,333 per month and above, a 78.2% increase. The city also gained an estimated 6 jobs with wages between $1,251 and $3,333 and 1 job with wages of $1,250 per month and below.

Relative to Clark County and the Portland-Vancouver-Hillsboro metropolitan area, Camas has a higher percentage of jobs that pay more than $3,333 per month and lower percentages of jobs that pay less than $3,333 per month (see Figure 25). Still, an estimated 31.4% of jobs located in the city pay less than $3,333 per month, indicating that many employees working in Camas may have difficulty meeting basic needs or affording housing in the city. Notably, the median household income in Camas is $106,513, and just 13.9% of residents earn $35,000 or less. The higher proportion of low-wage jobs located in the city relative to the low proportion of residents with lower incomes indicates that many Camas residents work at higher-paying jobs based outside of the city, while residents working lower-wage jobs often must commute into the city.

[3] MIT Living Wage Calculator. (2020). Living Wage Calculation for Clark County, Washington. Retrieved from: https://livingwage.mit.edu/counties/53011

Figure 24: Number of Jobs by Wage Level (All Jobs), City of Camas, 2010 and 2018

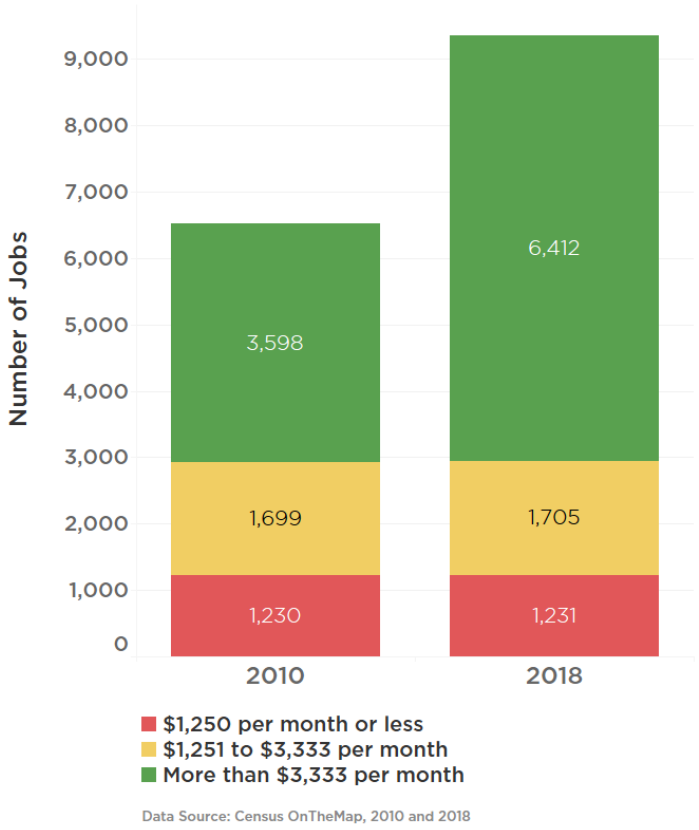
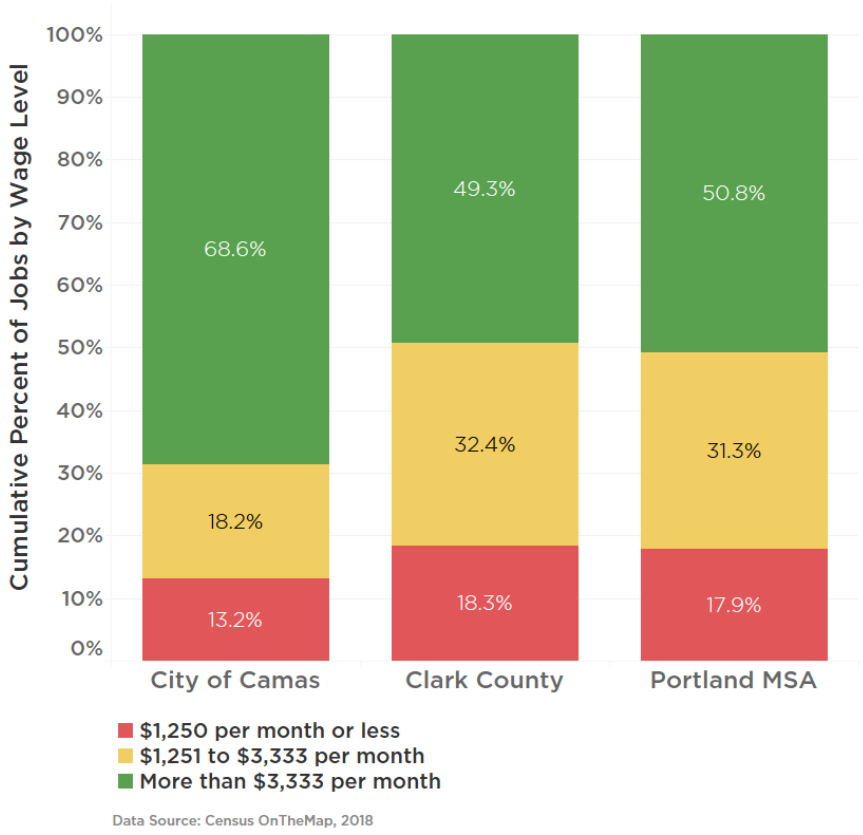


Figure 25: Percent of Jobs by Wage (All Jobs), City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2018

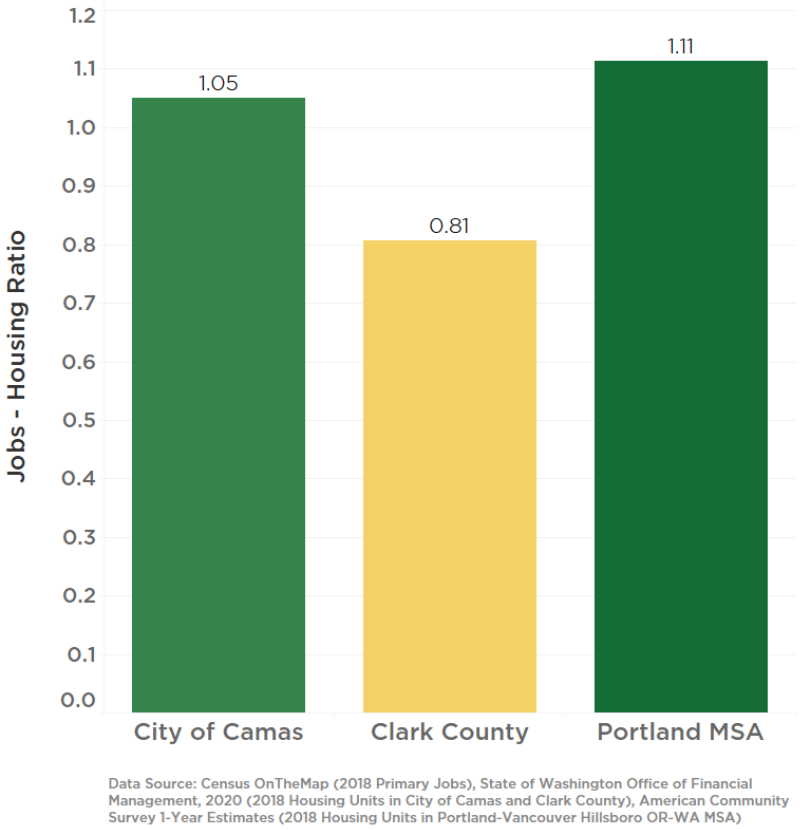


Jobs-Housing Balance

As of 2018, an estimated 8,969 primary jobs and 8,538 housing units were located in Camas, a ratio of 1.05 jobs per housing unit. In Clark County as a whole, there were an estimated 149,193 jobs and 184,794 housing units, a jobs-housing ratio of .81.

The jobs-housing ratios in Camas and the Portland-Vancouver-Hillsboro metropolitan area (a jobs-housing ratio of 1.11) are significantly higher than the county's ratio, pointing to the clustering of jobs in and around the city of Portland. Given similar unemployment and labor force participation rates among the jurisdictions, the lower jobs-housing ratio in Clark County indicates that residents living further from job centers in and around the city of Portland are more likely to commute outside of their jurisdictions for work or to work from home for employers located outside of the county.

Figure 26: Jobs – Housing Ratio, City of Camas, Clark County, and Portland-Vancouver-Hillsboro OR-WA Metro Area, 2018 (Primary Jobs)

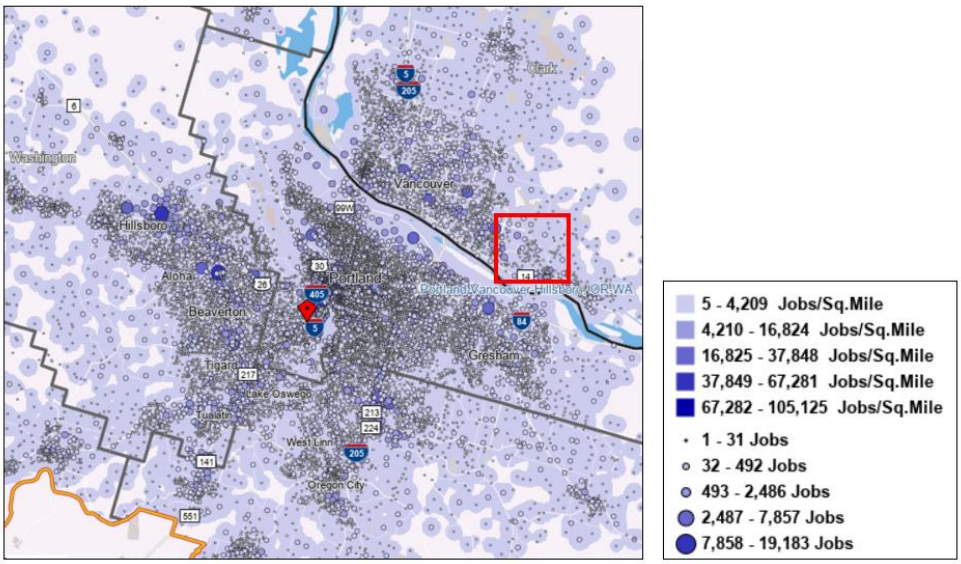


Data Source: Census OnTheMap (2018 Primary Jobs), State of Washington Office of Financial Management, 2020 (2018 Housing Units in City of Camas and Clark County), American Community Survey 1-Year Estimates (2018 Housing Units in Portland-Vancouver Hillsboro OR-WA MSA)

Geographic Distribution of Jobs

Jobs in the region are clustered in the city of Portland and in some of its surrounding suburbs (see Figure 27). In Clark County, jobs tend to be clustered in the southern portion of the county in and around Vancouver, which lies about 14 miles west of Camas (see Figure 28). Jobs in the city of Camas itself are clustered in the city's downtown (southeast Camas) and in the northern and western portions of the city (see Figure 29).

Figure 27: Locations of Jobs in Portland-Vancouver-Hillsboro OR-WA MSA, 2017 (All Jobs)



Data Source: Census OnTheMap, 2017. City of Camas

Figure 28: Locations of Jobs in Clark County, 2017 (All Jobs)

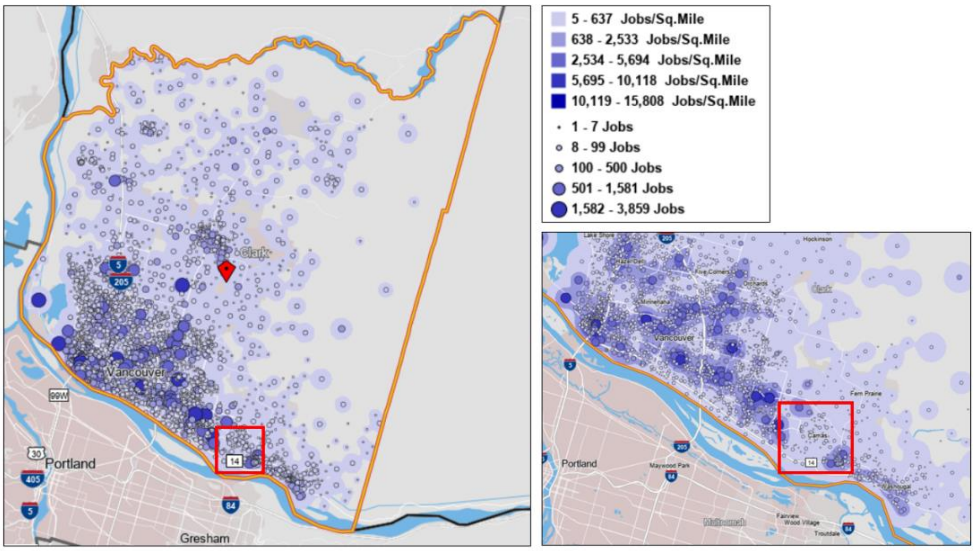
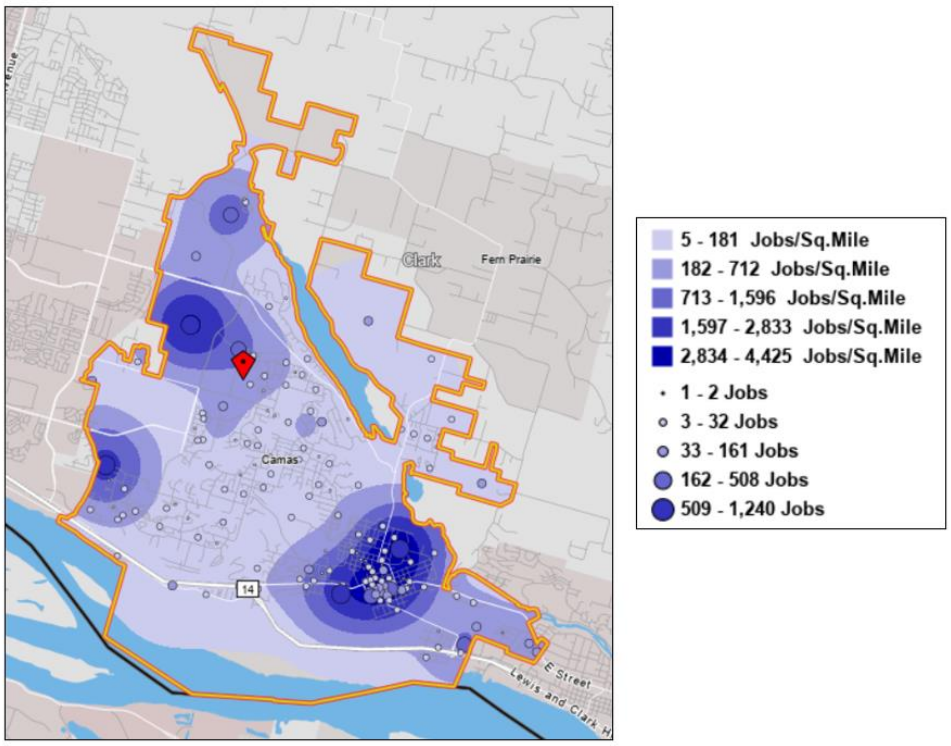


Figure 29: Locations of Jobs, City of Camas, 2017 (All Jobs)



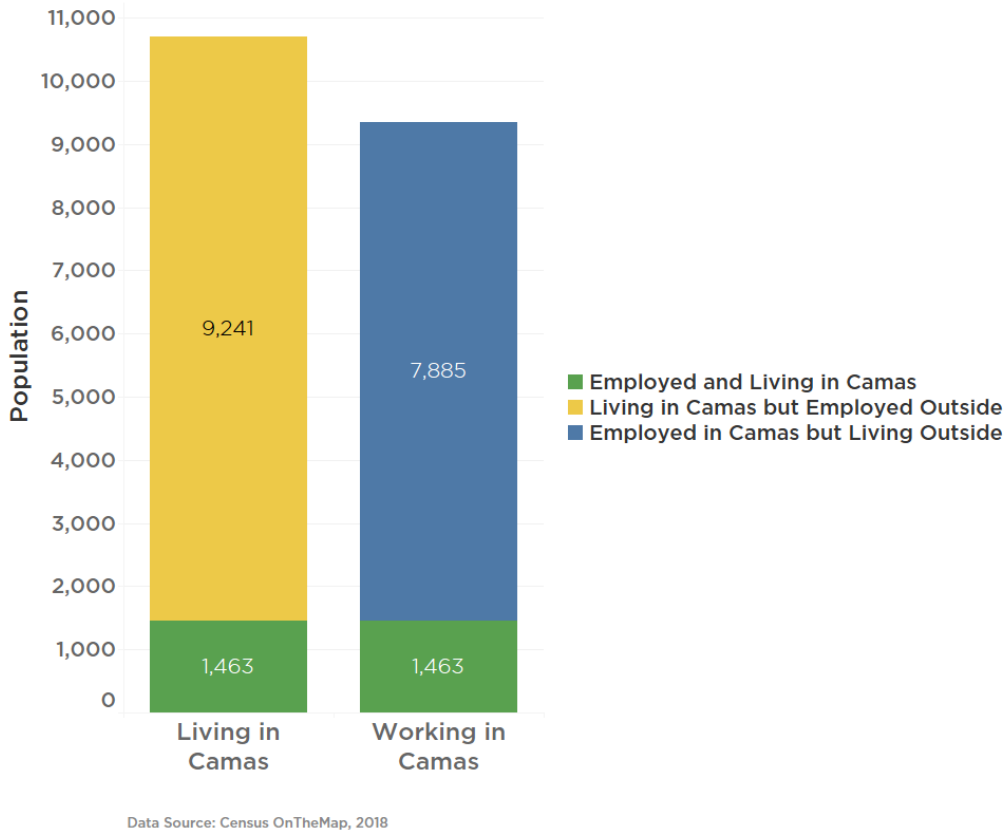
Data Source: Census OnTheMap, 2017

Commuting Patterns

While an estimated 9,348 jobs are located within the city of Camas, just 1,463 are held by residents who both live and work in the city (15.7 of jobs in Camas). An estimated 7,885 jobs (84.3% of jobs in the city) are held by workers who are employed in Camas but live outside of the city. At the same time, an estimated 9,241 of the 10,704 jobs held by Camas residents (86.3% of jobs held by residents) are located outside of the city (see Figure 30).

Residents and stakeholders who participated in this planning process also noted that Camas residents tend to be employed outside of the city or state, with some emphasizing a need to attract additional high-wage jobs to the city. Participants more often noted schools, amenities, and other quality of life factors as reasons that residents move to Camas than jobs located within the city. Stakeholders also emphasized a lack of affordable housing as a primary reason that individuals employed in Camas may have to find housing outside of the city.

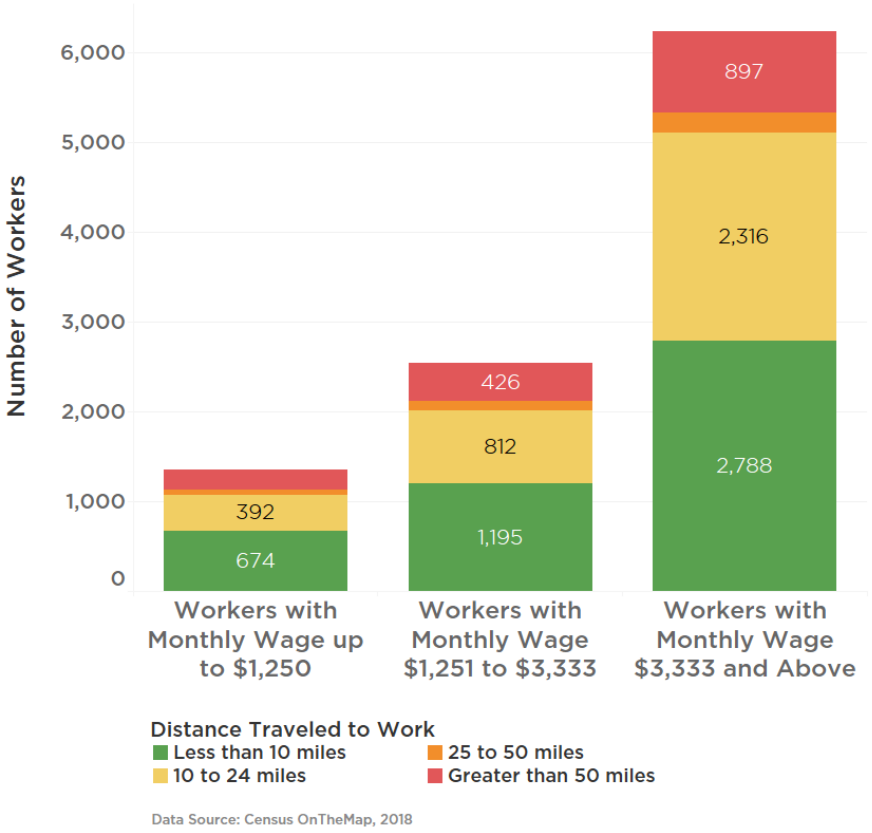
Figure 30: Commuting Patterns of Resident and Non-Resident Workers, City of Camas, 2018 (All Jobs)



Commute distances vary only slightly by workers' wage levels. An estimated 84.7% of all workers commute 50 miles or less to their jobs, and 80.8% commute less than 25 miles. At the same time, an estimated 15.3% of all workers commute more than 50 miles to their jobs, and 19.1% commute more than 25 miles.

Workers with lower wages are slightly more likely than higher-wage workers to commute more than 50 miles for their jobs (16.7% of workers with monthly wages up to $3,333, and 14.4% of workers with wages $3,333 and above). Lower-wage workers are also slightly more likely to commute less than 10 miles to work (50.0% of workers with monthly wages up to $1,250, 46.9% of workers with monthly wages of $1,251 to $3,333, and 44.8% of workers with wages $3,333 and above).

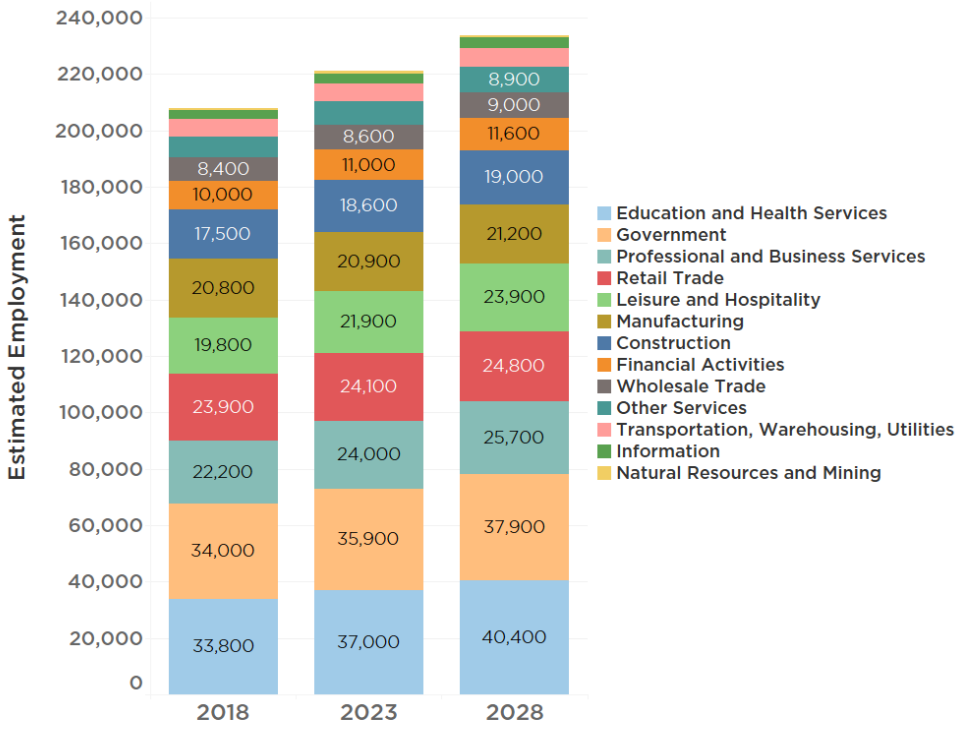
Figure 31: Distance Traveled to Work by Wage, City of Camas Residents (for Primary Jobs), 2018



Employment Projections

Total non-farm employment in the Southwest Washington region is projected to grow from 208,000 to 233,900 from 2018 to 2028, an increase of 25,900 jobs. Education and health services (40,400 jobs), government (37,900 jobs), professional and business services (25,700 jobs), and retail trade (24,800 jobs) are projected to continue providing the most jobs in the region, while the sectors projected to add the most jobs by 2028 include education and health services (6,600 jobs), leisure and hospitality (4,100 jobs), government (3,900 jobs), and professional and business services (3,500 jobs). The information, leisure and hospitality, and education and health services sectors are projected to have the fastest average annual growth rates during the time period (2.3%, 2.1%, and 2.0%, respectively). The manufacturing, retail trade, and wholesale trade sectors are projected to have the slowest average annual growth rates (0.19%, 0.38%, and 0.71%, respectively).

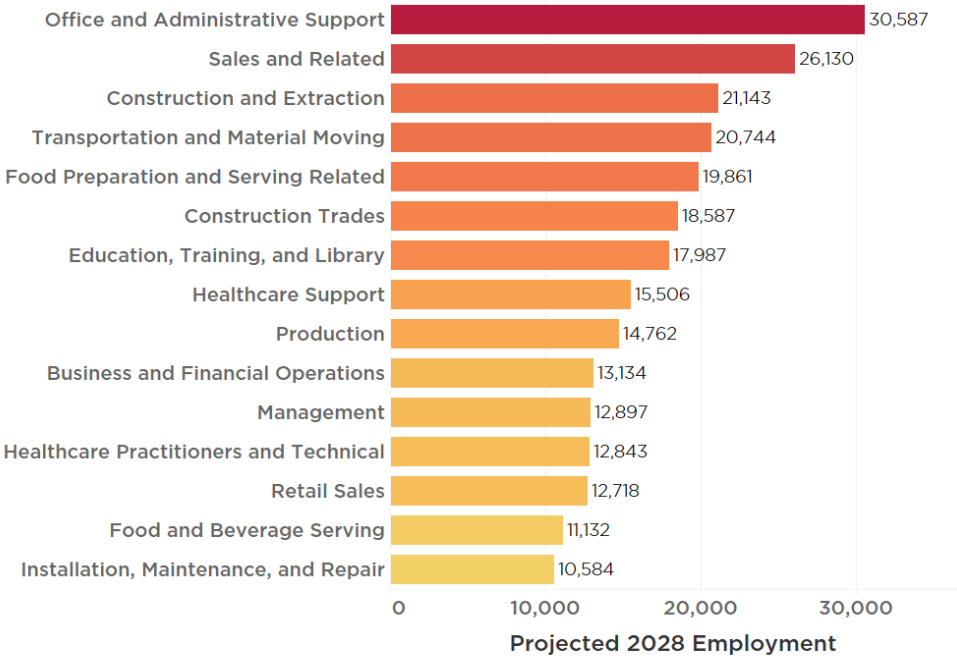
Figure 32: Projected Employment, Southwest Washington Region, 2018, 2023, and 2028



Data Source: Washington State Employment Security Department. (September 2020). Long-term industry employment projections.

Occupations projected to have the highest employment in the region in 2028 include office and administrative support (30,587 jobs), sales and related occupations (26,130 jobs), construction and extraction (21,143 jobs), and transportation and material moving (20,744 jobs) (see Figure 33). The most common occupations reflect the industry sectors with the highest projected employment, including education and health services (education, training, and library, healthcare support, and healthcare practitioners and technical occupations), professional and business services (office and administrative support, sales and related occupations, business and financial operations, and management), retail trade (retail sales), and leisure and hospitality (food preparation and serving related occupations, and food and beverage serving).

Figure 33: Projected Employment for Top Occupations*, Southwest Washington Region, 2028



Data Source: Washington State Employment Security Department. (September 2020). Long-term alternative occupational employment projections.

*Graph includes occupations with > 10,000 projected employment in 2028

This page intentionally left blank.

Chapter 4:
Housing Supply



In 2018, the City of Camas had approximately 8,330 total housing units and was composed of 7,972 households. Between 2000 and 2018, Camas housing units and households increased 75%, with the number of households growing slightly faster than the number of housing units. Over this period, Camas also grew at faster rate than Clark County. From 2000 to 2018, the county increased its housing units by 34%, while the number of households increased by 35%.

Table 5: Total Units and Households, Camas and Clark County, WA

	2000		2010		2014-2018		2000-2018 PERCENT CHANGE	
	TOTAL UNITS	HOUSE HOLDS	TOTAL UNITS	HOUSE HOLDS	TOTAL UNITS	HOUSE HOLDS	TOTAL UNITS	HOUSE HOLDS
City of Camas	4,736	4,480	7,072	6,273	8,330	7,972	75.9%	77.9%
Clark County	134,030	127,208	167,413	155,042	179,523	171,522	33.9%	34.8%

Data Source: U.S. Census Bureau, Tables H003, H004, H1 and 2014-2018 5-Year American Community Survey Table B25001, B25003

An accounting of the various types of housing units in Camas finds that 89% of the city's housing units are single-unit structures, according to 2014-2018 American Community Survey data. In actual units, the number of single-unit structures in the city increased from 4,039 to 7,415, a gain of 3,376 single-unit structures.[4] Over the same period (2000-2018), duplexes, triplexes and quadraplexes continued to make up only 5% of the city's structures, although the city gained 205 duplex, triplex or quadraplex units.

Multifamily structures with 5 or more units comprised 8% of all housing units in 2000 and 5% as of 2014-2018 estimates. ACS estimates report that the city had a net increase of only 13 units in structures containing 5 units or more. However, more current date provided by the City of Camas (examined later in this chapter) indicates additional multifamily development not included in ACS estimates.

The 2014-2018 ACS data estimates 85 mobile homes within Camas, unchanged from 2000. City staff, however, note a much smaller number (about 10) through 2013, when remaining mobile homes were cleared from park land.

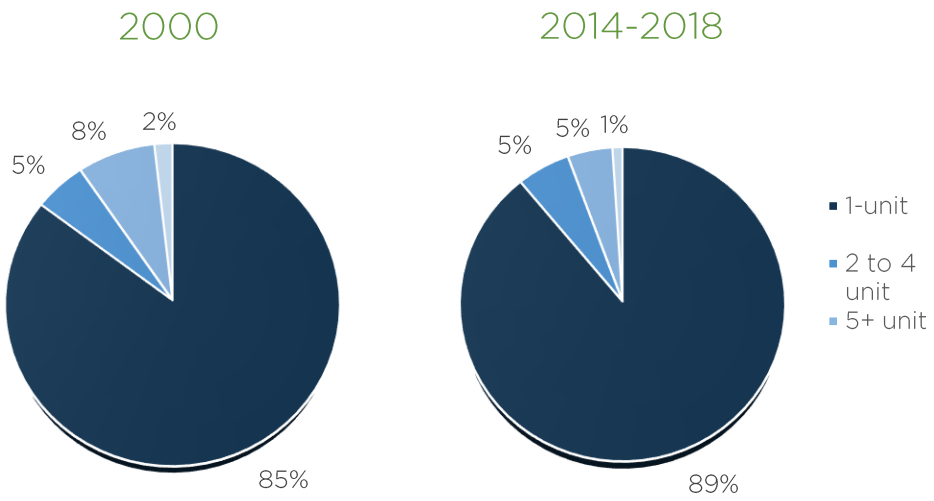
[4] Housing units broken down by structure type are indicated for the year 2000 in estimates provided by the Washington Office of Financial Management.

Table 6: Total Housing Units by Structure Type in Camas

YEAR	TOTAL HOUSING UNITS	1-UNIT	2 TO 4 UNIT	5+ UNIT	MOBILE HOMES	SPECIALS
2000	4,736	4,039	246	366	85	0
2014-2018	8,330	7,415	451	379	85	0

Data Source: OFM "Adjusted Census 2000 Population and Housing by Type of Structure and Group Quarters for the State, Counties and Cities," Table 2, 2014-2018 5-Year ACS Estimates, Table DP04

Figure 34: Percentage of Housing Units in Camas by Structure Type



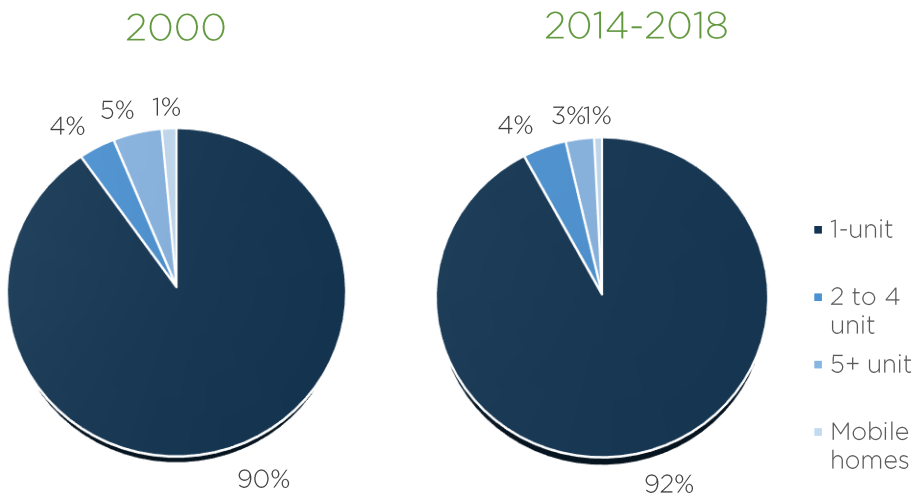
As single-unit structures increased over the 18-year period, so too did the number of Camas residents who lived in single-unit structures. While the city nearly doubled in population, growth trends indicate that single-unit structures continued to be in demand for a growing number of households. By 2018, 92% of Camas residents lived in single-unit housing, up from 90% in 2000. It follows then that multifamily units, which lost supply over the 18-year period also experienced a decrease in the share of residents living in multifamily structures with 5 or more units (-2% points).

Table 7: Population in Housing Units by Structure Type, 2000

YEAR	TOTAL HOUSEHOLD POPULATION	1-UNIT	2 TO 4 UNIT	5+ UNIT	MOBILE HOMES	SPECIALS
2000	12,462	11,239	445	597	181	0
2014-2018	22,554	20,769	975	634	176	0-

Data Source: OFM "Adjusted Census 2000 Population and Housing by Type of Structure and Group Quarters for the State, Counties and Cities," Table 2, 2014-2018 5-Year ACS Estimates, Table B25033

Figure 35: Percentage of Households living in Camas by Structure Type



Housing Tenure

In 2018, approximately 77% of Camas households owned their homes, compared to 23% who rented. Homeownership rates in Camas exceed the homeownership rates of both Clark County (67%) and the Portland-Vancouver-Hillsboro MSA (62%), as shown in Table 6. Trends in homeownership over time indicate that Camas has sustained significantly higher homeownership rates than the county and MSA, at least since 2012 (see Figure 37).

Figure 36: Share of Owners and Renters in Camas, 2018

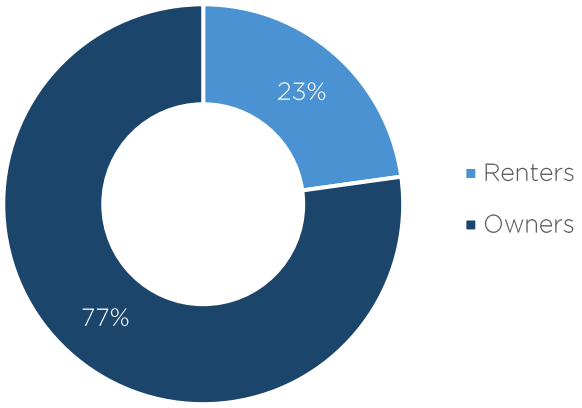


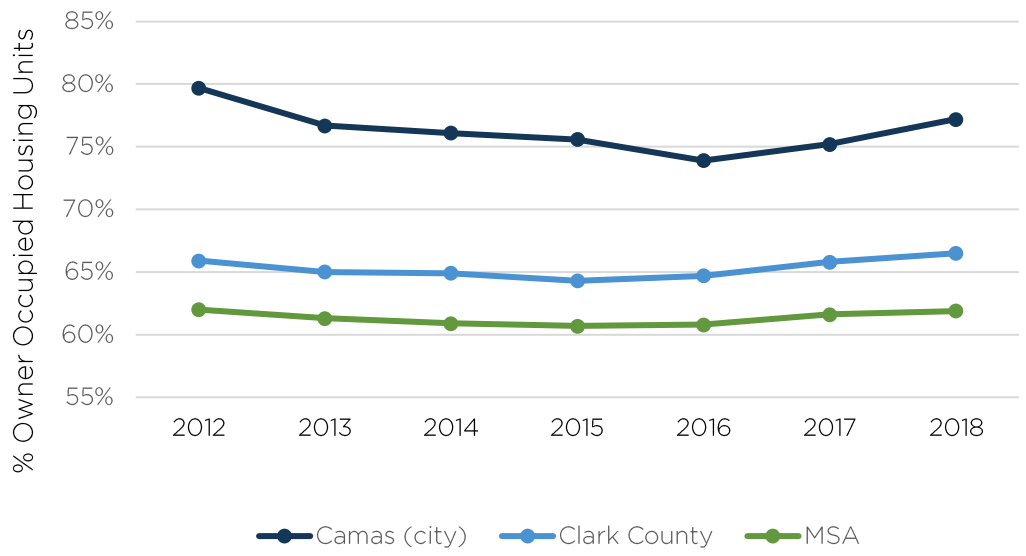
Table 8: Tenure by Households in Camas and the Region, 2014-2018

	HOUSEHOLDS	% OWNERS	% RENTERS
City of Camas	7,672	77.2%	22.8%
Clark County	171,522	66.5%	33.5%
Portland-Vancouver-Hillsboro MSA	925,631	61.9%	38.1%

Data Source: U.S. Census Bureau, Table B25003

Over the period shown below, the highest rates of homeownership in Camas occurred in 2012, when approximately 80% of residents were homeowners. Estimates indicate that 2018 showed the second highest homeownership rate for any year in this period. The city's homeownership rates dipped slightly between 2013-2017, but never fell below 73%. Camas renters made up slightly more than one-fifth (23%) of the city's residents, as shown in Table 6. By comparison, one third of Clark County residents (34%) are renters, as are nearly 40% of residents in the wider MSA.

Figure 37: Camas Homeownership Rate, 2012-2018



Data Source: 5-Year ACS Estimates from 2008-2012 through 2014-2018, Table B25003

Camas's large share of single-unit structures, described earlier, indicates that a significant number of the city's renters live in single-unit structures. In 2018, 50% of Camas renters lived in detached, single-unit structures, up from 45% in 2010 (see Figure 38 and Figure 39). Eight percent of renters lived in attached, single-unit structures in 2018, down from 12% in 2010. Nearly one quarter of the city's renters (24%) lived in duplexes, triplexes and quadraplexes in 2018 (+1% point). The share of renters living in structures with 20+ units has remained at 5% since the beginning of the decade, however, the percentage of residents living in structures with 5-19 units decreased from 13% to 11% over this period.

Camas stands apart from Clark County and the MSA, which both experienced slower growth (+2% points in the county) or no growth (+0% points in the MSA) in the percentage of renters living in single unit detached housing. While Camas had fewer renters living in townhomes and rowhouses during this period (-4% points), as did Clark County (-1% point), the MSA showed an increase in households living in this housing type (+1% point). Between 2010 and 2018, both Clark County and the MSA had fewer renters living in duplexes, triplexes and quadraplexes and multifamily structures with 5-19 units (-1% point), but more renters living in structures with 20+ units (+1% point). Fewer people in Camas rented mobile homes over this period (-1.2% points), which Clark County and the MSA either showed slight increases in mobile home renters (+0.2% in Clark County) or remained essentially the same (-0.06% in the MSA).

Figure 38: Renter Occupied Housing Units by Structure Type, 2010

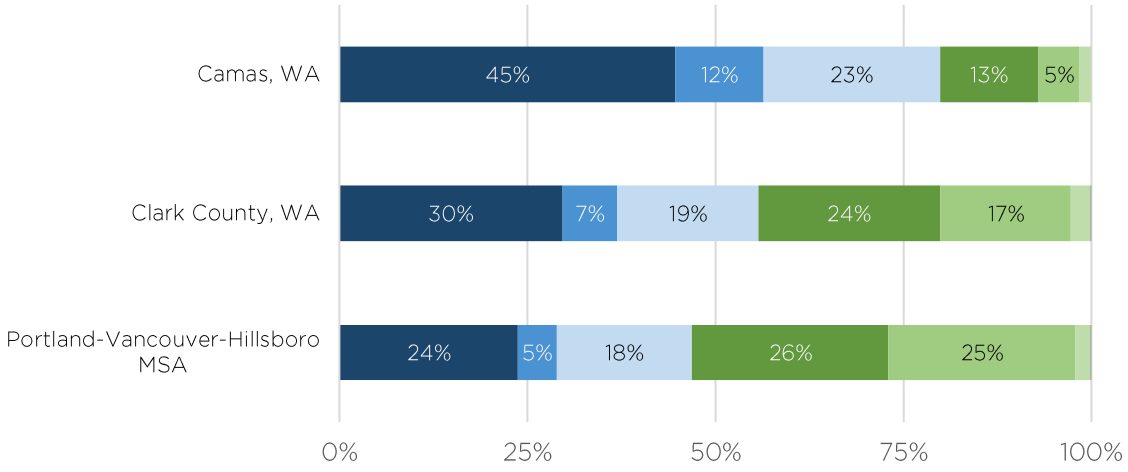
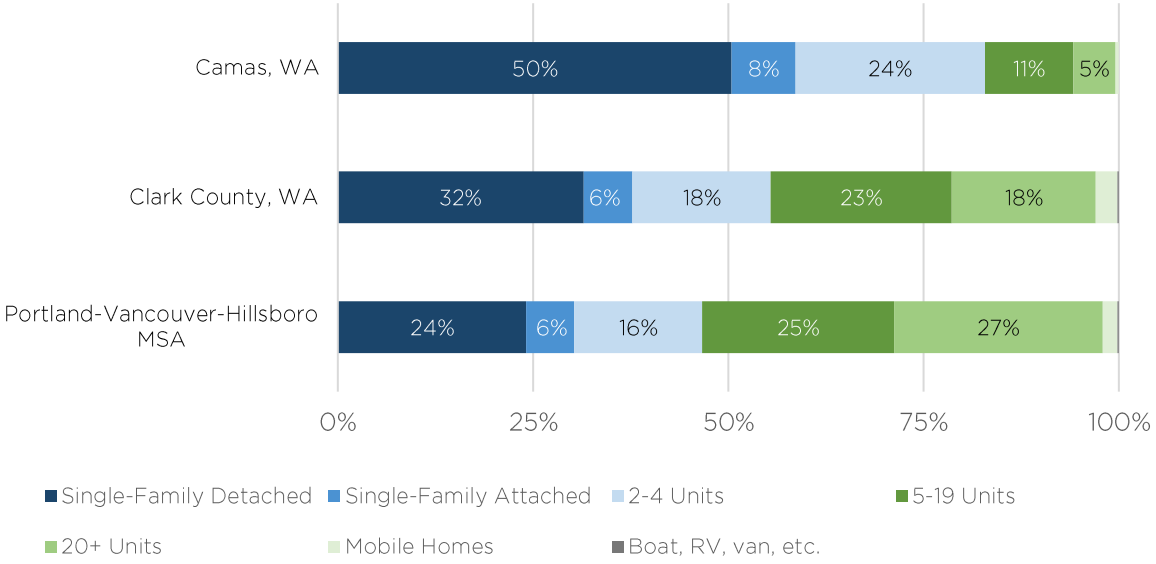


Figure 39: Renter Occupied Housing Units by Structure Type, 2014-2018



Data Source: 5-Year ACS Estimates from 2006-2010 through 2014-2018, Table B25032.
Structure types which are not labeled above had a share of less than 3%.

Unlike renters, Camas homeowners predominantly lived in single-family detached units (95%). Homeowners living in townhomes and rowhouses made up 4% of all homeowners. However, both the share of homeowners living in structures with 5-19 units and 20+ units declined over this period, even though both housing types began the decade representing less than 1% of all owner-occupied homes. Camas homeowners also owned duplexes, triplexes, quadraplexes at a rate of less than 1%. These factors may indicate homeowner preference for a specific

housing type (single-family detached), however, as shares of other housing types decrease, homeowners may have fewer multifamily options. Limited options for the purchase of homes in multi-unit structures could affect homeownership rates for single individuals, young adults, couples without children, small families, empty nesters, our other family or non-family households seeking middle-housing units for homeownership.

Figure 40: Occupied Owner Housing Units by Structure Type, 2010

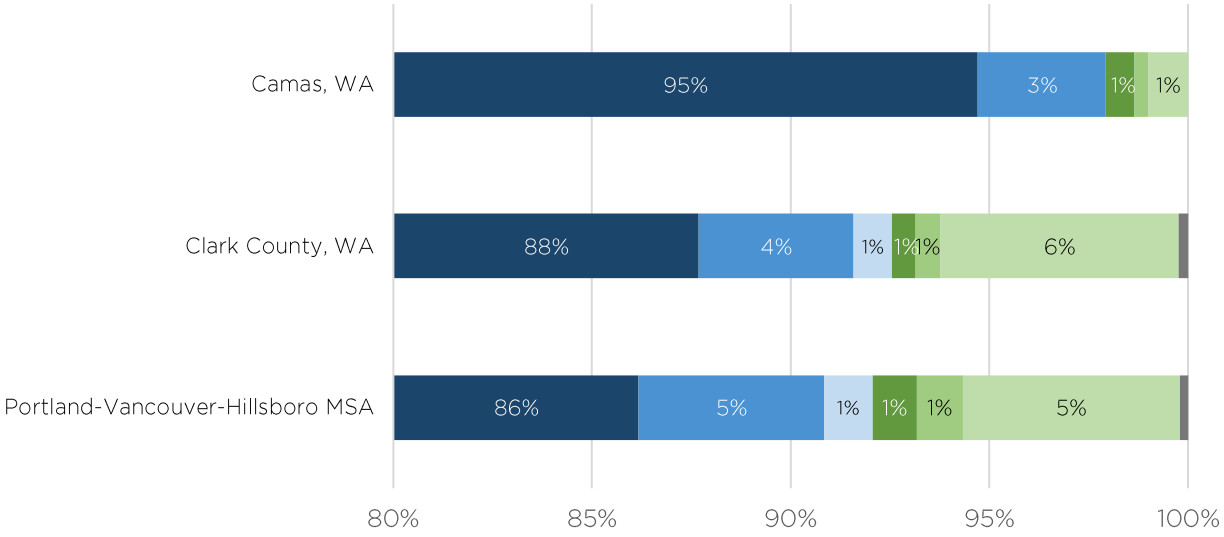
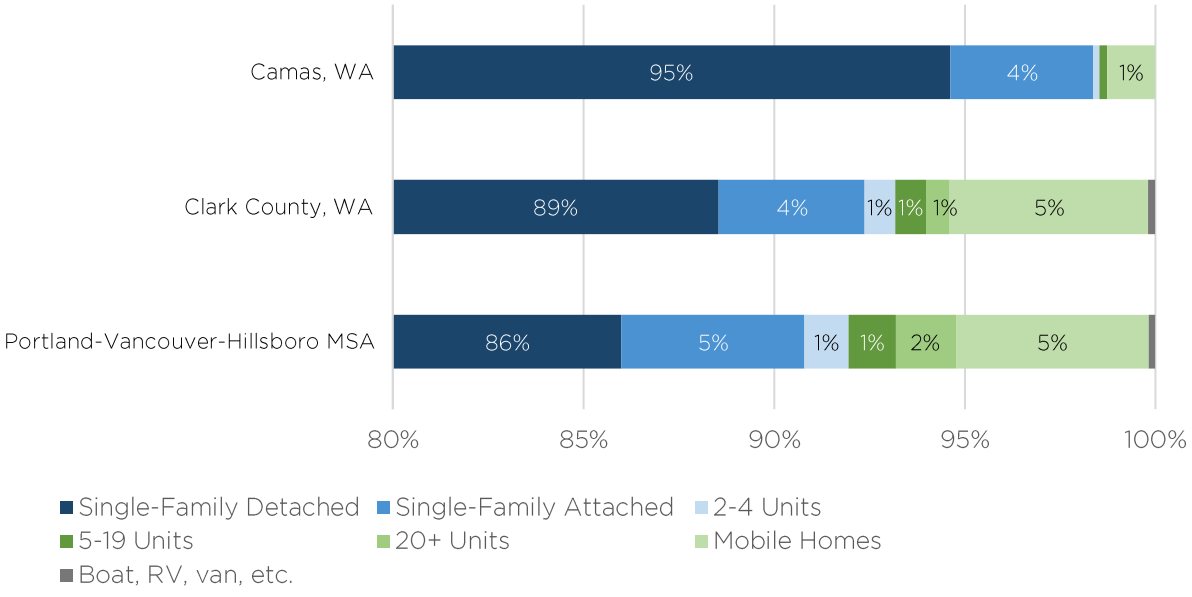


Figure 41: Occupied Owner Housing Units by Structure Type, 2014-2018



Data Source: 2006-2010 and 2014-2018 5-Year American Community Survey, Table B25032.
Structure types which are not labeled above had a share of less than 1%.

Household Size

In 2018, the average household in Camas contained 2.83 individuals. The average Camas family had 3.21 members. Both households and family sizes in Camas are larger than those in Clark County and the Portland-Vancouver-Hillsboro MSA, as shown in Table 7. Since 2010, however, average household size and average family size in Camas have decreased. Average household size decreased from 2.92 persons in 2010 to 2.83 in 2018; average family size decreased from 3.33 persons to 3.21. In contrast, both households and family sizes in Clark County and the MSA grew larger over this period.

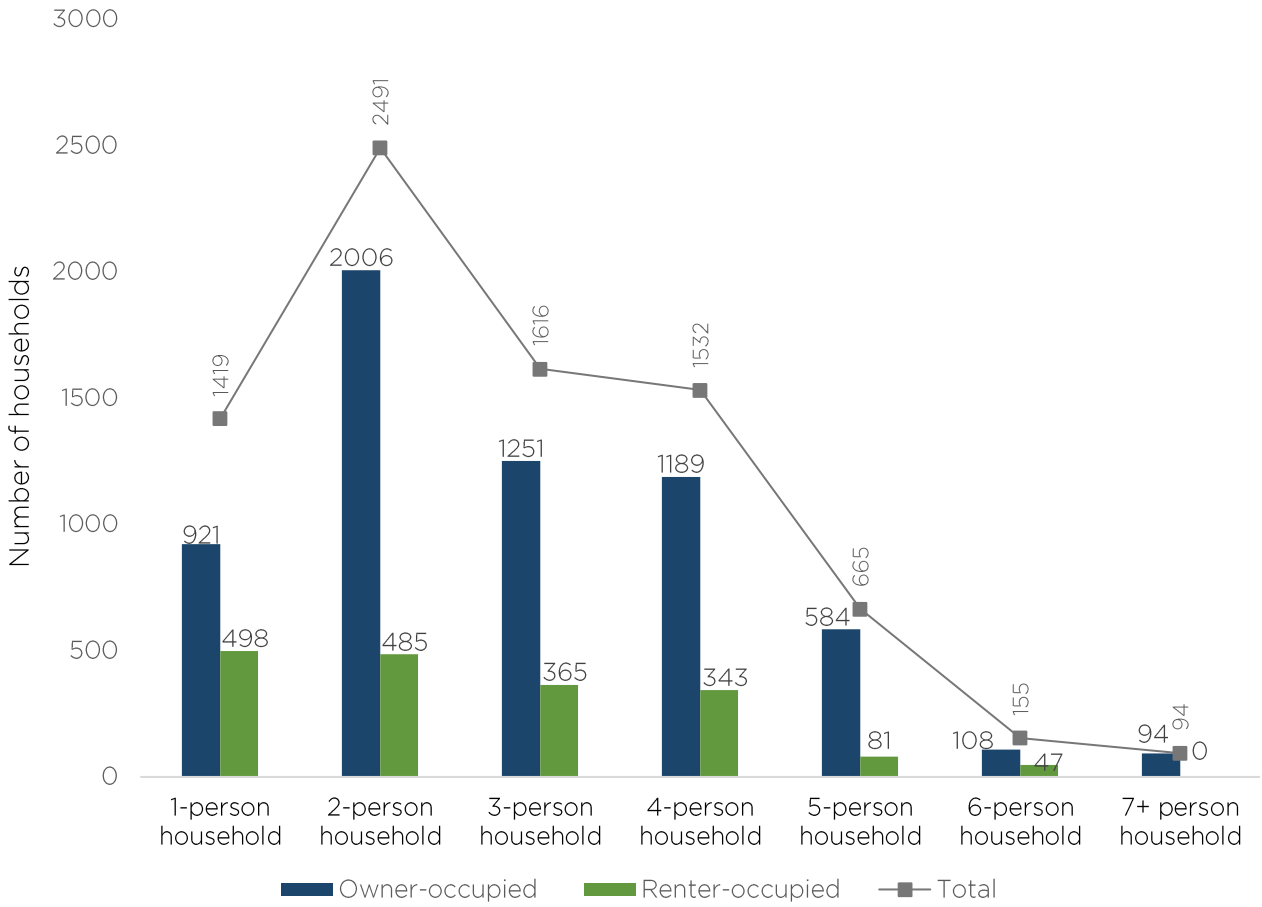
Table 9: Household Size in Camas, 2014-2018

	AVERAGE HOUSEHOLD SIZE		AVERAGE FAMILY SIZE	
	2006-2010	2014-2018	2006-2010	2014-2018
City of Camas	2.92	2.83	3.33	3.21
Clark County	2.65	2.69	3.14	3.17
Portland-Vancouver-Hillsboro MSA	2.51	2.57	3.10	3.12

Data Source: U.S. Census Bureau, Table B25003

As indicated by Camas's average household size, the largest share of owner-occupied households are two-person households (2,006 households), followed by three-person households (1,251) and four-person households (1,189). Renter households tend to be smaller than owner households, with the greatest shares of renter households containing one-person (498 households) or two people (485 households). However, 45% of renter households have 3 or more members, again indicating the high rates of family rentals in the city.

Figure 42: Household Size by Housing Tenure, 2014-2018



Data Source: 2014-2018 5-Year ACS Estimates, Table B25009

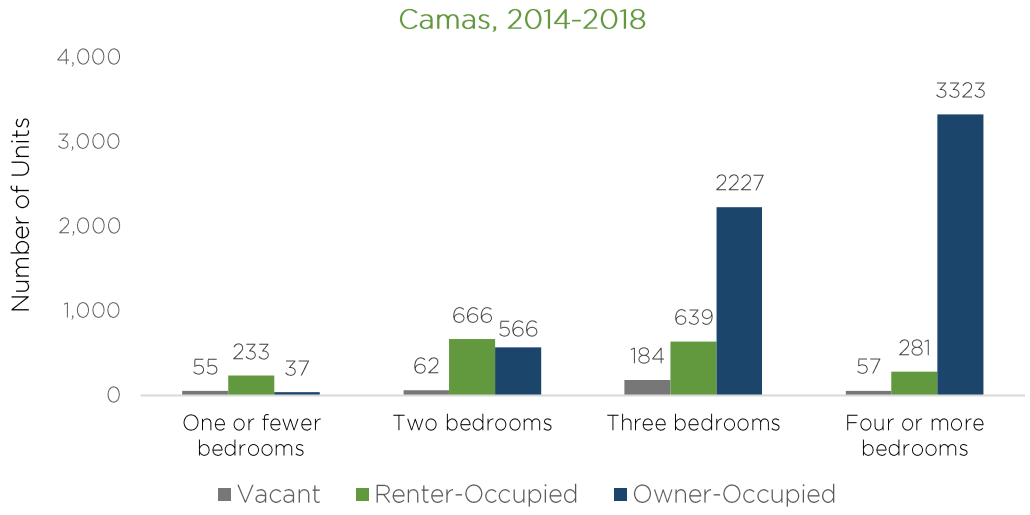
Unit Size

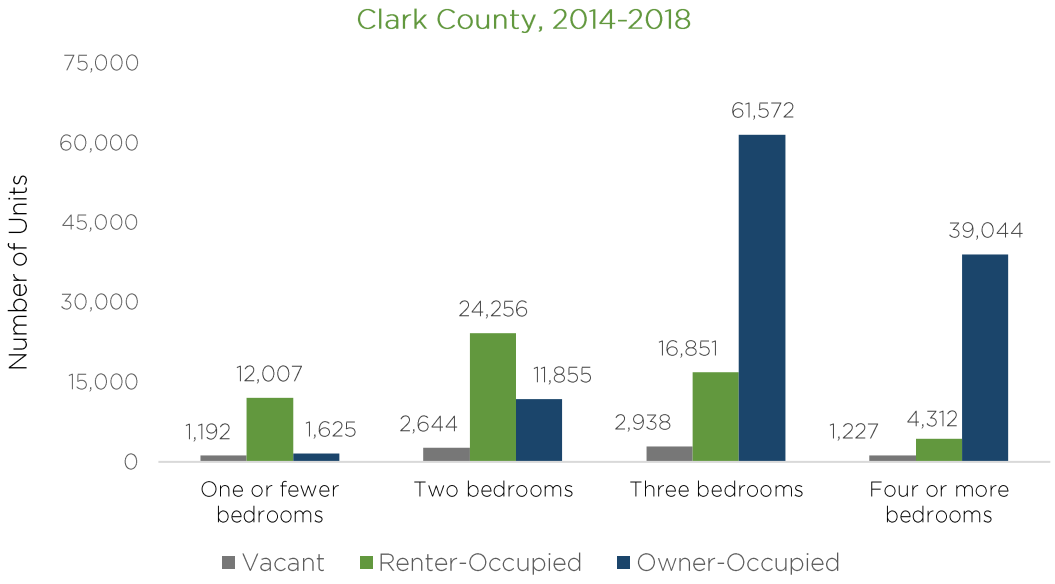
Owner-occupied housing units in Camas tend to be large units, with approximately 54% of owner-occupied units having 4 or more bedrooms. Fully 90% of owner-occupied homes have at least three bedrooms. Of the remaining 10% of owner-occupied units, 9% of owner-occupied units have two-bedrooms, while less than 1% are studios or have one bedroom. Conversely, renter-occupied units in Camas tend to be smaller than owner-occupied units. Renter units are largely two-bedroom units (37%) or three-bedroom units (35%). Four-bedroom units only make up 15% of the city's rental units, while studios and one-bedroom units make up the smallest share at 13%.

Camas's owner-occupied unit size is, on average, larger than that of Clark County or the greater MSA. In the county and region, owner units are most likely to be three-bedroom units, with three-bedroom units comprising 54% and 50% of owner-occupied housing in those jurisdictions, respectively. One-third (34%) of

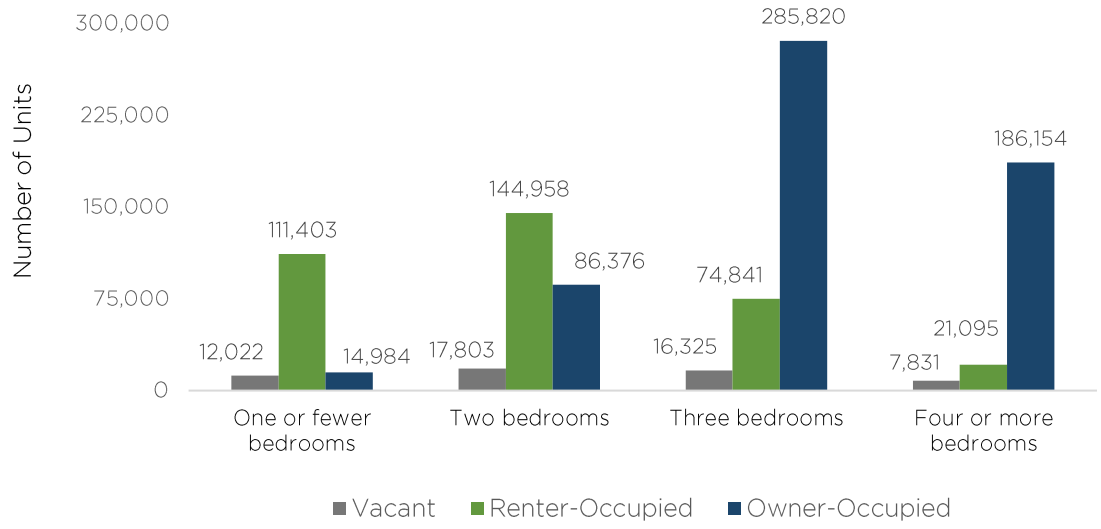
homeowners in Clark County live in units with four or more bedrooms, as do nearly one-third of owner households (32%) in the MSA. Only 1.4% of owner units in Clark County and 2.6% in the MSA are studios or one-bedroom. Rental trends in the county and MSA share some similarities with Camas: two-bedroom units are the most common rental housing type in all three jurisdictions. In Camas, four-bedroom rental units make up a larger share of rental units than one-bedroom units (15% vs. 13%). This trend is reversed in the county and MSA, where one-bedroom units make up larger shares of rental housing than four-bedroom rental units (20% one-bedroom to 8% four-bedroom in the county; 32% one-bedroom to 6% four-bedroom in the MSA).

Figure 43: Number of Bedrooms





Portland-Vancouver-Hillsboro MSA, 2014-2018



Data Source: 2014-2018 5-Year American Community Survey, Table B25042

Housing Age and Condition

Housing in Camas tends to be of newer stock than housing in Clark County and the larger MSA. In the 1990s, Camas experienced a sharp increase in housing production, compared to previous decades. Over 65% of Camas's housing was built after 1990, representing a significantly higher percentage of housing units than in Clark County (50.8% built since 1990) or in the Portland-Vancouver-Hillsboro MSA (38.5% built since 1990). American Community Survey estimates used in Figure 44 and Table 10 are based on survey data collected from 2014 through 2018, meaning that estimates of very-recently-constructed housing (i.e., the 2010 to 2018 category) do not reflect all construction since 2010. The "Housing Production" section of this chapter delves more deeply into recently constructed housing in Camas.

Newer housing stock may indicate that overall, the housing stock in Camas is in better condition than in surrounding areas where housing supply is older. It should be noted, however, that around 10% of Camas housing stock (10.7%) was built before 1940, a share that is more than double the amount of housing in Clark County built before 1940.

Figure 44: Camas Housing Units by Year Structure Built

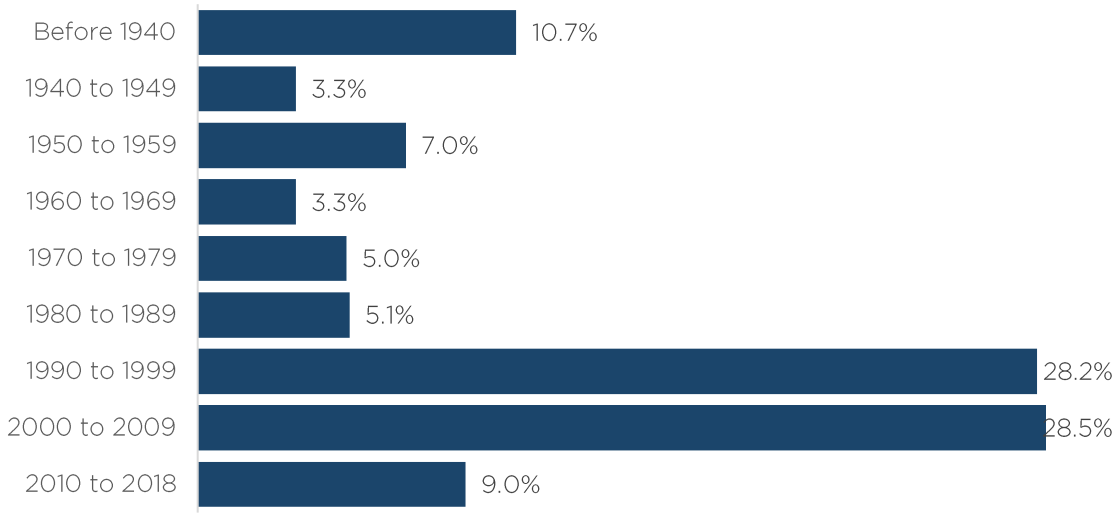


Table 10: Housing Units by Year Structure Built, 2014-2018

	CAMAS	CLARK COUNTY	PORTLAND – VANCOUVER – HILLSBORO MSA
Before 1940	10.70%	4.40%	12.30%
1940 to 1950	3.30%	3.20%	4.60%
1950 to 1960	7.00%	4.90%	7.10%
1960 to 1970	3.30%	6.80%	8.60%
1970 to 1980	5.00%	17.50%	17.50%
1980 to 1990	5.10%	12.30%	11.40%
1990 to 1999	28.20%	25.10%	18.70%
2000 to 2009	28.50%	18.90%	14.80%
2010 to 2018	9.00%	6.80%	5.00%

Data Source: 2014-2018 5-Year American Community Survey, Table B25034

While age of housing provides a general narrative about the housing conditions, other physical features related to housing condition are captured by the US Census Bureau. For example, the American Community Survey captures those households that lack complete kitchen or plumbing facilities. According to these estimates, approximately 14 homes (0.2%) in Camas lack complete kitchen facilities, such as cooking facilities, a refrigerator, or a sink with piped water. An estimated 31 homes (0.4%) lack complete plumbing facilities, meaning that they

lack hot and cold piped water, a flush toilet, or a bathtub or shower. While ACS data provides these estimates, they are subject to sampling error and the actual number of homes in Camas with a lack of complete kitchen or plumbing facilities may be lower. Overall, the data indicates that homes without complete kitchen or plumbing facilities make up very small percentages of Camas's stock, and lower shares than they do throughout the MSA.

Table 11: Housing Lacking Complete Kitchen or Plumbing Facilities, 2014-2018

	TOTAL HOUSING UNITS	LACKING COMPLETE KITCHEN FACILITIES		LACKING COMPLETE PLUMBING FACILITIES	
		NUMBER	SHARE	NUMBER	SHARE
Camas, WA	8,330	14	0.2%	31	0.4%
Clark County, WA	179,523	3,172	1.8%	806	0.4%
Portland – Vancouver – Hillsboro MSA	979,612	17,404	1.8%	7,598	0.8%

Data Source: 2014-2018 5-Year American Community Survey, Table B25051 and B25047

Vacancy Rates

Vacancy rates are important indicators of the city's housing market. In 2018, vacancy rates for units for purchase in Camas was 2.1%. Clark County and the MSA had even tighter homebuying markets, with approximately 1% vacancy in both areas. Rental vacancy rates almost universally hovered at 3% for Camas, Clark County and the MSA. Low vacancy rates, such as those seen across the region, tend to indicate a limited housing supply, higher housing prices, and loss of affordable units (or, in some cases, high risk of gentrification).

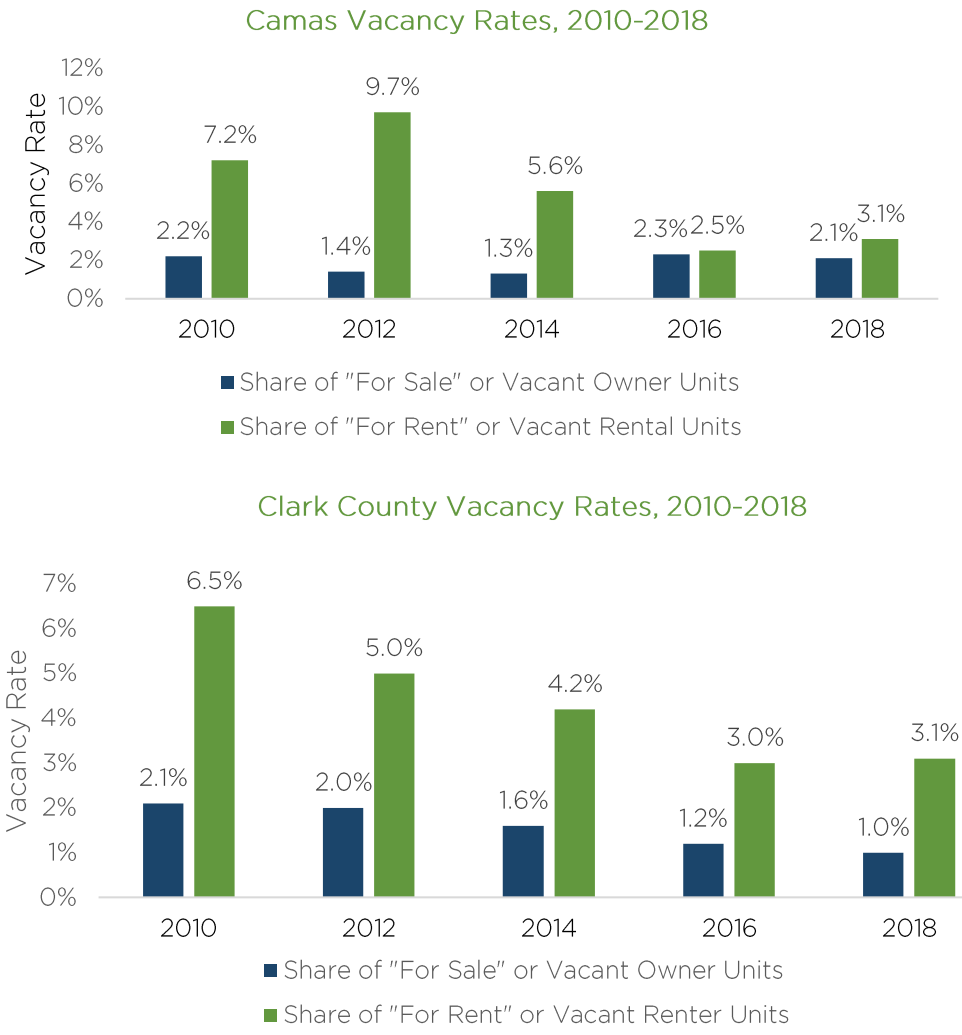
Vacancy rates in Camas, Clark County and the MSA between 2010 and 2018 are shown in Figure 45 below. The percentage of "for sale" units in Camas did not exceed 2.3% between 2010 and 2018, with some of the city's lowest "for sale" rates observed as the US emerged from the Great Recession (1.4% in 2012 and 1.3% in 2014). Rental vacancies in Camas varied widely over this period. In 2012, for example, rental vacancies reached 9.7% at the same the owner-occupied unit vacancies were reaching some of their lowest levels. By 2016, Camas's rental market had recovered; rental vacancies of 2.5% nearly matched the low vacancy rate in for-sale units. Clark County and the MSA experienced less variation in rental vacancy rates over the period. Both owner-occupied and renter vacancy rates in these jurisdictions have declined over time, with only a small uptick in all renter vacancies by 2018.

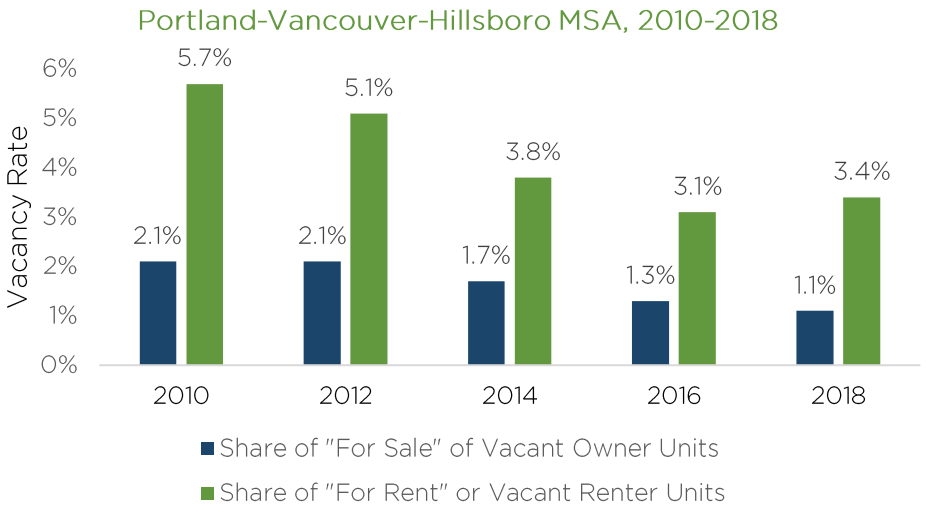
Table 12: For Sale and Rental Vacancy Rates in Camas, 2014-2018

	OWNER HOUSING UNITS			RENTAL HOUSING UNITS		
	AVAILABLE (VACANT)	TOTAL	VACANCY RATE	AVAILABLE (VACANT)	TOTAL	VACANCY RATE
City of Camas	129	6,153	2.1%	57	1,819	3.1%
Clark County	1,102	114,096	1.0%	1,790	57,426	3.1%
Portland-Vancouver-Hillsboro MSA	6,111	573,334	1.1%	11,870	352,297	3.4%

Data Source: 2014 – 2018 5-Year American Community Survey, Tables DP04 and B25004.
Vacancy figures shown reflect the number of "For rent" and "For sale only" housing units.

Figure 45: Vacancy Rate





Data Source: 2006-2010 and 2014-2018 5-Year American Community Survey, Table B25004

To assist jurisdictions completing Housing Action Plans, the Washington Center for Real Estate Research (WCRER) at the University of Washington made a variety of data available to jurisdictions, including data about the local rental market. The table below shares vacancy rates for market-rate rental properties by number of bedrooms in Camas based on a survey of 20+ unit multifamily complexes prepared by WCRER in September 2020. Overall, the rental vacancy rate was low at about 1.6% for the 7 complexes (with a total of 570 units) included in the survey. One-bedroom units were more likely to have availability (4.2% vacant) while larger units (2 and 3 bedrooms) had considerably more constrained availability, including no vacant 3-bedroom units.

Low rental vacancy rates were common for the 25 communities surveyed by WCRER, with averages ranging from as low as 0.2% to as high as 6.9%. Most communities (21 out of 25) had average rental vacancy rates under 2%.

Table 13: Rental Vacancy in Properties with 20+ Units in Camas, September 2020

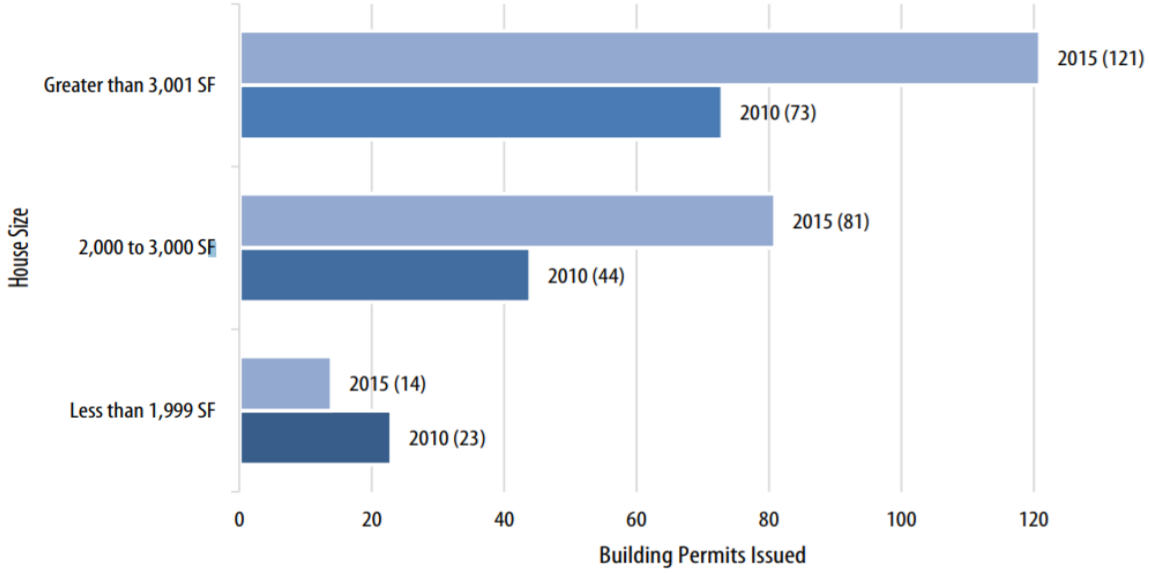
	1-BEDROOM		2-BEDROOM		3-BEDROOM	
	# OF UNITS	VACANCY RATE	# OF UNITS	VACANCY RATE	# OF UNITS	VACANCY RATE
City of Camas	168	4.2%	330	0.6%	72	0.0%

Data Source: Washington Center for Real Estate Research survey of multifamily properties with 20+ units, Conducted in September 2020, Retrieved from https://wcrer.be.uw.edu/housing-market-data-toolkit/

Housing Production

The Camas 2035 Comprehensive Plan identified trends in the city's housing production from 2010 to 2015. In 2010, Camas permitted 23 units under 1,999 square feet, 44 units between 2,000 and 3,000 sq. ft. and 73 units over 3,001 sq. ft. By 2015, the city had permitted 37 more mid-range units (2,000 to 3,000 sq. ft.) than in 2010, and 48 more units over 3,001 sq. ft. In contrast, smaller housing units (1,999 sq. ft. or less) decline over this period, with 9 fewer units permitted than in 2010. Production trends in Camas indicate a continued preference for housing units with a larger footprint. The city's limited housing supply under 1,999 sq. ft. could pose difficulties for a range of family and non-family types appropriately sized or appropriately priced housing in Camas.

Figure 46: Housing Production in Camas, 2010 and 2015



Data Source: Camas 2035 Comprehensive Plan

In 2020, Camas permitted 338 new single-family residences, about 56% above the 216 units permitted in 2015.5 The majority of these units were over 3,000 square feet (52.4%) and 45.6% were between 2,000 and 3,000 square feet. Only seven units (2.1%) were under 2,000 square feet. These trends indicate a continued preference for housing units with a larger footprint. The city's limited housing supply under 2,000 square feet poses difficulties for a range of family

[5] City of Camas permit data provided by month for 2020.

and non-family households seeking appropriately sized or appropriately priced housing in Camas.

Although there were no multifamily permits issued by the City in 2020, Camas's supply of rental housing in large, multifamily developments increased significantly in recent years. The table below indicates the city's current stock of multifamily housing, including townhomes and apartments. In 2020 alone, two new multifamily developments were completed, adding nearly 300 apartments to the city's multifamily stock. These developments added to the city's supply of smaller housing units, particularly 1-bedroom and 2-bedroom rental units.

Table 14: Multifamily Apartment and Townhouse Developments in Camas, 2020

DEVELOPMENT NAME	TYPE	YEAR BUILT	NUMBER OF UNITS
7th Avenue Townhomes, 710 NW 7th Avenue	Townhomes	2015	10
Camas House Apartments, 1102-1138 E. 1st Avenue	Apartments	1979	16
Camas Ridge, 1420 NW 28th Avenue	Apartments	2011	51
Clara Apartments, 608 NE Birch Street	Apartments	2020	32
Crown Villa, 1529 Division Street	Apartments	1986	19
First Avenue Apartments, 1410 E. 1st Avenue	Apartments	1972	11
Hill Crest Apartments, 1222 NW Couch Street	Apartments	1971	5
Kielo at Grass Valley, 5988 NW 38th Avenue	Apartments	2020	276
Lloyd Apartments, 1022-1050 E. 1st Avenue	Apartments	1954	8
Logan Place Village, 1346 NW 25th Avenue	Townhomes	2014	26
Parker Village, 20th Avenue & NW Brady Road	Townhomes	2018	60
Parklands at Camas Meadows, NW Longbow Lane	Townhomes		24
River Place Apartments, 1718 SE 11th Avenue	Apartments	1998	20
River View Apartments, 3003 NE 3rd Avenue	Apartments	1995	60
Russell Street Townhouses, 1820 SE Seventh Ave	Townhomes	1996	9
Stoneleaf Townhomes, 5843 NW 26th Avenue	Townhomes	2015	12
Terrace at River Oaks, 3009 NE 3rd Avenue	Apartments	2018	120
Third Avenue Apartments, 2615 NE 3rd Avenue	Apartments	2000	42

Data Source: Mosaic Community Planning research via apartment listing services; City of Camas Staff Report "Annual Comprehensive Plan Amendments, City File Numbers CPA20-01, CPA20-02, and CPA20-03," August 11, 2020

Housing Costs

Housing cost and affordability are another important area for examination, given Camas's low vacancy rates, large unit size, and newer housing stock – variables that may indicate less affordability for both rentals and for-sale housing. Looking at housing from a bird's eye view, tools such as the Washington Center for Real Estate Research's housing affordability index (HAI) provide context for local affordability by observing housing affordability at the county level. The HAI gives a general measurement of the likelihood that middle income families can afford the mortgage on a median priced home. A score of 100 indicates the middle family can afford median home prices, and scores above 100 show increasing levels of affordability.[6] In Table 15 shown below, Clark County's scores on the HAI have been greater than 100 for the past four years, indicating that overall median income earning families experience housing affordability. First time homebuyers in Clark County, on the other hand, received scores below 100, indicating that tight markets and housing affordability directly affect first time homebuyers in the county in ways that may not be experienced by existing or long-time homeowners.

Table 15: Housing Affordability Index for Camas and Clark County, 2017 to 2020

	Q2 2017	Q2 2018	Q2 2019	Q2 2020
Clark County	123.3	109.1	114.5	125.7
Clark County, First Time Buyers	73.2	65.8	81.3	94.5
Washington State	123.7	105.4	98.4	106.2
Washington State, First Time Buyers	71.2	61.2	69.9	81.2

Data Source: Washington Center for Real Estate Research, "Housing Market Snapshot, 2017-2020."[7] http://wcrer.be.uw.edu/archived-reports/

Scaling down to Camas, the affordability picture becomes starker. Figure 47 and Figure 48 indicates that Clark County home values are significantly less than values in Camas. Zillow data identifies median home values in the 65th percentile range, also called the top tier, and the 35th percentile range or bottom tier. In September 2010, the predominant range of Camas's housing values spanned

[6] Washington Center for Real Estate Research. "Housing Affordability Index, State of Washington and Counties, Fourth Quarter 2011," Accessed October 30, 2020. http://realestate.washington.edu/wp-content/uploads/2013/10/2011Q4-HAI.pdf

[7] Washington Center for Real Estate Research, "Housing Market Snapshot, 2017-2020." Accessed October 30, 2020. http://wcrer.be.uw.edu/archived-reports/

from $215,056 to $450,519. Bottom tier median housing values were $41,884 higher in Camas than in Clark County, while top tier median values were $123,007 higher in Camas. By September 2020, Camas's median home values had nearly doubled at the bottom tier - $406,456 - and had reached $744,922 at the top tier. 2020 figures indicate that bottom tier values were now $71,107 greater and top tier values were $179,764 greater than those across Clark County. Due to these differences in home value shown over time, the HAI may be an insufficient tool to interpret affordability in the city of Camas. However, the HAI does offer some instruction. Where Clark County offers limited affordability for first-time homebuyers, these pressures may be extreme for first time homebuyers in Camas, who already face challenges due to the city's limited supply of smaller starter homes.

Figure 47: Bottom and Top Tier Home Values in Camas, 2010-2020

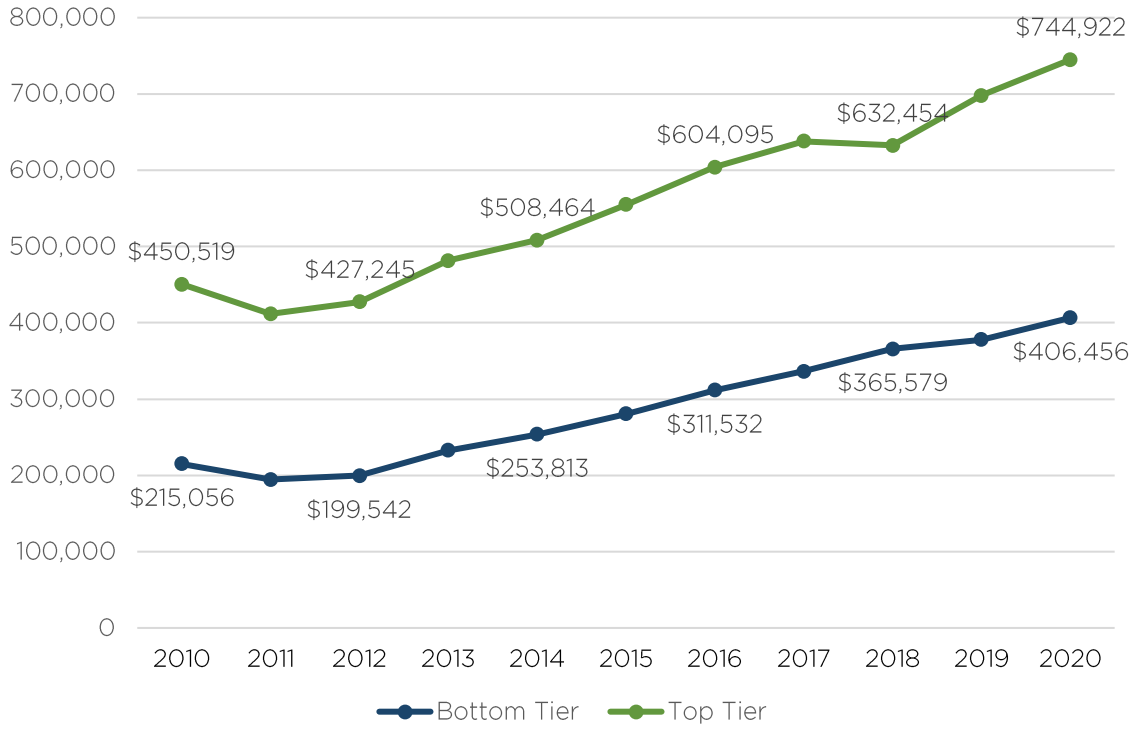
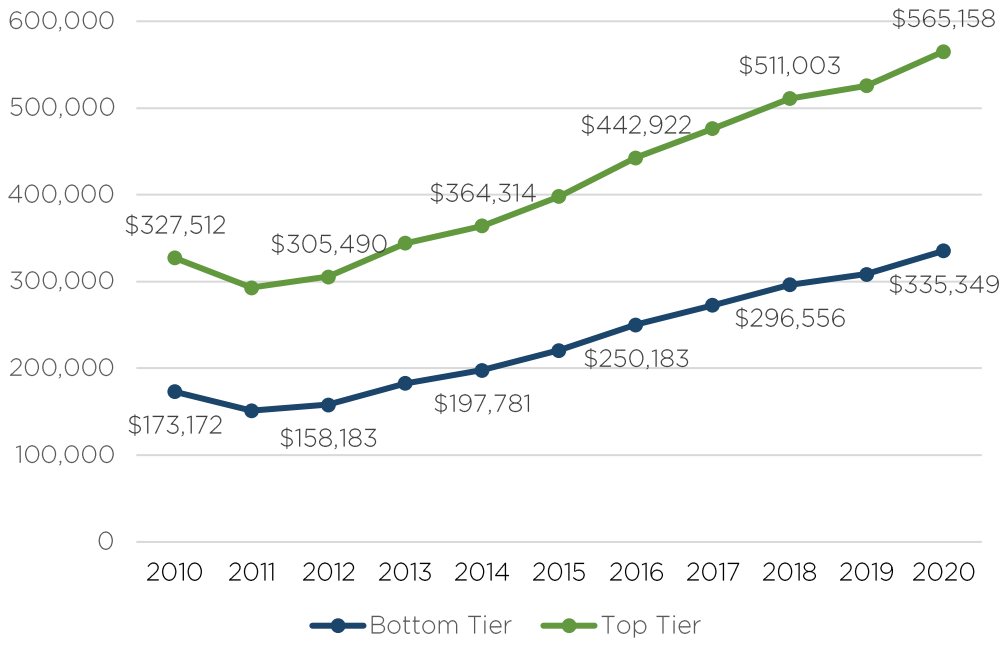


Figure 48: Existing Single Family Homes Prices in Clark County, 2010 - 2020



Data Source: Zillow. "Zillow Home Value Index - Bottom and Top Tier Time Series, 2010 – 2020." https://www.zillow.com/research/data/

Monthly owner and renter costs also provide insight into Camas's affordability. Table 16 below shows Census estimates of median home value in Camas. In 2018, the median home value in Camas was $403,800, compared to $296,800 in Clark County and $342,900 in the MSA. 78% of Camas residents had a mortgage in 2018, perhaps attributed to the lower age of the housing stock. Homeowners with a mortgage paid $2,184 per month in housing costs, compared to their neighbors in Clark County whose median costs were $1,699 (a difference of $485). Homeowners in the MSA spent $1,832 on monthly housing costs, or $352 less than in Camas.

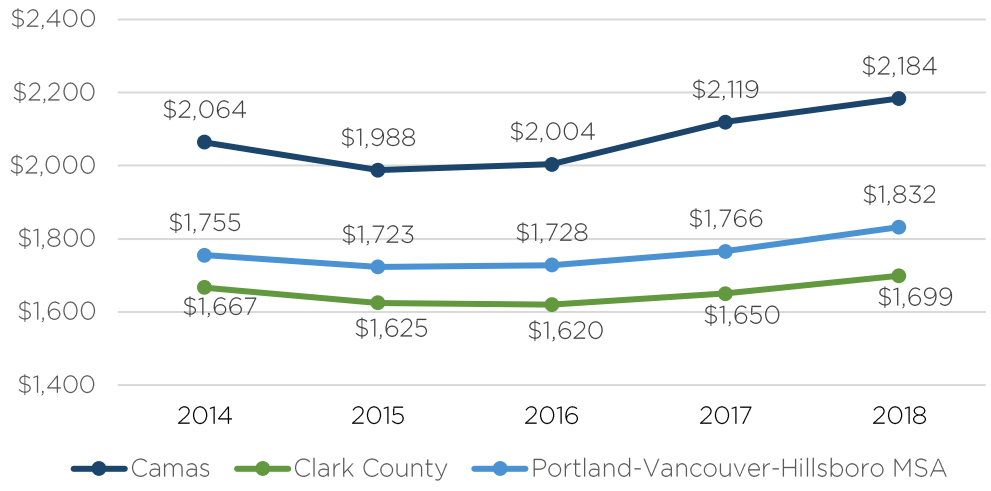
Clark County and the MSA also have larger shares of homeowners without a mortgage – 27% in the county and 28% in the MSA, compared to 22% in Camas. All households without mortgages show median monthly costs that are within $100 ($535 in Clark County, $603 in the MSA, and $630 in Camas), indicating that other monthly owner costs (e.g., utilities, insurance, etc.) are relatively similar across the region and that housing value.

Table 16: Median Home Value and Monthly Owner Costs in Camas, 2018

	TOTAL OWNER-OCCUPIED UNITS	MEDIAN HOME VALUE	WITH A MORTGAGE		WITHOUT A MORTGAGE	
			SHARE OF TOTAL	MEDIAN MONTHLY OWNER COSTS	SHARE OF TOTAL	MEDIAN MONTHLY OWNER COSTS
Camas, WA	6,153	$403,800	78%	$2,184	22%	$630
Clark County, WA	114,096	$296,800	73%	$1,699	27%	$535
Portland – Vancouver – Hillsboro MSA	573,334	$342,900	72%	$1,832	28%	$603

Data Source: 2014-2018 5-Year American Community Survey, Table DP04

Figure 49: Median Monthly Costs for Homeowners with a Mortgage, 2014-2018



Data Source: 2014-2018 5-Year American Community Survey, Table DP04

Rental Housing Costs

Interestingly, renter costs in Camas are more similar to renter costs in Clark County and the MSA than owner costs. The median rent in Camas is $1,217, only $24 more than in the MSA and $37 more than in Clark County. Figure 50 shows that since 2014, median rents have risen in all 3 jurisdictions. Camas's median rent increased by $159 over the 5-year period. Clark County and the MSA showed median rent increases between $217 and $225 over this period. Despite the rising rental costs, median rents in Camas are nearly $1,000 less than monthly owner costs in the city. This factor alone may cause households with lower incomes to

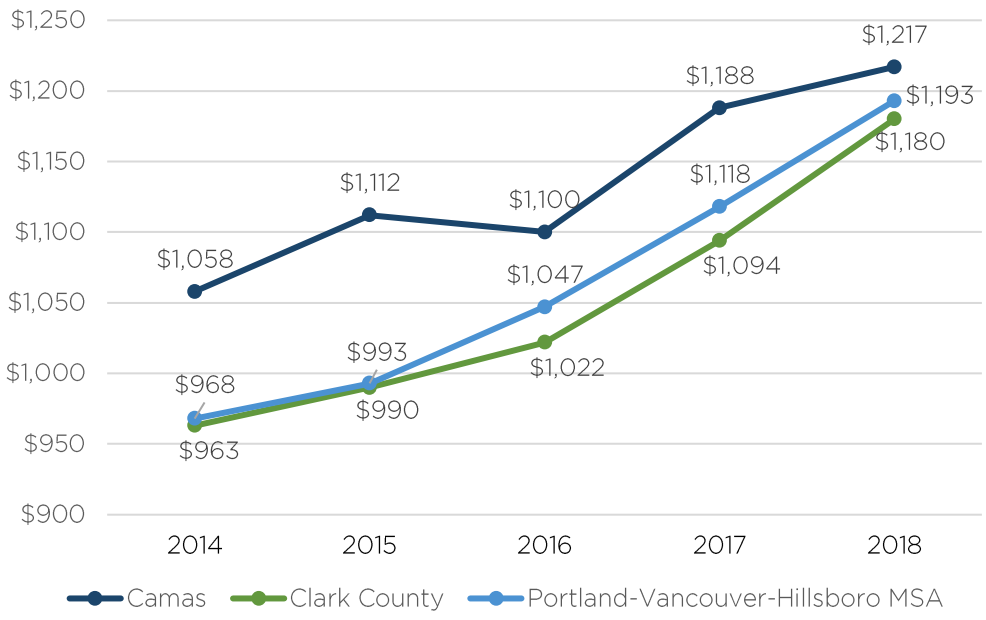
remain renters in Camas or to purchase homes outside of the city where owner costs may be more affordable.

Table 17: Median Renter Costs in Camas, 2018

	TOTAL RENTER-OCCUPIED UNITS	MEDIAN RENT
Camas, WA	1,819	$1,217
Clark County, WA	57,426	$1,180
Portland – Vancouver – Hillsboro MSA	352,297	$1,193

Data Source: 2014-2018 5-Year American Community Survey, Table DP04

Figure 50: Median Monthly Renter Costs, 2014-2018



The Washington Center for Real Estate Research's (WCRER's) rental market survey conducted in September 2020 also collected data about rents by number of bedrooms. Average rents in Camas by unit type are shown in the table that follows, indicating higher averages than medians reported through American Community Survey data. The average 1-bedroom rental rate was $1,299, the average 2-bedroom rented for $1,442, and the average 3-bedroom for $1,789.

Table 18: Average Rental Rates in Properties with 20+ Units in Camas, September 2020

	1-BEDROOM		2-BEDROOM		3-BEDROOM	
	# OF UNITS	AVERAGE RENT	# OF UNITS	AVERAGE RENT	# OF UNITS	AVERAGE RENT
City of Camas	168	$1,299	330	$1,442	72	$1,789

Data Source: Washington Center for Real Estate Research survey of multifamily properties with 20+ units, Conducted in September 2020, Retrieved from https://wcrer.be.uw.edu/housing-market-data-toolkit/

Special Needs Housing

The most recent census data on special housing in Camas indicates that in 2010, there were two types of facilities that offered special housing in the city: nursing homes and "other non-institutional facilities." In that year, 78 Camas residents lived in nursing homes, skilled nursing facilities or other non-institutional special housing. Comparatively, there are 3,178 special housing residents in Clark County. Camas serves 2.4% of the county's population residing in special housing.

Table 20 indicates the number and type of special housing available in the county, which includes state prisons, local jails, group homes, emergency and transitional shelters, and residential treatment centers.

Table 19: Special Housing Inventory in Camas, 2010

INSTITUTIONALIZED POPULATION	FACILITY TYPE
62	Nursing facilities/Skilled-nursing facilities
16	Other noninstitutional facilities

Data Source: 2010 Decennial Census, Table PCT20

Table 20: Special Housing Inventory in Clark County, 2010

INSTITUTIONALIZED POPULATION	FACILITY TYPE
219	State prisons
727	Local jails and other municipal confinement facilities
4	Group homes for juveniles (non-correctional)
695	Nursing facilities/Skilled-nursing facilities
14	Hospitals with patients who have no usual home elsewhere
370	Emergency and transitional shelters (with sleeping facilities) for people experiencing homelessness
667	Group homes intended for adults
36	Residential treatment centers for adults
381	Workers' group living quarters and Job Corps centers
65	Other noninstitutional facilities

Data Source: 2010 Decennial Census, Table PCT20

Subsidized Housing

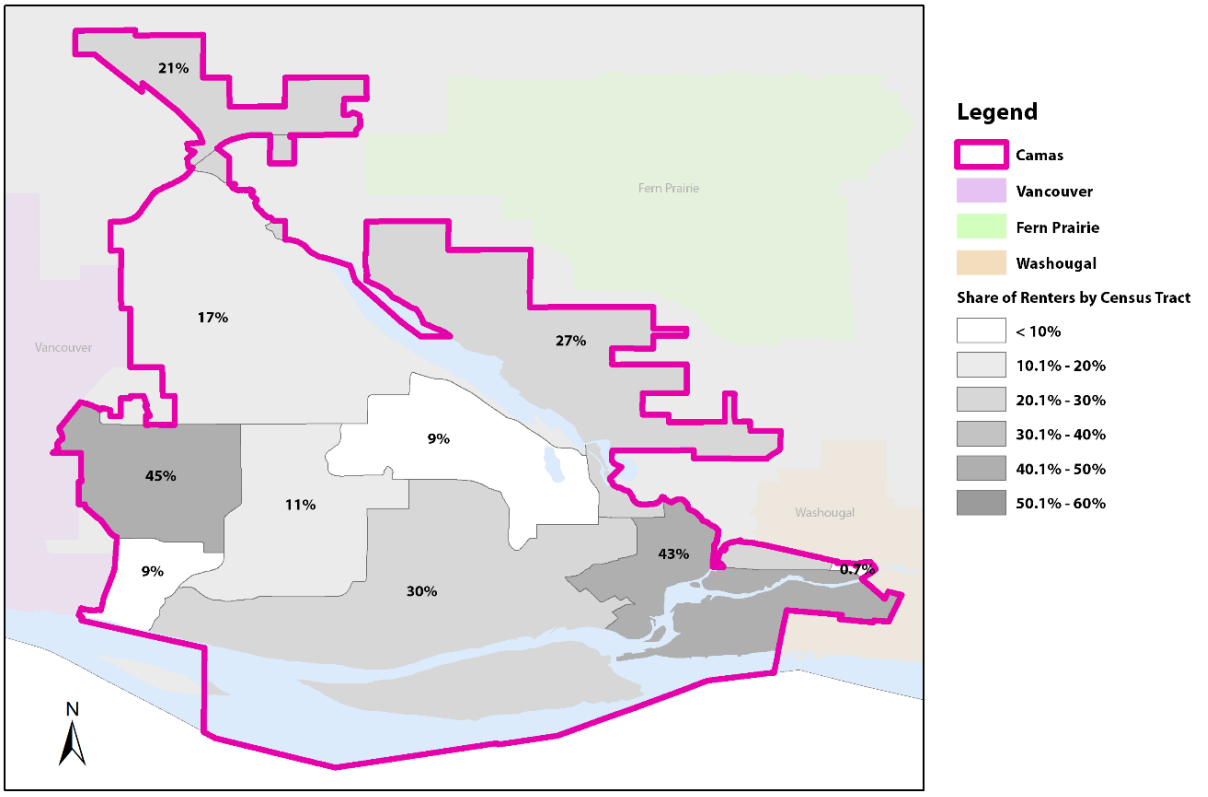
Camas also provides a small number of subsidized units for individuals earning low to moderate incomes in the city. Camas, which falls into the Portland-Vancouver-Hillsboro MSA, has an area median income of $74,700.[8] Therefore, subsidized housing serves households earning no more than 80% AMI, or $59,750, with many subsidized households typically earning low incomes (30 - 50% AMI) or very low incomes (30% AMI or less).

HUD "Picture of Subsidized Household" data indicates that Camas census tracts contain 92 subsidized units as of 2018: 67 housing choice vouchers and 25 project-based section 8 units. Both subsidized housing types are offered by the Vancouver Housing Authority (VHAUSA). VHAUSA manages 19 senior units at the Crown Villa Apartments, which were built in 1986. VHAUSA also offers project-based section 8 at its Camas Ridge development, which is a mixed-use project. HUD's LIHTC database does not indicate any LIHTC developments located in the city of Camas. The city's 92 subsidized units make up 1.1% of all housing units in Camas.

[8] HUD User. "FY 2017 Income Limits Documentation System." Accessed October 29, 2020. https://www.huduser.gov/portal/datasets/il/il2017/2017summary.odn

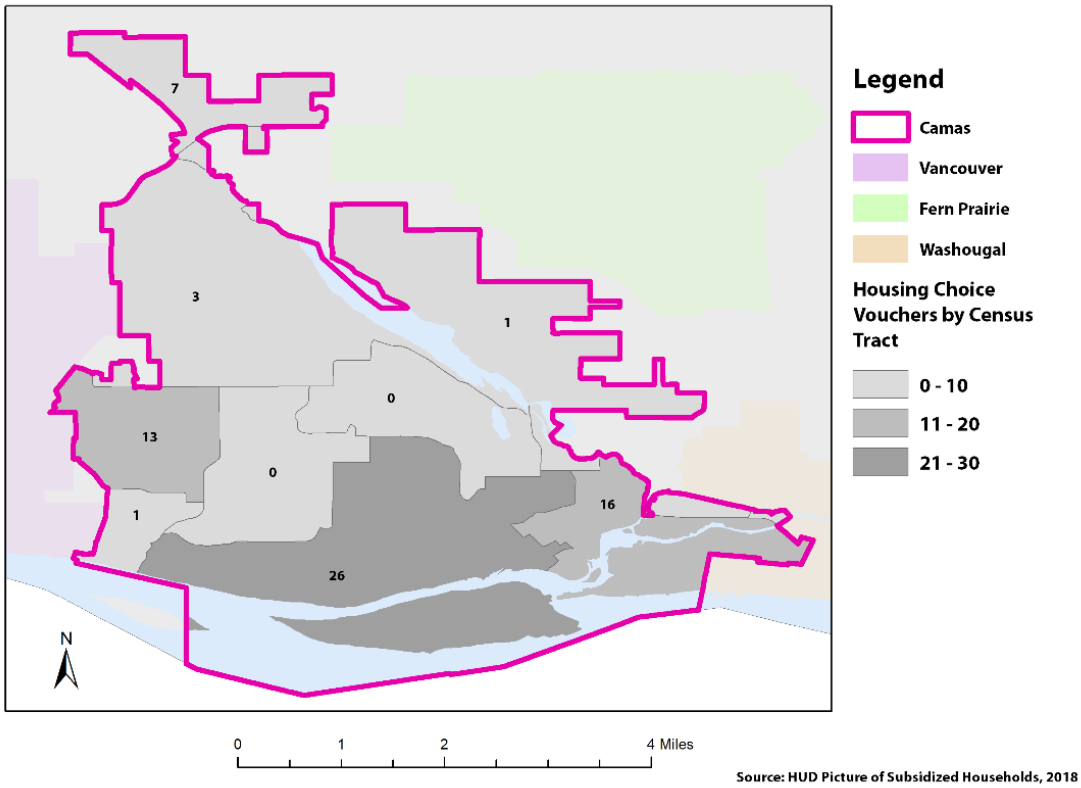
The distribution of vouchers and section 8 units is shown in the maps below. Vouchers and Project-based Section 8 units are predominantly found in census tracts with higher renter rates, such as downtown Camas and in western Camas along the Vancouver border. Since these tracts may be shared with adjacent cities, the numbers of subsidized units may be smaller than identified below.

Figure 51: Percentage of Renters in Camas, 2014-2018



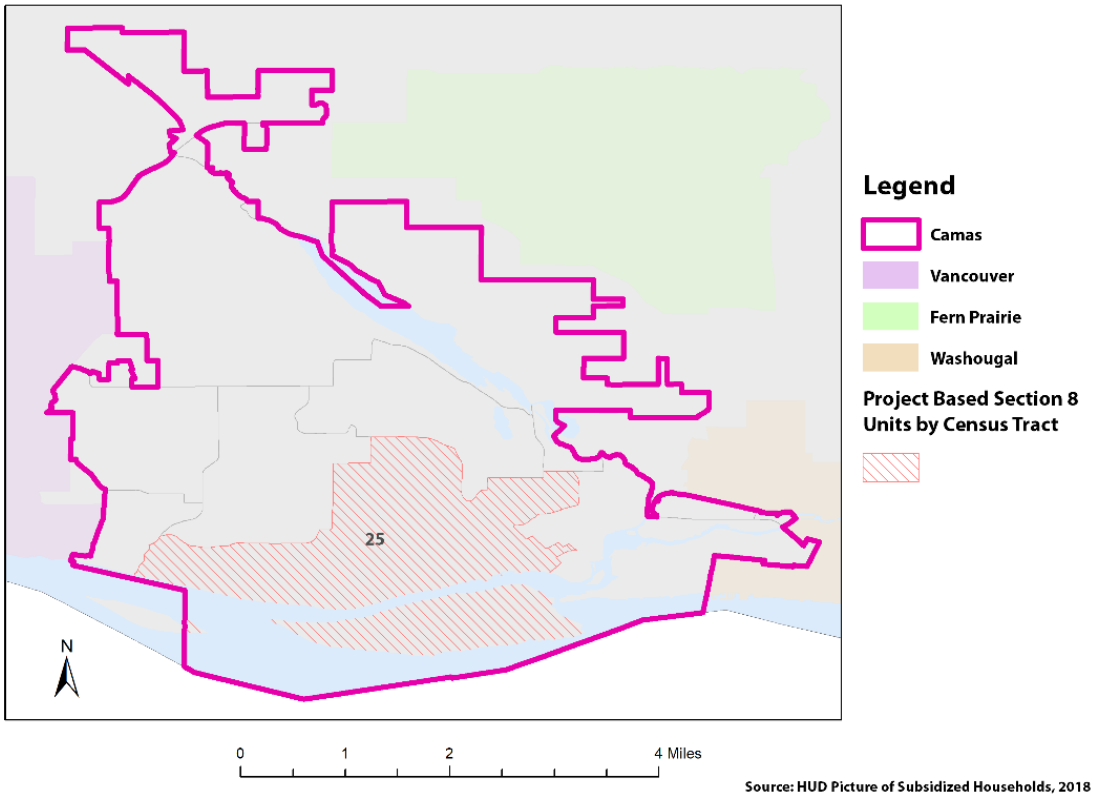
Source: 2014-2018 5-Year ACS Estimates, Table B25001

Figure 52: Housing Choice Vouchers in Camas, 2018



Source: HUD Picture of Subsidized Households, 2018

Figure 53: Project Based Section 8 Units in Camas, 2018



Source: HUD Picture of Subsidized Households, 2018

This page intentionally left blank.

Chapter 5:
Housing Needs



This chapter of the Housing Action Plan examines housing needs from two perspectives: first, existing housing needs by Camas households who face one or more housing problems such as affordability or overcrowding; and second, projected need for new housing units generated by population growth over the next 20 years.

Existing Housing Needs

Housing cost and condition are key components of housing need. Housing barriers may exist in a jurisdiction when some groups have greater difficulty accessing housing in good condition and that they can afford. To assess affordability and other types of housing needs, the U.S. Department of Housing and Urban Development (HUD) defines four housing problems:

1. A household is *cost burdened* if monthly housing costs (including mortgage payments, property taxes, insurance, and utilities for owners and rent and utilities for renters) exceed 30% of monthly income.
2. A household is *overcrowded* if there is more than one person per room, not including kitchen or bathrooms.
3. A housing unit *lacks complete kitchen facilities* if it lacks one or more of the following: cooking facilities, a refrigerator, or a sink with piped water.
4. A housing unit *lacks complete plumbing facilities* if it lacks one or more of the following: hot and cold piped water, a flush toilet, or a bathtub or shower.

HUD also defines four severe housing problems, including a severe cost burden (more than 50% of monthly housing income is spent on housing costs), severe overcrowding (more than 1.5 people per room, not including kitchens or bathrooms), lack of complete kitchen facilities (as described above), and lack of complete plumbing facilities (also as described above).

To assess housing need, HUD receives a special tabulation of data from the U. S. Census Bureau's American Community Survey that is largely not available through standard Census products. This data, known as Comprehensive Housing Affordability Strategy (CHAS) data, counts the number of households that fit certain combinations of HUD-specified criteria, such as housing needs by race and ethnicity.

Of the four types of housing problems, Table 17 illustrates that cost burdens affect far more households than any of the others. Over 40% of Camas renters spend more than 30% of their income on housing expenses, while about 14% spend more than 50% of their household income on these expenses. Other housing needs impact significantly fewer renters, less than 1% combined. Renters are about twice as likely to face a housing problem as homeowners, with 42.3% of renters having one or more housing needs compared to 21.0% of owners.

For homeowners, cost burdens and severe cost burdens are again the most common housing needs. About one-in-five owners in Camas spends more than 30% of their income on housing. A smaller share (6.4%) spends more than 50%. Overcrowding and a lack of complete plumbing or kitchen facilities are uncommon but impact around 75 homeowners (or about 1.3% of all Camas homeowners).

Overall, this data indicates that affordability is the key housing need for many in Camas, impacting nearly 2,000 households (1,135 owners and 785 renters).

Table 21: Estimated Housing Needs by Type in Camas, 2017

HOUSING NEED	OWNERS		RENTERS		TOTAL	
	HOUSE-HOLDS	SHARE OF TOTAL	HOUSE-HOLDS	SHARE OF TOTAL	HOUSE-HOLDS	SHARE OF TOTAL
Cost burden	1,135	19.9%	785	41.8%	1,920	25.3%
Severe cost burden	365	6.4%	270	14.4%	635	8.4%
Overcrowding	74	1.3%	14	0.7%	88	1.2%
Severe overcrowding	4	0.1%	10	0.5%	14	0.2%
Lacking complete facilities	15	0.3%	0	0.0%	15	0.2%
Total households with needs	1,200	21.0%	795	42.3%	1,995	26.3%
Total households	5,710	100.0%	795	100.0%	7,590	100.0%

Note: Households with a severe cost burden are a subset of households with a cost burden. Severely overcrowded households are a subset of overcrowded households. The number of total needs (i.e., sum of cost burdens, overcrowding, and lack of facilities) is greater than the total number of households with needs because some households have more than one of the housing problems.

Data Source: 2013-2017 Comprehensive Housing Affordability Strategy data, Tables 1, 3, 8, and 10, Retrieved from https://www.huduser.gov/portal/datasets/cp.html

To better understand how housing costs impact Camas households, Table 18 segments housing need by income level. This data shows that lower income households are heavily impacted by a lack of affordability. Of those with incomes under 30% of the median family income (MFI), four-out-of-five face difficulty finding suitable housing, including 90% of homeowners.

Affordability difficulties persist for the next two income levels (31-50% MFI and 51-80% MFI) as well, where more than one-half of households spend over 30% of income on housing.

At moderate and middle incomes (81-100% MFI and 101-120% MFI), housing needs are reduced for renters but remain high (around 38-48%) for homeowners. These figures suggest that while rental options are more limited, there are units available to moderate/middle income households and higher. Homeownership

opportunities, however, are more restricted even for households earning above the area's median income. These findings corroborate housing supply data related to home sales prices and permit data related to housing size.

Table 22: Estimated Housing Needs by Income Group in Camas, 2017

HOUSEHOLD INCOME	OWNER HOUSEHOLDS			RENTER HOUSEHOLDS			TOTAL HOUSEHOLDS		
	WITH NEEDS	TOTAL	SHARE WITH NEEDS	WITH NEEDS	TOTAL	SHARE WITH NEEDS	WITH NEEDS	TOTAL	SHARE WITH NEEDS
0-30% MFI	110	120	91.7%	170	225	75.6%	280	345	81.2%
31-50% MFI	115	220	52.3%	215	255	84.3%	330	475	69.5%
51-80% MFI	365	575	63.5%	335	590	56.8%	700	1,165	60.1%
81-100% MFI	175	360	48.6%	20	180	11.1%	195	540	36.1%
101-120% MFI	165	430	38.4%	30	185	16.2%	195	615	31.7%
120-140% MFI	95	405	23.5%	0	70	0.0%	95	475	20.0%
Over 140% MFI	175	3,600	4.9%	25	380	6.6%	200	3,980	5.0%

Note: Area Median Family Income ("MFI") is calculated by the U.S. Department of Housing and Urban Development (HUD) by household size. For the Portland-Vancouver-Hillsboro metro area (which includes Camas), the median income in 2017 was $74,700. For a four-person household, 30% AMI = $24,600, 50% AMI = $37,350, 80% AMI = $59,750, 120% AMI = $89,640, and 140% AMI = $104,580.

Data Source: 2013-2017 Comprehensive Housing Affordability Strategy data, Table 11, Retrieved from https://www.huduser.gov/portal/datasets/cp.html

A key question in housing affordability and equity is the prevalence of housing issues by householder race and ethnicity. Table 20 on the following page shows housing need rates by race and ethnicity in Camas.

For homeowners, this data shows that about one-fifth of white householders in Camas have a housing need, but that three other groups are more likely to have difficulty affording their homes. More than 90% of Native American or Alaska Native homeowners have a housing need, as do 41.4% of Hispanic or Latino homeowners and 36.0% of other or multiple race homeowners.

On the rental side, about two-out-of-five white and two-out-of-five other or multiple race households have a housing need. Only one group is more likely to face difficulty affording a place to rent – Asian or Pacific Islander households, of whom 88.2% have a housing problem. Notably, CHAS data counted no Black or African American households in Camas with a housing need, however, data indicates only a small number of Black households overall (60 total).

As some focus group participants discussed, prohibitively high housing costs are often more likely to impact households of color, meaning that elevated costs in Camas may impact the city's racial and ethnic composition. Housing need data

indicates that, particularly related to homeownership, racial and ethnic minority households, specifically Hispanics or Latinos and Native Americans or Alaska Natives, are more likely to spend more of their income to live in Camas than do white households.

Table 23: Estimated Housing Needs by Race and Ethnicity in Camas, 2017

HOUSEHOLDER RACE AND ETHNICITY	OWNER HOUSEHOLDS			RENTER HOUSEHOLDS			TOTAL HOUSEHOLDS		
	WITH NEEDS	TOTAL	SHARE WITH NEEDS	WITH NEEDS	TOTAL	SHARE WITH NEEDS	WITH NEEDS	TOTAL	SHARE WITH NEEDS
Non-Hispanic or Non-Latino									
White	1,010	4,900	20.6%	690	1,650	41.8%	1,700	6,550	26.0%
Black or African American	0	60	0.0%	0	0	0.0%	0	60	0.0%
Asian or Pacific Islander	44	434	10.1%	30	34	88.2%	74	468	15.8%
Native American or Alaska Native	39	43	90.7%	0	10	0.0%	39	53	73.6%
Other or Multiple Races	45	125	36.0%	25	55	45.5%	70	180	38.9%
Hispanic or Latino	60	145	41.4%	40	130	30.8%	100	275	36.4%

Data Source: 2013-2017 Comprehensive Housing Affordability Strategy data, Table 1, Retrieved from https://www.huduser.gov/portal/datasets/cp.html

Housing Need Projections

This section focuses on housing need over the next 20 years based on population growth forecasts for the city of Camas. While the previous data discussed existing needs related to affordability and other housing issues, here we turn to the need for development of new housing units through 2040.

Table 24 estimates the need for new housing units in Camas over the next 20 years, based on current population estimates from the Washington Office of Financial Management and projected population growth rates from the City's Comprehensive Plan, *Camas 2035.* The city's 2020 population of 25,140 residents is forecast to grow by 11,772 residents over the next 20 years, reaching about 36,912 residents by 2040. Assuming an average household size of about 2.7 people, this projected population growth translates to an additional 4,360 households by 2040. Finally, assuming a vacancy rate of 5% indicates projected need for 4,589 new housing units in Camas over the next 20 years, or an average of 229 housing units per year.

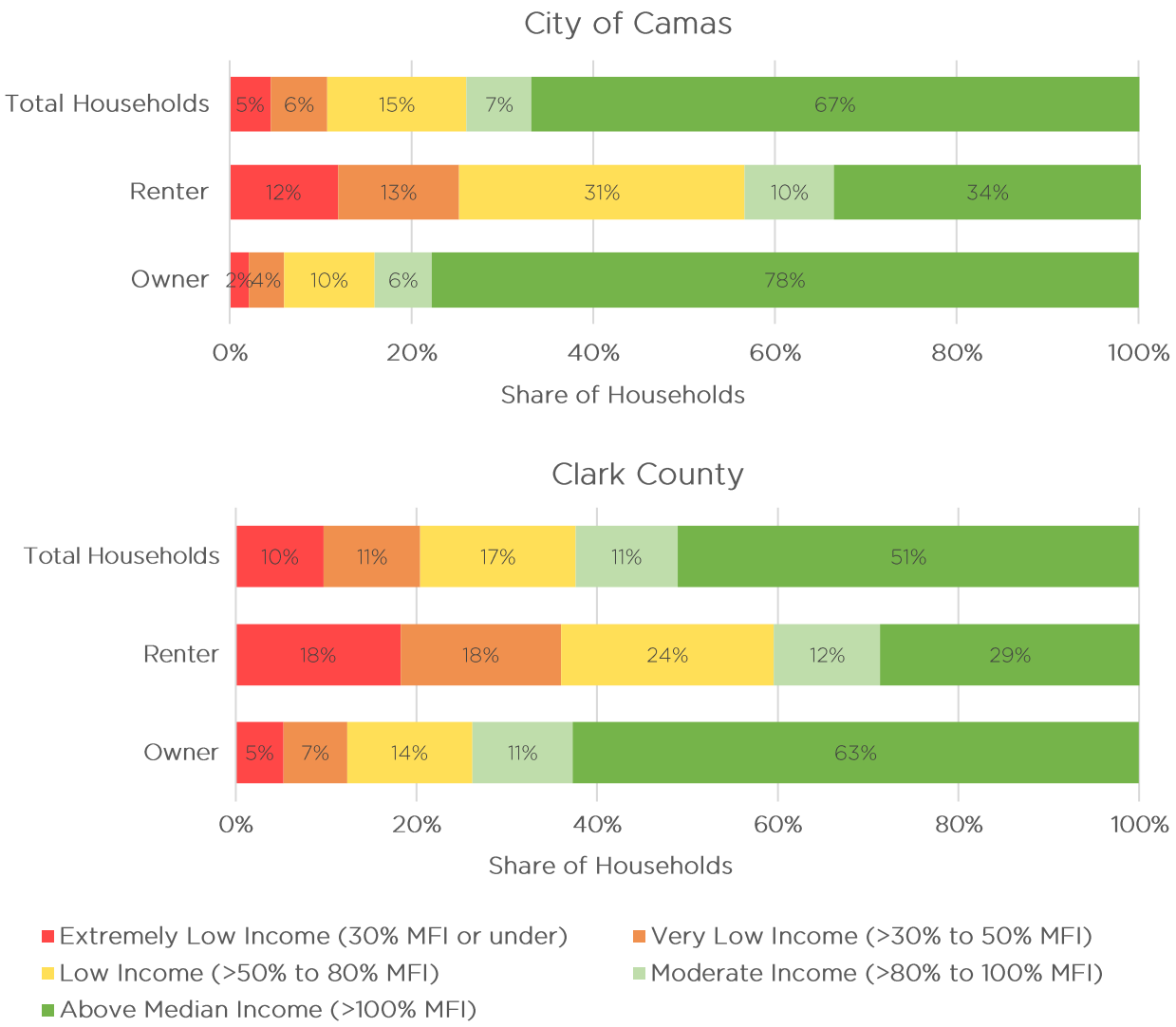
Table 24: Projected 20-Year Housing Need in City of Camas

2020 Population Estimate[1]	25,140 residents
2040 Population Projection[2]	36,912 residents
Projected Population Growth (2020-2040)	11,772 residents
Average Household Size[3]	2.7 people per household
Projected Household Growth (2020-2040)	4,360 households
Vacancy Rate Assumption[4]	5%
Projected Housing Units Needed (2020-2040)	**4,589 housing units**
Average Annual Housing Unit Production Needed	**229 housing units**

1. From State of Washington Office of Financial Management April 1, 2020 Population Estimates.
2. Projected growth rates based on population forecasts from *Camas 2035*, adopted June 2016.
3. Average household size in Clark County from 2015-2019 5-Year American Community Survey estimates. Average household size in Camas was 2.81 as of 2015-2019 5-Year ACS data, which represented a steady decline from 2.98 as of 2010-2014 5-Year ACS data. It is assumed that household size in Camas will continue to decline over the 20-year planning period to reach an average similar to that of the county.
4. From Washington State Department of Commerce's *Guidance for Developing a Housing Needs Assessment – Public Review Draft*, March 2020. The Department of Commerce considers a 5% vacancy rate to be the point where there is sufficient housing stock to allow space for people to move while maintaining a healthy level of competition in the market.

Comprehensive Housing Affordability Strategy (CHAS) data provides a breakdown of households in Camas and Clark County by income level that can be used to segment projected future housing needs. Figure 18 in Chapter 3 identified income levels for Camas households, which are presented again on the following page with a comparison to Clark County. As shown, Camas has proportionally fewer lower- and moderate-income households than Clark County. About one-third of Camas households have incomes under the median family income compared to about one-half of Clark County households with incomes under the median.

Figure 54: Share of Household by Income Level in Camas and Clark County, 2013-2017



Note: Area Median Family Income ("MFI") is calculated by the U.S. Department of Housing and Urban Development (HUD) by household size. For the Portland-Vancouver-Hillsboro metro area (which includes Camas), the median income in 2017 was $74,700. For a four-person household, 30% AMI = $24,600, 50% AMI = $37,350, 80% AMI = $59,750, 120% AMI = $89,640, and 140% AMI = $104,580.

Data Source: 2013-2017 Comprehensive Housing Affordability Strategy data, From https://www.huduser.gov/portal/datasets/cp.html

Table 25 segments projected future housing needs by household income level and tenure. Income level assumptions for projected future housing need are based on CHAS data for the city and county (shown in Figure 54) and assume that future housing development in Camas will allow for additional affordability for low- and moderate-income households beyond what is currently available. Segmentation by tenure is based on homeownership rates in Camas and Clark County by income level (also from CHAS data displayed in Figure 54).

As shown, the majority of projected future housing need in Camas (60% or 2,753 units) will be for units affordable to households with incomes at or above the area median family income. About 40% of projected future housing need will be for units affordable to households with low or moderate incomes, including a mix of rental and for-sale housing.

Table 25: Projected Future Housing Need by Income Level and Tenure

HOUSEHOLD INCOME BAND (MFI = MEDIAN FAMILY INCOME)	ASSUMED SHARE OF HOUSING NEED	20-YEAR HOUSING NEED		
		TOTAL	OWNER	RENTER
Extremely Low Income (30% MFI or under)	7%	321	112	209
Very Low Income (>30%-50% MFI)	8%	367	165	202
Low Income (>50%-80% MFI)	16%	734	367	367
Moderate Income (>80%-100% MFI)	9%	413	268	145
Above Median Income (>100% MFI)	60%	2,753	2,340	413
Total	**100%**	**4,589**	**3,254**	**1,335**

Data Source: Mosaic 20-Year Future Housing Need Projections; 2013-2017 Comprehensive Housing Affordability Strategy data, From https://www.huduser.gov/portal/datasets/cp.html

To accommodate the variety of new households anticipated, as well as to better serve existing households with difficultly affording their homes, Camas will need housing options diverse in type, tenure, and cost. The next section assesses the city's supply of vacant buildable land available to meet future housing need using Clark County's Vacant Buildable Lands Model.

Vacant Buildable Land

To assist the county and cities plan for population and job growth, Clark County maintains a Vacant Buildable Lands Model (VBLM) that analyzes potential capacity for residential, commercial, and industrial land development within urban growth areas. The VBLM identifies vacant and underutilized parcels and classifies them regarding suitability for development. Environmentally constrained land (including wetlands, land in the 100-year floodplain, slopes greater than 15 percent, designated shorelines, and other environmentally sensitive areas) are excluded. The residential model also excludes tax exempt parcels, lots under 5,000 square feet, and easements and right of ways.[9]

The VBLM applies planning assumptions to the inventory of vacant and underutilized land to estimate the potential for additional housing and employment. For residential land, the model assumes a deduction for infrastructure and for vacant, underutilized, and constrained land not expected to ever be developed to arrive at net developable acres. A "housing units per acre" standard is then applied to net developable residential acreage to estimate the potential capacity for new housing units. For Camas, the model assumes 6 housing units will be developed per net developable acre.

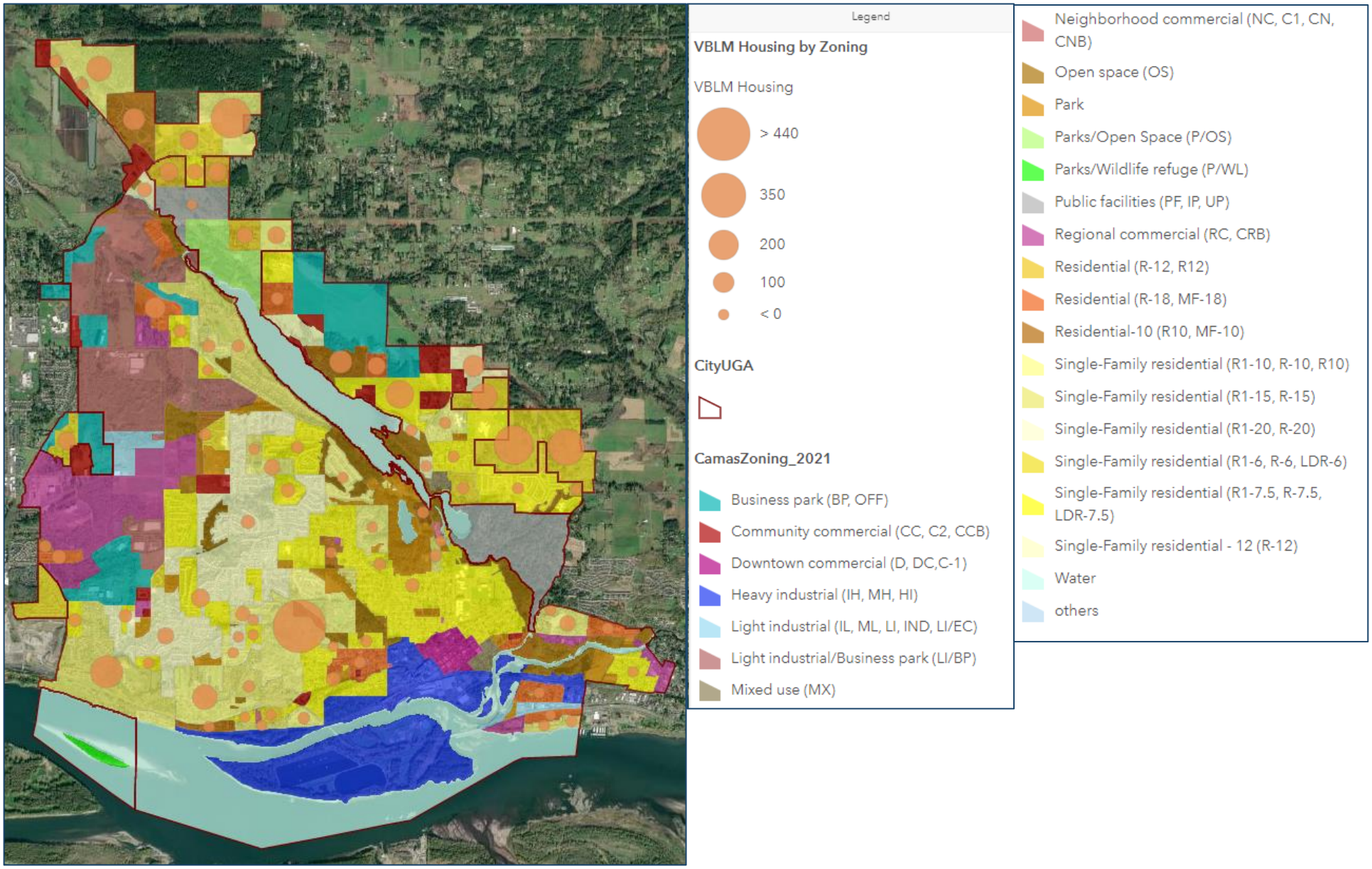
Figure 55 displays the VBLM for Camas, indicating areas of the city where vacant or underutilized residential land may support additional housing units. This model is currently under refinement by the City of Camas. City staff indicate that one area identified as having capacity for about 440 additional housing (along NW Forest Home Road) is not suitable for development due to topographical issues not captured in the VBLM.

The VBLM estimates that Camas has capacity for an additional 3,731 housing units (see Figure 55) in its urban growth area (UGA). The majority of this capacity is in single-family zoning districts (3,163 units or 84.8%), including 8.3% in low-density single-family districts (308 units), 52.3% in medium-density single-family districts (1,950 units), and 24.3% in high-density single-family districts (905 units). The VBLM estimates that vacant land zoned for multifamily housing has capacity for about 568 additional housing units.

Camas's projected future housing needs through 2040 indicate need for an additional 4,589 units. Comparing this figure to the VBLM's housing capacity estimate of about 3,731 to 4,171 units indicates that Camas may need to develop approaches to enhance residential capacity to best meet needs over the next 20 years. Strategies may include increasing average density above the 6 units/acre assumed by the VBLM or re-zoning commercial land for residential use, particularly for multifamily development. Both approaches are in keeping with recent development activity in Camas.

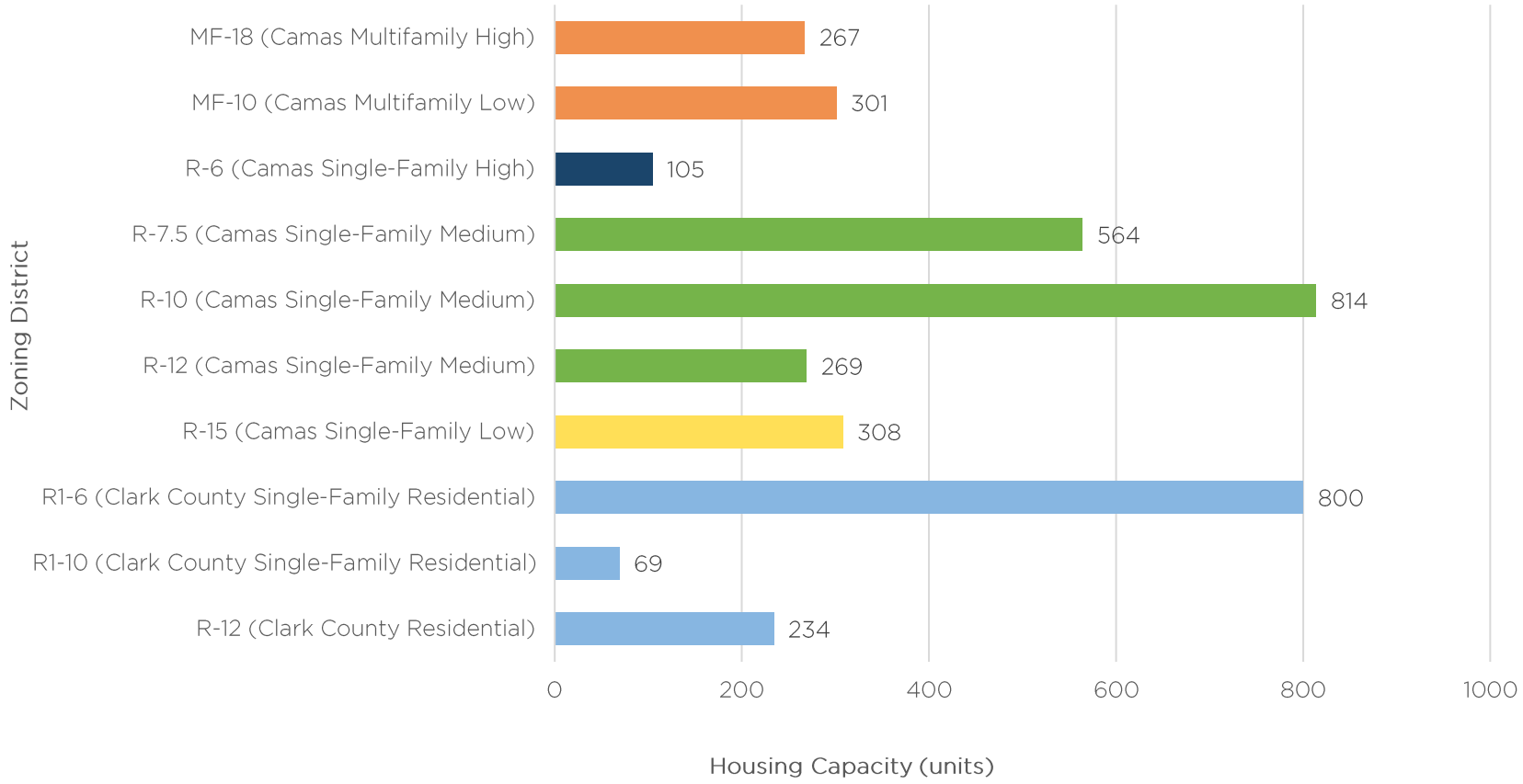
[9] Clark County, "Vacant Buildable Lands Model Methodology and Criteria." Retrieved from https://gis.clark.wa.gov//vblm/assets/VBLM.pdf.

Figure 55: City of Camas Housing Development Capacity on Vacant Buildable Land



Data Source: Clark County Vacant Buildable Land Model, From https://clarkcountywa.maps.arcgis.com/apps/opsdashboard/index.html#/782db6feb53d43ba8167036c1a0ab81b

Figure 56: Housing Development Capacity by Zoning District in the Camas Urban Growth Area

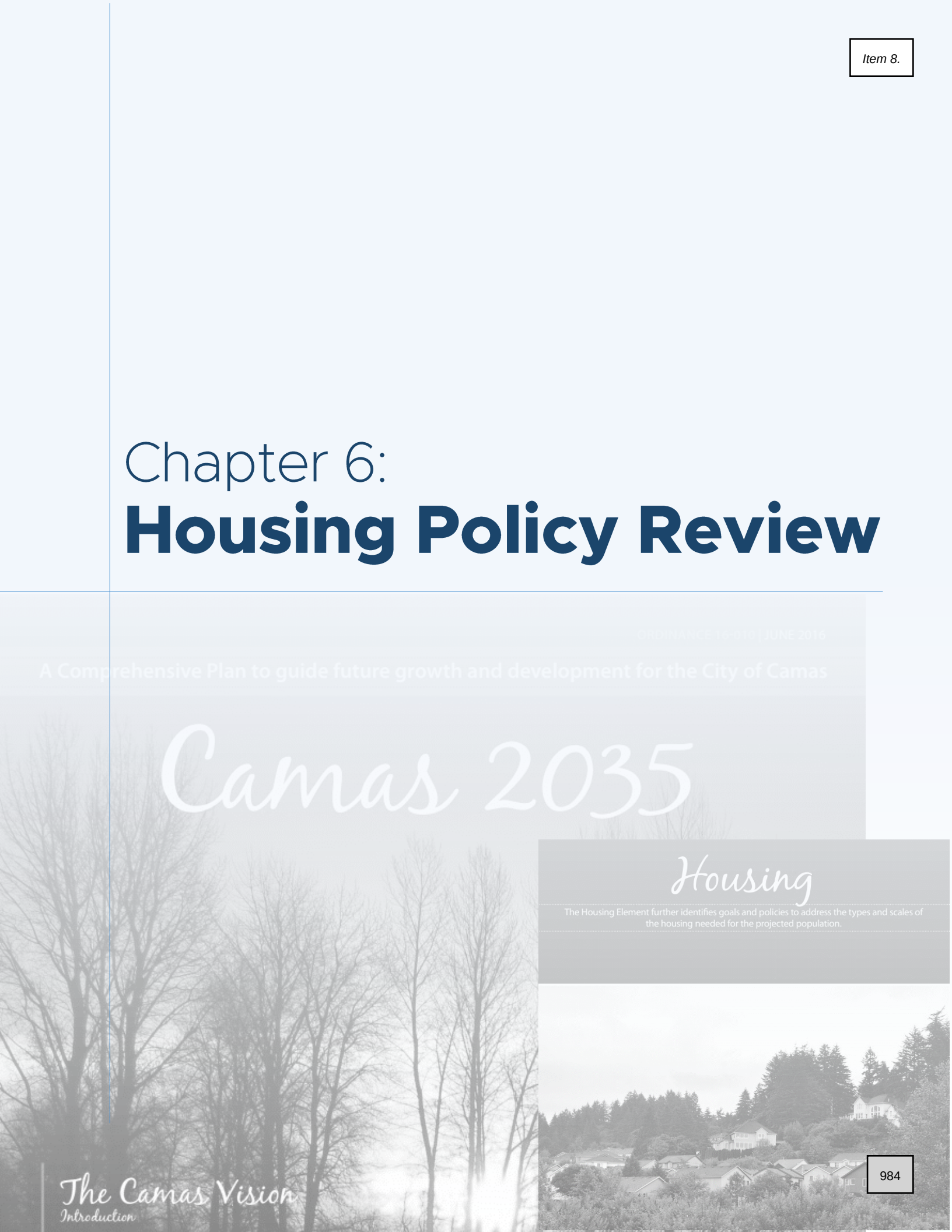


Note: Does not include housing capacity along NW Forest Home Road reported in the VBLM due to topography issues that preclude development there, as identified by City of Camas staff.

Data Source: Clark County Vacant Buildable Land Model, From https://clarkcountywa.maps.arcgis.com/apps/opsdashboard/index.html#/782db6feb53d43ba8167036c1a0ab81b

This page intentionally left blank.

Chapter 6:
Housing Policy Review



Comprehensive land use planning, as embodied in the Camas 2035 Comprehensive Plan, is a critical process by which communities address myriad public policy issues such as housing, transportation, health, recreation, environmental protection, commercial and retail services, and land values, and address how the interconnection and complexity of these issues can ultimately impact the entire municipality. "The land use decisions made by a community shape its very character – what it's like to walk through, what it's like to drive through, who lives in it, what kinds of jobs and businesses exist in it, how well the natural environment survives, and whether the community is an attractive one or an ugly one."[10] Likewise, state and local policy decisions regarding land use and zoning have a direct and profound impact on housing development approaches, shaping a community or region's potential diversity, growth, and opportunity for all. Local zoning codes determine where housing can be built, the type of housing that is allowed, and the amount and density of housing that can be provided. Zoning also can directly or indirectly affect the cost of developing housing, making it harder or easier to accommodate affordable housing.

Although comprehensive plans and zoning and land use codes play an important role in regulating the health and safety of the structural environment, overly restrictive codes can negatively impact housing affordability and the diversity of housing options within a jurisdiction. Conversely, these same regulatory tools can also be wielded to increase affordability and housing choice.

This chapter will review the various policies, plans, ordinances, and programs that influence housing development in Camas and evaluate the effectiveness of this overall housing policy framework in achieving the City's housing goals as expressed in the Camas 2035 Comprehensive Plan. To evaluate how well the policy framework is working, the goals set in the comprehensive plan's housing element will be compared with data and development trends originally presented in Chapter 4.

Housing Goals

Before the Camas 2035 Comprehensive Plan was adopted by the City in 2016, the community was engaged in a robust visioning process involving multiple vision summits, a public forum, resident surveys, and other opportunities for public participation. In developing the vision, residents were asked to project out 20 years into the future imagining Camas as they would wish it to be in 2035. While the entirety of the Camas 2035 plan is united under an overarching vision statement, the plan's housing element casts this specific vision for the City's future neighborhoods and housing:

[10] John M. Levy. Contemporary Urban Planning, Eighth Edition. Upper Saddle River, NJ: Pearson Prentice Hall, 2009.

In the year 2035, residents of Camas continue to appreciate their safe, diverse, and welcoming community. Those raised in Camas will return for family-wage jobs and to ultimately retire here. Camas is a well-planned and connected city where residents enjoy pedestrian and bicycle paths between neighborhoods and to downtown. There is a wide variety and range of housing for all ages and income levels.

The housing element goes on to identify housing needs and present an analysis of the City's housing supply. From there, the plan establishes a set of three housing goals designed to guide the City toward a future with a housing supply adequate for residents of all ages and income levels. Specifically, the three housing goals are these:

Citywide Housing Goal: Maintain the strength, vitality, and stability of all neighborhoods and promote the development of a variety of housing choices that meet the needs of all members of the community.

Affordable Housing Goal: Create a diversified housing stock that meets the needs of all economic segments of the community through new developments, preservation, and collaborative partnerships.

Senior and Special Needs Housing Goal: Encourage and support a variety of housing opportunities for those with special needs, particularly those with challenges relating to age, health, or disability.

Each of these three goals is accompanied in the Camas 2035 housing element by a list of policies intended to effectuate the related goal. As these three goals represent the community's vision for the future and have been formally adopted as City policy within the scope of the comprehensive plan, they set an important standard against which to measure actual trends in housing development. Is the City's overall housing policy framework helping the Camas community realize its vision? This is the question considered in the following sections of this chapter.

Housing Policy Framework

Housing development in Camas is shaped by a framework of interconnected state and local policies that, while not always formally linked together, frequently interact with one another. At a local level, these policies are primarily functions of the zoning code, design requirements, and housing and building codes, in conjunction with the comprehensive plan. At the state level, Washington's Growth Management Act (RCW 36.70A) imposes specific housing planning regulations on counties (including Clark County) that meet certain growth

management requirements and are considered by the Act to be "fully planning" counties. Within these counties, the Growth Management Act governs local comprehensive planning processes and establishes policy goals that encourage local governments to plan proactively for housing affordability and to promote a diverse mixture of housing types and sizes to accommodate the varied needs of residents. A further set of state-level housing planning expectations are contained in draft guidance issued by the Washington Department of Commerce for communities that choose to develop Housing Action Plans.

Considering the totality of this framework that guides housing planning and development in Camas, 12 specific housing policy items are reviewed here for their impact on housing within the City. These twelve items are primarily derived from the City's zoning code, but often are responsive to state planning requirements as well. In many cases, the local policies composing this framework are in substantial alignment with the recommended actions enumerated in the Growth Management Act and the Department of Commerce's Guidance for Developing a Housing Action Plan and likely represent affirmative steps toward achieving the Camas 2035 housing goals. Other policies reviewed as part of the framework are more likely to act as barriers to increasing construction of additional affordable and market rate housing in a greater variety of housing types and at prices that are accessible to a greater range of incomes. These policy items present opportunities for adjustments that may better advance the City's housing goals.

Policies Supportive of the City's Housing Goals

Multifamily Zones: In the multifamily (MF) zones, apartments as well as duplex/two-family homes, townhomes/rowhouses, single family detached homes, and designated manufactured homes are permitted by right when complying with lot and design guidelines. This allows for more housing variety within the MF zones. It is important that these uses are permitted by right, rather than having to go through the costlier and less predictable conditional use review process. In expensive housing markets like Camas, attached housing and multifamily housing is a key element to providing affordable rental or ownership housing because higher density increases the economical use of land and spreads out building infrastructure costs among the number of dwelling units. The multifamily zones require a minimum 6 units per acre (u/a), in line with the goal set by the Comprehensive Plan for residential uses. The maximum density is set as 10 u/a in the MF-10 zones, 18 u/a in the MF-18 zone, and 24 u/a in the MF-C overlay.

The permitted uses and lot standards including minimum lot areas (3,000 sq. ft. for MF-10, 2,100 sq. ft. for MF-18, and none for the MF-C overlay), lot dimensions, setbacks, and lot coverage are reasonable for accommodating greater housing supply and density. However, density may be limited by other design criteria including maximum height allowances of 3 stories/35 feet in MF-10, 4 stories/50 ft. in MF-18, and 1 story/18 ft. in the MF-C overlay. Additionally, a relatively small share of the City's vacant buildable land (about 13%) is currently zoned for

multifamily development, and a portion of that was recently acquired by the City for use as park space.

Multifamily Tax Exemption (MFTE): A multifamily tax exemption is a waiver of property taxes to encourage and incentivize affordable housing production and redevelopment in "residential targeted areas" designated by the city. State law (RCW 84.14) allows qualifying cities to grant developers of certain residential and mixed-use projects a property tax exemption (for eight or twelve years) on the value of new residential improvements, rehabilitation, or conversion of residential buildings in the designated areas. A 12-year exemption is allowed for projects that incorporate a minimum percentage (typically 20%) of income-restricted units. Camas adopted its MFTE program in December 2014, and currently designates three targeted areas: the Downtown District, the Northwest 6th Avenue Corridor District, and the Northeast 3rd Avenue District. The ordinance provides that to be eligible for 12-year tax abatements, applicants must commit to renting or selling at least 20% of units as affordable housing to low- and moderate-income households. Projects intended exclusively for owner occupancy may meet this standard through housing affordable to moderate-income households. As of January 2021, one property, the Clara Apartments at SW 6th Avenue, has qualified for the program. 2021 will be the first year the 30-unit development (with 6 affordable units) qualifies for the tax exemption.

Mixed Use Zones: The MX and DC (Downtown Commercial) districts provide opportunity for higher density residential uses in close proximity to commercial services, retail, offices and transit in a more compact design and efficient use of land. Currently, there are two MX districts which were added during the 2016 Comprehensive Plan update, though as of January 2021 neither had yet resulted in new housing units. Single family detached, supportive housing for persons with disabilities, duplex/2-family, and designated manufactured homes are permitted by right. Multifamily and rowhouses/ townhomes are conditional uses. The minimum lot size in the MX district is 1,800 sq. ft.; maximum density permitted is 24 units per acre; and there is no maximum height restriction. In the DC district, residential uses may be permitted outright if part of a mixed-use building and where the residential units are not located on the ground level; otherwise residential uses require conditional use approval. The zoning code does not prescribe minimum lot area or maximum density for residential uses or maximum building heights in the DC district, but developments are subject to review in accordance with the adopted Downtown Design Manual.

Planned Residential Developments (PRD) and Flexible Development: The zoning code establishes some development categories that allow more flexibility and efficiency in site design, uses, and density placement. A developer may seek PRD approval, on a minimum 10 acre parcel, in both the R and MF zones, and is a way to include more diversity of housing types and lot sizes in the typically large-lot, single-family detached zones of the city while maintaining and protecting open space for recreation and environmentally sensitive areas. In Camas, an approved PRD must include both single family detached lots (with a minimum 4,000 sq. ft.) and a multifamily component, which may contain either attached or detached single-family units on lots smaller than 4,000 sq. ft. or may contain a mix of duplexes, rowhouses, apartments, and designated manufacturing homes.

However, 50-75% of dwellings must be single-family detached units. City council may grant up to a 20% density bonus above the maximum allowed in the underlying zoning district. A flexible development approval is an alternative to the PRD. In a Flexible Development, the density of residential development may be increased in accordance with the City's Density Transfer Standards of the underlying zone, or, if in a multifamily zone, then standards may reflect those of the MF-18 zone (the highest density MF zone). Building heights may be increased by one story above the underlying zoning standard.

Short Plats: Camas has adopted a short plat process for subdivision development of a parcel up to nine lots, the maximum allowed under the Growth Management Act. Short plats may be administratively approved making for a more streamlined permit process instead of needing to go through a lengthier public and city council subdivision review process. This also can provide costs savings to the developer which ideally are passed to the homebuyer. The guidance encourages jurisdictions couple the short plat process other development regulations like cottage housing, small lot development, flexible development regulations, or zero lot line development to have the most impact on housing supply and housing diversity planning goals.

Lot Size Averaging: The dimensional and density standards in the R and MF zones include lot size averaging, along with a minimum and maximum lot size and minimum and maximum density allowance. Lot size averaging can be applied to infill development, short plats, and larger subdivisions and is not limited to Planned Residential (PRD) or cluster developments. This can allow for greater diversity of lot sizes and housing types within new housing developments as individual lots located within a development may be smaller than typically permitted, provided the average of all lots does not exceed the maximum allowed density. This also can lead to more efficiency in accommodating critical areas and unusually shaped parcels, the potential for more units, and may make the smaller lots a more affordable option within the development. It also decreases the likelihood of the developer having to seek costly variances for lots that deviate slightly from the minimum lot size requirement or to go through the additional review procedures typical of Planned Residential Developments (PRDs).

Accessory Dwelling Units: An accessory dwelling unit (ADU), attached or detached, that meets the zoning code's development standards is permitted by right in any zone that permits residential uses. The property owner must occupy either the principal or accessory dwelling and the accessory dwelling must not exceed 40% of the area of the primary dwelling's living area. The City will not impose a separate water system development charge for connection of accessory dwelling units to the city water system. There are some design requirements to protect the residential character and neighboring property owners, but the ADU ordinance is quite generous when compared to other jurisdictions and offers an alternative and low-impact form of affordable housing. ADUs may be helpful in providing new and more affordable housing options in neighborhoods that are already built out or where the planning goal is to maintain single-family character but more density. ADUs may address the housing needs of seniors, small families, and a range of incomes, including middle and low-income households.

Manufactured Housing: "Designated manufactured homes" (factory constructed with pitched roofs and exterior siding similar in appearance to conventional site-built IBC single-family residences and installed on a permanent foundation) are an alternative, typically more affordable housing product and are permitted by right on individual lots in all residential R and MF zones. The zoning code also makes provision for the siting of typical manufactured homes in manufactured home parks, dwellings built on a permanent chassis with or without a permanent foundation and complying with the National Manufactured Home Construction and Safety Standards Act of 1974, as a conditional use in the MF zones. As of March 2021, Camas permits "tiny homes" in manufactured home parks, in compliance with state laws (WA State Engrossed Substitute Senate Bill 5383, July 28, 2019). However, the City of Camas has only one manufactured home park and new manufactured home parks are only allowed as a conditional use in MF zones.

Housing for Persons with Disabilities: The zoning code regulations protect housing for persons with disabilities who require group living arrangements and/or onsite supportive services. Adult family homes, residential care facilities, supported living arrangements, and housing for the disabled are expressly permitted uses in all single-family Residential and MF districts. Adult family homes, group homes, and "housing for the disabled" (which does not have a specific definition in the zoning code) also are permitted uses in the mixed-use MX and downtown DC districts. The code does not impose spacing or dispersions requirements or additional zoning permits to site these types of supportive housing for persons with disabilities.

Policies that May Impede Housing Goals

Exclusionary zoning standards in the single-family R zones: Exclusionary zoning is understood to mean zoning regulations which impose unreasonable residential design regulations that are not congruent with the actual standards necessary to protect the health and safety of current average household sizes and prevent overcrowding. Zoning policies that impose barriers to housing development by making developable land and construction costlier than they are inherently can take different forms and may include: high minimum lot sizes, low density allowances, wide street frontages, large setbacks, low maximum building heights, restrictions against infill development, restrictions on the types of housing that may be constructed in certain residential zones, arbitrary or antiquated historic preservation standards, minimum off-street parking requirements, restrictions against residential conversions to multi-unit buildings, lengthy permitting processes, development impact fees. While Camas's zoning code permits smaller lots and some housing type diversity in some PRDs, multifamily, and mixed use zones, the vast majority of land is devoted to single-family detached dwellings, with development controls related to minimum lot sizes, density, setbacks, lot coverage, height restrictions, historical preservation, etc. that limit housing diversity, density, and socioeconomic integration within many desirable neighborhoods. Camas's zoning ordinance may be overly restrictive and exclusionary to the point of artificially limiting the affordable housing inventory and directly contributing to higher housing and rental costs. The allowed uses in

the single-family R zones are too restrictive. (Only single family detached housing and ADUs are permitted by right; duplex/2-family units are a conditional use; or duplex/2-family and apartments as part of an approved PRD.) The conditional use permit process for duplex/two-family units in the R zones adds artificial cost and uncertainty to development of these typically more affordable "missing middle" housing types and still excludes on the majority of residential land designations other small to modest-scale housing types that bridge the gap between detached single family homes and urban-scaled multifamily development like triplexes, townhouses, detached garden homes, cottage housing, courtyard apartments, and other small-scale apartment buildings.

Large minimum lot sizes and low density for majority of residential acreage: Camas's Comprehensive Plan and Plan Map show the majority of residential land use is designated for single family detached units with 4,913 acres of land in the city having a single-family zoning designation and single family uses comprising 48% of the land designations. Minimum lot sizes and maximum densities for the R zones range from 15,000 sq. ft. lots and 2.9 units per acre (u/a) in the low-density R-15 zone to 6,000 sq. ft. lots and 7.2 u/a in the high density R-6 zone. The medium density single family zones, which comprise the greatest share of the R zone acreage, include the R-12 district with a minimum lot size of 9,600 sq. ft. (12,000 sq. ft. average lot area) and maximum density of 3.6 u/a; the R-10 district with a minimum lot size of 8,000 sq. ft. (10,000 sq. ft. average lot area) and 4.3 u/a; and the R.7.5 district with a minimum lot size of 6,000 sq. ft. (7,500 sq. ft. average lot area) and 5.8 u/a density. Camas's Comprehensive Plan sets an overall average residential density of 6 u/a. Only the R-6 zone, which comprises less than 10% of the single-family land designation acreage, allows for the 6 u/a goal. Densities higher than 6 u/a are permitted (but not required) in the multifamily MF zones, which set minimum densities at 6 u/a. The zoning code does not mandate a required minimum livable floor space for dwelling units in the R zones, but the Land Development ordinance (Municipal Code 17.19.030) does provide a building envelope standard for single-family residential zones, finding "a suitable size and configuration generally includes a building envelope capable of siting a forty-foot by forty-foot square dwelling within the building envelope" or a minimum 1,600 sq. ft. one-story home.

Limited multifamily zoned land: Clark County's Vacant Buildable Land Model estimates that there are about 95 acres of developable multifamily-zoned land in the Camas UGA, making up about 13.6% of all developable residential land. However, the City recently acquired about 100 acres of multifamily-zoned land in the North Shore for use as park space. While much of this land would not be buildable due to environmental constraints, the VBLM indicates about 24 acres of potentially buildable multifamily land in that area. This acquisition thus reduces the availability of developable multifamily-zoned land in Camas to about 70 acres in locations throughout the city.

"Family" definition: While not directly related to housing development, a zoning code's definition of family can impact where groups of unrelated persons rightfully can live within a jurisdiction. Unreasonably restrictive definitions may limit the housing supply for nontraditional families and for persons with disabilities who reside together in congregate living situations. Camas's zoning

code limits the definition of "family" to persons related by blood or marriage, or two persons with functional disabilities, or not more than five unrelated persons. While this definition is consistent with state law and is not the most restrictive compared to other Washington jurisdictions, it neglects functionally equivalent relationships by adoption, foster care, or other legal guardianship connections, which is problematic under due process scrutiny. More progressive zoning and planning models define single family in terms of a "functional family" or "single housekeeping unit" sharing common space, meals, and household responsibilities, and/or leave maximum occupancy per dwelling as a matter of safety regulated by the building code rather than the zoning regulations.

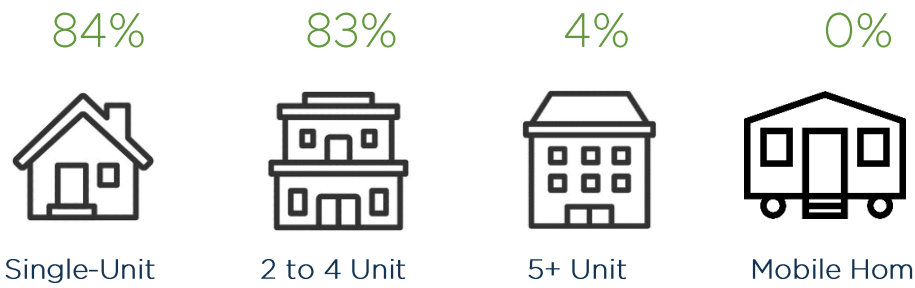
Progress Toward Housing Goals

Has the City's current housing policy framework been successful in advancing the housing goals? Are the current policies working? To answer these questions, this section will revisit the three housing goals from the Camas 2035 Comprehensive Plan in the context of an analysis of actual housing development activity to determine whether progress is being made toward the community's goals and future vision for housing in the city.

In the analysis of Camas's housing supply presented in Chapter 4, the data on units by structure type indicates that share of the city's housing stock comprised of detached single-unit structures increased from 85% in 2000 to 89% as of the 2014-2018 American Community Survey estimates. Duplexes, triplexes, and quadplexes as a group held a steady 5% share of the city's housing stock over this same period. The share of housing units in multifamily structures of five or more units decreased from 8% to 5% and the share of mobile homes decreased from 2% to 1%.

In raw numbers, the data on housing by structure type reveals that the number of duplexes, triplexes, and quadplexes did increase significantly between the 2000 Census count and the 2014-2018 ACS estimates, from 246 to 451 units (an increase of 83%). Given the city's rapid overall growth during this time period, that increase was only sufficient to keep pace; the share of the city's housing stock composed of these units remained an even 5%. The number of multifamily housing units in 5+ unit striuctures was virtually unchanged (See Table 6 and Figure 34).

Figure 57: Percent Increase by Housing Type: 2000 to 2018



Data Source: OFM "Adjusted Census 2000 Population and Housing by Type of Structure and Group Quarters for the State, Counties and Cities," Table 2, 2014-2018 5-Year ACS Estimates, Table DP04

While Census Bureau estimates do not reveal substantial additional multifamily development, very-recently-constructed units do include a mix of apartment and townhome developments, including Clara Apartments (32 units), Kielo at Grass Valley (276 units), Parker Village (60 units), and Terrace at River Oaks (120 units) (See Table 14). 2020 Census data and future American Community Survey 5-Year Estimates would expected to include these additional multifamily units as new data is released.

Another indicator, this one predating the development of the Camas 2035 plan, tracks local residential building permit data by square footage. Comparing the 2010 and 2015 permit data, the number of smaller dwellings (under 2,000 square feet) constructed in Camas declined from 23 to 14, a 39% drop (see Chapter 4, Figure 46). By 2020, only 4 units smaller than 2,000 square feet were permitted, making up just 2.1% of total permits. Between 2010 and 2015, new housing construction increased markedly for larger-sized homes. For those between 2,000 and 3,000 square feet, production increased by 84%; production of homes greater than 3,001 square feet increased by 66% between 2010 and 2015. Continuing to monitor the trends within this data will be a helpful metric for evaluating progress toward the City's housing goals into the future.

The data points considered in this section suggest that the City's current housing policy framework may not be sufficient to incentivize housing development of the type and scale that will achieve the community's vision. Each of the three housing goals established by the Camas 2035 plan are grounded to a large degree in advancing variety in the city's housing stock. This variety is expected to help the city meet the housing needs of a diverse community, including households facing affordability challenges and those with special needs who may require alternatives to the predominantly single-family detached dwellings that exist today.

Using variety as a gauge, the data reviewed here presents one positive finding: the component of the city's housing stock composed of 2-, 3-, and 4-unit structures has grown at generally the same pace as the housing stock as a whole.

That this important "middle housing" market segment is experiencing growth and not being outpaced by the addition single-family structures is significant. The policies and plans underpinning this factor should be preserved or enhanced where possible for the city to continue gaining ground.

Other than that bright spot, the remaining indicators generally point to a loss of variety among larger-scale multifamily structures containing 5 or more units and in smaller units of less than 1,999 square feet. While neither of these categories declined in absolute terms, both lost share within the overall housing stock, outpaced by more rapid construction of single-family structures and larger-sized dwellings.

This page intentionally left blank.

Chapter 7:
Housing Strategies



This chapter describes recommended strategies and implementation activities to expand housing supply, diversity, and affordability in Camas. Each strategy serves to advance one or more of the HAP goals outlined below.

Housing Action Plan Goals

Camas's Housing Action Plan responds to key housing needs and gaps identified through community engagement, analysis of current and future housing needs, demographic and housing market trends, and availability of vacant buildable land. Based on the findings outlined in Chapters 2 through 6, the planning team identified four overarching Housing Action Plan goals:

- **Develop Housing to Accommodate Growth.** Projections based on anticipated population growth indicate the need for about 4,590 additional housing units in Camas through 2040. In contrast, Clark County's Vacant Buildable Lands Model identifies capacity for an additional 3,730 housing units in Camas based on the City's current average of 6 dwelling units per acre. Thoughtful changes to Camas's zoning and development regulations can allow the City to better accommodate projected growth.

- **Diversify the Housing Mix.** Since 2010, development in Camas has trended toward larger, single-family homes. In 2020, 98% of units permitted were single-family homes over 2,000 square feet; most were over 3,000 square feet. Community input, demographic data, and housing need estimates indicate a need for more diverse housing options, including smaller homes and multifamily housing. A greater variety of housing types can better serve young families, small households, seniors, people with disabilities, and people with a greater variety of incomes. In considering smaller housing types, Camas will be deliberate about maintaining a safe pedestrian environment.

- **Increase Housing Affordability.** Most recent estimates show that for about 42% of renters and 20% of owners in Camas, housing is unaffordable. Young families, seniors, and people who work in Camas may have particular difficulty affording housing there. To an extent, diversifying the housing mix can assist in addressing affordability by offering smaller, less expensive housing types. To meet needs of households of all incomes, including lower- and moderate-income residents, however, more proactive approaches to encourage subsidized housing will be needed.

- **Preserve Existing Affordable Housing.** In addition to increasing the availability of affordable housing, Camas should adopt strategies to preserve its existing affordable housing and prevent displacement of residents. Community members noted particular concern for preservation of existing affordable housing, particularly smaller single-family properties, in older neighborhoods near downtown.

  Table 26 outlines housing strategies recommended for Camas, with each explored further in the next section.

Table 26: Housing Action Plan Strategies

STRATEGY	GOALS			
	DEVELOP HOUSING	DIVERSIFY HOUSING MIX	INCREASE HOUSING AFFORDABILITY	PRESERVE AFFORDABLE HOUSING
Strategy 1: Expand housing opportunity in mixed use and downtown commercial districts	♦	♦		
Strategy 2: Consider making targeted rezones during Comprehensive Plan updates	♦			
Strategy 3: Diversify allowed housing types and update related lot and dimensional standards	♦	♦	♦	
Strategy 4: Focus on key areas with residential development or redevelopment potential. Expand more mixed-use areas throughout the city.	♦	♦		
Strategy 5: Continue community conversations around housing and housing for all	♦	♦	♦	♦
Strategy 6: Communicate available affordable housing resources			♦	
Strategy 7: Build partnerships to develop and preserve affordable housing for individuals, families, and seniors. Explore expansion of the MFTE program.			♦	♦
Strategy 8: Explore funding source and cost reduction options for affordable housing	♦	♦	♦	♦

Housing Action Plan Strategies

Upzoning Strategies

Upzoning refers to zoning code modifications that allow denser land uses in existing zoning districts to increase the buildable capacity of land. This is distinct from, but related to rezoning, which can achieve the same effect by changing the zoning classification of land to one that carries higher density standards. Upzoning can be achieved in a variety of ways, including increasing the minimum and/or maximum density allowed in a district, reducing or eliminating minimum lot sizes, reducing setback requirements, raising building height maximums, and allowing denser uses such as multifamily in single-family zones. The Washington Department of Commerce describes upzoning as a regulatory tool with particular utility in communities with "a deficit of development capacity relative to ongoing population growth, minimal activity in areas desired for development or redevelopment, or a lack of residential development near public infrastructure."[11] In isolation, upzoning can lead to increased property values and the intrinsic luxury development and displacement that can accompany it; however, as one of a variety of tools applied together, upzoning can be effective in leveraging a greater housing supply from development activity that is or would have occurred anyway.

The Case for Upzoning in Camas

Camas is growing steadily, and development sites are in demand. By making incremental increases to the minimum density required or otherwise small changes to allow options for greater density and different housing types, the City will increase its housing supply and diversity with only minimal modifications to the established character of residential zones. The increased supply will be produced by market forces, without requiring investment on the City's part beyond the infrastructure and public amenities Camas already offers. Higher densities will make more efficient use of the City's infrastructure investments.

Application of the upzoning recommendations described here may be made across-the-board for the entire city by changing the standards for existing zoning districts so that all property in a particular zoning district is subject to an amended set of standards. Alternatively, the City could approach upzoning by outright rezoning certain areas, perhaps large tracts of vacant land and/or nodes of a more urban character, to a higher density zoning classification. Under the former approach, the upzoning will affect more property owners but is achieved through a less administratively rigorous process (amending zoning district

[11] Washington State Department of Commerce. (June 2020). Guidance for Developing a Housing Action Plan-Public Review Draft. www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/planning-for-housing/.

standards) compared to the latter approach which, while more targeted, introduces the complexities of rezoning.

The greatest and most immediate impact will be achieved by applying upzoning recommendations to vacant land, areas that are harder to develop, or large lots that could accommodate being subdivided. Rezoning or amending zoning standards for established or built-out neighborhoods may not have an immediate effect on housing supply but can incrementally lead to some moderate densification over time as lots are redeveloped. While unlikely to significantly affect the City's housing supply in the near term, the utility of such a gradual tool should not be overlooked. As the city is increasingly built out, redevelopment of sites will likely become more common and upzoning established neighborhoods creates an outlet to keep development pressure from overheating the market.

Best Practices for Implementing Upzoning Policies

The Washington State Department of Commerce produced a draft guidebook in 2020 containing strategies to help Washington communities promote housing diversity and affordability through their Housing Action Plans.[12] Several of the strategies described in that guidance relate to upzoning and related tools. The best practices and considerations below are adapted from the Department of Commerce's guidebook.

- Increasing residential density makes more efficient use of existing public infrastructure; therefore, prime candidates for upzoning are neighborhoods rich in amenities such as parks and greenspace, public transportation access, commercial and retail nodes, and other place-based investments.
- The best opportunities for significant impact lie in the application of upzoning to vacant tracts of land which will have the direct effect of increasing the number of housing units produced when the property is developed thereby accommodating population growth within denser, more compact areas.
- Upzoning may increase property value and encourage development of parcels that otherwise would not have been profitable to build out. For this reason, upzoning may create an indirect incentive that can potentially be tied into affordability requirements, such as those that may be imposed under an inclusionary housing policy. Upzoning should therefore be considered in tandem with any program of affordability requirements.
- The City should be clear with residents about the intent behind any upzoning strategies it intends to implement and should carefully communicate the need for the change and how it will benefit the city and its strategic goals. It may be helpful to highlight for the public standards that are not changing (e.g. design standards, height limits, open space requirements) and how those standards will continue to ensure compatibility of denser housing development within the existing community.

[12] Ibid.

Strategy 1: Expand Housing Opportunity in Mixed Use and Downtown Commercial Districts

The City's Downtown Commercial and Mixed Use (DC and MX) districts offer some unique and nuanced opportunities to support housing density and diversity. Through some modest changes to the authorized uses in these zones, these areas, which currently offer some of the City's highest-density and most flexible land use conditions, can potentially be made more attractive for developers looking to add various housing types into their developments.

The City includes 3+ unit attached single-family uses (such as rowhouses or townhomes) in the same classification as apartments in the use table for these two zones. By breaking this out and regulating it separately from apartment and other multifamily uses, greater flexibility is added to both the DC and MX districts. In the MX district, multifamily and rowhouse-type development is currently a conditional use; Camas can allow rowhouses by right while keeping apartment development a conditional us, given the City Code's other conditions which guide development here. Similarly, in the DC district, the City can retain some modified conditions on apartment uses while opening up opportunity for 2- and 3-family dwelling types by allowing them as of right.

One key regulatory condition applied in the City's DC zone is a requirement that multifamily residential uses must be part of a mixed use building that contains no ground-level residential units in order to be permitted by right. In a commercial-focused area, the focus on ground-level retail is an important one, but the City may consider relaxing the requirement such that ground floor residential on side streets is allowed.



Rowhouses
(from Sightline Missing Middle Homes Photo Library, https://www.flickr.com/people/sightline_middle_housing/)

Table 27: Proposed Changes to Authorized Uses in DC and MX Zones

RESIDENTIAL USES	CURRENT USES		PROPOSED USES	
	DC	MX	DC	MX
Adult family home, residential care facility, supported living arrangement, or housing for the disabled	P	P	P	P
Apartments	C/P*	C	C/P†	C
Assisted living	P	P	P	P
Designated manufactured homes	X	P	X	P
Duplex or two-family dwelling	C/P*	P	P	P
Residential attached housing for three or more units, e.g. rowhouses (currently grouped into the "apartments" use category)	--	--	P	P
Single-family dwelling (detached)	X	P	X	P
Cottage housing (new use designation)	--	--	X	P

* Residential uses may be outright permitted if part of a mixed use building, where residential use is not located on the ground level; otherwise it shall be a conditional use.

† Residential uses may be outright permitted if part of a mixed use building, where residential use is not located on the ground level *along the primary street frontage*; otherwise it shall be a conditional use.

Strategy 2: Consider Making Targeted Rezones during Comprehensive Plan Updates

Washington's Growth Management Act encourages cities to authorize a minimum net density of six dwelling units per acre (u/a) in all residential zones, where the residential development capacity will increase within the city. Currently, Camas sets its Comprehensive Plan goal for an average residential density of 6 u/a, but most of the designated residential land is currently zoned for a lower minimum to maximum density (dwelling units/net acre) range requirement because 48% of the city's land designation is within one of the single-family R designations. The city does not require new single-family developments to meet a minimum density, however there is a minimum unit requirement of 6 u/a in multifamily zones.

The table that follows includes all the residential zoning districts in the city and the current range of unit per acres. The highlighted zones represent the greatest percentage of city's land area that is designated for residential uses (70% overall) and do not achieve a 6 u/a minimum or average. In addition, the R-10, R-7.5, and R-6 zones have a greater share of vacant undeveloped land and underdeveloped lands compared to all other residential zones.

To achieve desired residential densities, the City of Camas can consider opportunities to selectively rezone parcels in strategic locations (urban nodes, vacant land, industrial lands) to a higher density zoning district during Comprehensive Plan updates. Ideally, rezones would reflect that the built density in the area is higher than the current zoning classification. Rezones could also focus on areas that are relatively undeveloped or underdeveloped or for focused redevelopment (e.g., mill property).

Table 28: Minimum and Maximum Densities and Residential Land in Camas's Residential Zoning Districts

ZONING DISTRICT	CURRENT DENSITY		RESIDENTIAL LAND	
	MIN	MAX	ACRES	% OF TOTAL
R-15	2-3 u/a*	2.9 u/a	716.3	15%
R-12	3-4 u/a*	3.6 u/a	925.4	19%
R-10	4-5 u/a*	4.3 u/a	989.3	20%
R-7.5	5-6 u/a*	5.8 u/a	1,534.3	31%
R-6	6-7 u/a*	7.2 u/a	191.1	4%
MF-18	6 u/a	18 u/a	312.2	6%
MF-10	6 u/a	10 u/a	245.9	5%
MF-C	6 u/a	24 u/a	0.0	0%

* In these zones, minimum density is not mandatory. Maximum density is mandatory in all zones. The current requirement is to achieve an **average** lot size for the new development.

Note: Zoning districts highlighted in yellow represent the greatest percentage of city's land area that is designated for residential uses (70% overall).

Strategy 3: Diversify Allowed Housing Types and Update Related Lot and Dimensional Standards

Since adoption of Camas's zoning code, innovative housing types not contemplated by Camas's regulations have gained more traction and popularity in other jurisdictions for providing greater housing choice and affordability: tiny homes, cottage developments, stacked flat condominiums, courtyard apartments, and cluster developments. These housing types could be added to the permitted use tables and permitted by right in any residential zone where they would comply with the density and dimensional standards.

In addition to allowing cottage housing by right in residential zones, the City should consider allowing duplexes and 3+ unit attached housing types (such as triplexes, rowhouses, and townhomes) by right in any residential zone. If these types meet the density, dimensional, and any other design standards applicable

to the zoning district, they should be allowed without a conditional use permit in order to incorporate greater variety into the City's housing stock.

Note that these housing types are typically prohibited within existing platted subdivisions and by homeowner associations. Meaning that if supported, then a further analysis on the potential effectiveness of this strategy would include a review of available vacant parcels and vacant infill lots that are unencumbered by an HOA.





Cottage Clusters in Shoreline (L) and Kirkland, WA (R)







Duplex and Triplex Housing
(from Sightline Missing Middle Homes Photo Library, https://www.flickr.com/people/sightline_middle_housing/)

Changing from conditional use to permitted use can translate to substantial building cost savings and more predictability for developers. Currently, planning fees for a residential conditional use permit start at $3,360 + $103 per unit, in addition to all the development and impact fee calculations.

Table 29: Proposed Changes to Authorized Uses in Residential and Multifamily Zones

RESIDENTIAL USES	CURRENT USES		PROPOSED USES	
	R	MF	R	MF
Adult family home, residential care facility, supported living arrangement, or housing for the disabled	P	P	P	P
Apartments	P*	P	P*	P
Assisted living	C	P	C	P
Designated manufactured homes	P	P	P	P
Duplex or two-family dwelling	C	P	P	P
Manufactured home	X	X	X	X
Manufactured home park	X	C	X	C
Nursing, rest, convalescent, retirement home	C	P	C	P
Residential attached housing for three or more units (e.g., rowhouses)	X/P*	P	P	P
Single-family dwelling (detached)	P	P	P	P
Cottage housing	X	P**	P	P

*Permitted in the R zones as part of a planned development only.

**Cottage housing is currently permitted as a zoning overlay in MF zones.

Recent state legislative updates require tiny homes and recreational vehicles to be permitted uses in manufactured home parks and allow local jurisdictions more flexibility to authorize them in other zones. This year Camas amended the development code to allow tiny homes within manufactured home parks, however they may consider including permitting provisions for tiny homes outside a 5-acre manufactured home community. Low-cost, low-impact tiny homes, especially in a cluster or "village" around common open space, should not require a minimum 5-acre parcel like MHPs or large minimum lot sizes, and could be incorporated into the traditionally single-family R zones and the MF zones. Camas could also consider relaxing the restriction on manufactured homes only being allowed in approved manufactured home parks, especially as an affordable way to site an ADU.

Where alternative housing types are authorized, the City also may consider reducing the off-street parking requirements as lower-income, generation Z, senior, and non-traditional single-family development households have been shown to have lower rates of car ownership. A parking study by a certified transportation planner or engineer may demonstrate that fewer off-street

parking spaces are needed than currently required. In addition to assessing actual parking needs, any such parking study should consider potential impacts to pedestrian safety and adjacent street congestion.

The Growth Management Act encourages cities to "create one or more zoning districts of medium density in which individual lots may be no larger than three thousand five hundred square feet and single-family residences may be no larger than one thousand two hundred square feet."[13] Lots this size are allowed under the current multifamily and mixed-use districts, but not in any medium-density single-family district. Providing such an option can make more feasible the development of more housing stock and more affordable housing types like small lot detached homes, zero lot line developments, cottage homes, townhomes/rowhouses, duplexes, triplexes, and other similar housing types compatible in scale and impact with single-family detached housing. As Camas allows new housing types, the City should update corresponding lot and dimension standards to ensure consistency.

In addition to updating lot and dimensional standards, the City should also consider updating its design standards manual to codify residential design requirements. This approach would allow for an administrative approval process for residential designs.

Rezoning and Focused Planning Efforts

Strategy 4: Focus on Key Areas with Residential Development or Redevelopment Potential. Expand More Mixed-Use Areas throughout the City.

Rezoning to a higher density would provide more flexibility and allow for greater housing diversity citywide, in particular it would support downtown housing. However, as Figure 55 (in Chapter 5 of the Housing Action Plan) shows, much of Camas's residential capacity is on larger tracts of vacant or partially-vacant land north of Lacamas Lake. To achieve a desired mix of housing types, the City should evaluate key areas with residential development or redevelopment potential and consider possible rezoning opportunities, including possible rezoning to allow more mixed-use areas and more multifamily development by right.

Looking at the North Shore area as an example, the area includes many of the city's remaining large tracts of vacant land. At least one third of land in the North Shore is considered "vacant critical" and development opportunity is limited in these environmentally sensitive areas. To preserve this land, the City recently acquired about 100 acres in that area, including some residentially-zoned land, for use as park space. While this land will not be available for residential

[13] RCW 36.70A.600(1)(m)

development, there are a few smaller, adjacent parcels with housing potential. Additionally, nearby land currently zoned as a business park may have potential for some housing development. The City should evaluate these areas and consider how updated residential zoning designations and permitted uses outlined in Strategies 2 and 3 will impact housing potential or if rezoning certain sites would better allow the city to attract desired housing types.

The City should take a similar approach for other development or redevelopment areas in Camas, such as the industrial property that is currently owned by the Georgia-Pacific mill, to identify potential planning or rezoning efforts that would best encourage development of housing to meet current and future needs.

Communicating Housing as a Priority

Community input shows a variety of viewpoints among City of Camas residents, from those that see greater housing diversity and affordability as a crucial goal to those that see no need for additional residential development, particularly apartment or affordable housing development, in the city. In implementing this Housing Action Plan, the City of Camas should also work to communicate its housing planning priorities and build understanding around the benefits of housing that meets the needs of all residents.

Strategy 5: Continue Community Conversations around Housing and Housing for All

The City of Camas should develop community conversations that last beyond this project. To date, the Housing Action Plan engaged thousands of Camas residents through the project website, social media, and readership in the newspaper and school bulletins. However, continued communication is needed.

The Housing Action Plan builds on goals established in the City's Comprehensive Plan, including to:

- Promote development of a variety of housing choices that meet the needs of all members of the community;
- Create a diversified housing stock that meets the needs of all economic segments of the community through new development, preservation, and collaborative partnerships; and
- Encourage and support a variety of housing opportunities for those with special needs.

To achieve these goals and implement strategies outlined in this HAP, efforts to build understanding around housing diversity and affordability will be important. The City should foster inclusive community conversations that connect housing to other issues, such as economic vitality, jobs, schools, and transportation. The

City should focus on communicating a "housing for all" perspective and exploring connections between community values and housing. These conversations could be led by the City's library and communications teams to ensure that the topic of housing is viewed wholistically.

During the public engagement process, for example, Camas residents describe the city as a great place to live, with good schools, safe neighborhoods, and access to Portland and the airport. The city's small-town atmosphere and its charming downtown provide rich and beloved character. Other features enjoyed by residents include the city's natural landscape, its trails, and its sports activities. Residents want housing that reflects a variety of stages of life, including for college students and single adults. They express a desire for entry level homes and housing that enables seniors to age in place. There is some interest in apartments or condos, particularly in downtown, and some residents desire more unique housing products and developments serving a greater range of incomes, including low- and moderate-income residents.

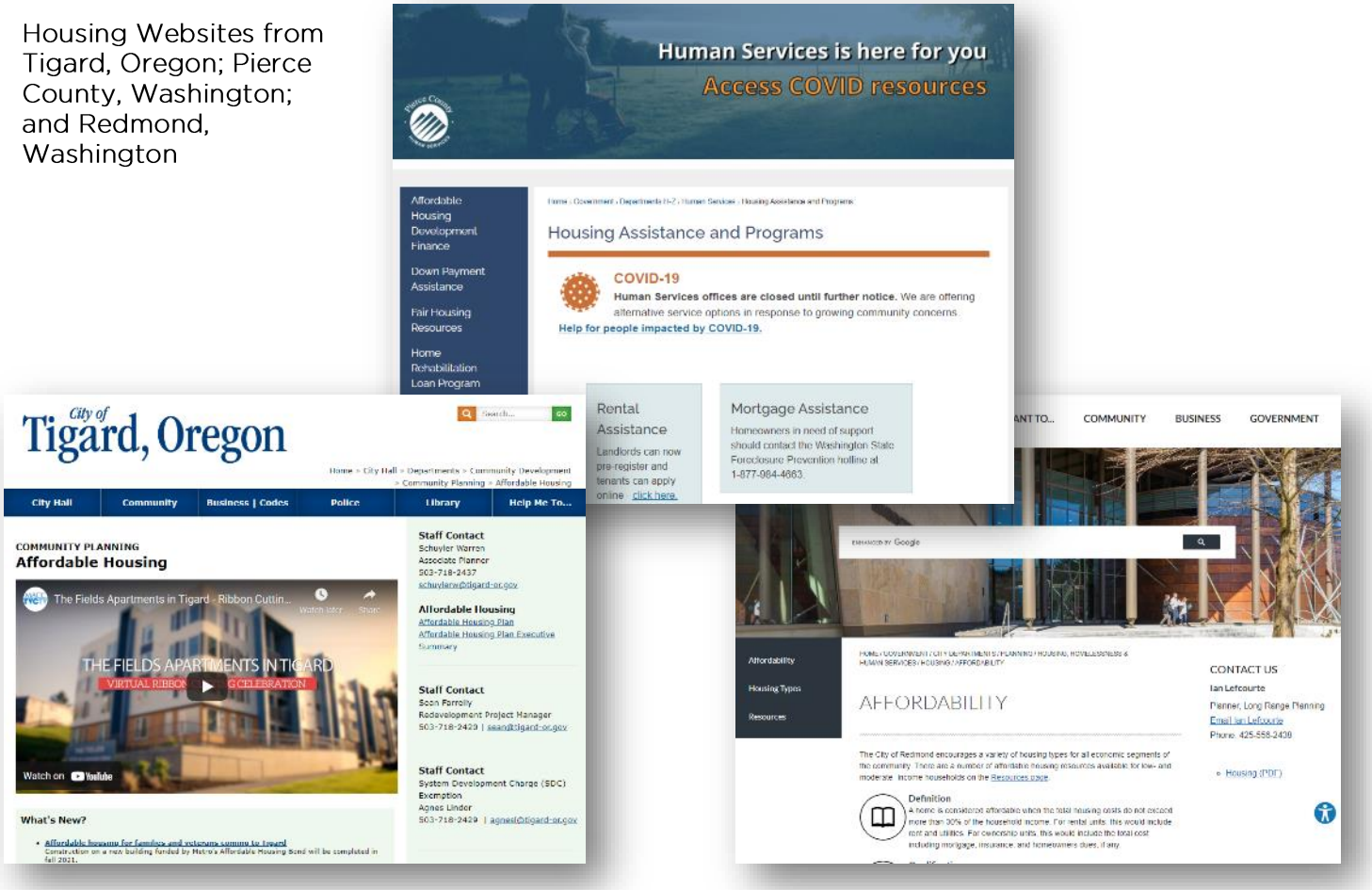
The City can build on these ideas in future public engagement, including those related to HAP implementation or other planning efforts.

Strategy 6: Communicate Housing Resources and Opportunities

To communicate that housing affordability is important to the City of Camas and to inform residents and housing professionals about the availability of housing resources, Camas should develop a page on the City's website dedicated to housing. This page could share information about the current supply of affordable housing in the city, including Camas Ridge and Crown Villa Apartments, with links to the Vancouver Housing Authority. It could also provide information about first time homebuyer assistance available through the Washington State Housing Finance Commission's down payment assistance program, Proud Ground (when assistance is available in Clark County), and others. Camas could also consider hosting a home buyer education event through the Washington State Housing Finance Commission or other partner and advertising it on this page.

In addition to information for households, the City should also advertise resources available for housing developers, landlords, and other housing industry professionals, such as the City's Multifamily Tax Exemption and any other potential incentives.

Housing Websites from Tigard, Oregon; Pierce County, Washington; and Redmond, Washington



Developing Partnerships

Strategy 7: Build Partnerships to Develop and Preserve Affordable Housing for Individuals, Families, and Seniors. Explore Expansion of the MFTE Program.

Nationally, the Low Income Housing Tax Credit (LIHTC) program is the primary source of subsidy for development of new affordable housing. The LIHTC program makes available an indirect federal subsidy for investors in affordable rental housing, ultimately offsetting a portion of the development cost. As a condition of the LIHTC subsidy received, the resulting housing must meet certain affordability conditions. The Internal Revenue Service allocates LIHTCs annually to each state's housing finance agency, which then awards them on a competitive basis to project applicants within the state.

At present there are no LIHTC developments in Camas. However, the City of Camas should build capacity to build connections with LIHTC developers and the

Washington State Housing Finance Commission (WSHFC). The City could annually review the WSHFC's Qualified Allocation Plan (QAP) and work proactively to promote any city sites with scoring advantages to prospective developers. If the City inventoried available parcels and identified those that would be high scorers under the QAP, the City could directly, or through a real estate broker, market these sites to LIHTC developers. This reduces the time and expense developers put into scouting sites and communicates Camas's commitment to bringing in LIHTC housing. In doing this, the City could also focus on attracting LIHTC developers for senior properties, if desired.

Similarly, the City should continue to develop its relationship with the Vancouver Housing Authority to identify roles Camas can play in creating new affordable housing in the city and preserving existing VHA-owned or managed units.

Within this strategy (and in combination with Strategy 6), Camas could also explore the possibility of expanding its Multifamily Tax Exemption program. The City should continue to communicate that program to developers.

Developing Funding Resources

Strategy 8: Explore Funding Source and Cost Reduction Options for Affordable Housing

Periodically, state and/or the federal governments create opportunities for cities and counties to support affordable housing development and retention. This strategy encourages the city to pursue and implement a funding source or combination of sources, as it/they become available.

Possible funding sources may include proceeds from an affordable housing sales tax, loans or grants from the Washington State Housing Trust Fund, or Clark County's Community Development Block Grant (CDBG) or HOME Investment Partnership programs. CDBG funds, for example, may be used to support infrastructure development associated with affordable housing development or improve living conditions in existing low- and moderate-income neighborhoods.

Additionally, if Camas adopts an inclusionary housing policy with an in-lieu fee option, those fees can serve as source of funding for the activities listed above.

Exploring potential funding options may better support opportunities for affordable housing, such as:

- Incenting desired developments (such as affordable housing, senior housing, accessible housing, or other types identified by the City);
- Providing down payment assistance to first time buyers; and
- Helping income-eligible or senior homeowners make needed housing repairs to remain in their homes.

In addition to exploring funding sources for affordable housing, the City of Camas could also explore the possibility of restructuring the City's impact fees to reflect the size of residential structures. The current impact fee system charges the same rate for any single-family residence, regardless of size. For example, a 4,000 square foot single-family home would have the same impact fee as a 1,000 square foot home. Restructuring the impact fee system to a tiered approach based on size has the potential to reduce costs and enhance affordability of smaller, single-family properties. The City could also consider opportunities to reduce costs for existing low- and moderate-income and/or senior homeowners.

City of Camas

Housing Action Plan

APPENDIX

June 2021



Appendix A:
Implementation Plan

Camas's Housing Action Plan (HAP) outlines eight strategies for making advancements towards the City's housing goals over the next several years. For each strategy, implementation will require additional research, analysis, and refinement by City staff. Potential suggested policy or regulation changes based on HAP strategies would then be presented to the Camas Planning Commission for consideration and to City Council for approval and adoption.

The City of Camas Community Development Department develops an annual Work Plan that will incorporate HAP strategies for further research, analysis, and potential implementation. The table below suggests potential next steps, timeframe, partners, and outcome measurements for each strategy. This table is intended to guide Work Plan development but should be used flexibly as implementation of the HAP and planning needs in the Camas evolve.

Table A-1: Suggested Housing Action Plan Strategy Implementation Plan

STRATEGY	START TIMEFRAME	RESPONSIBLE PARTY & POTENTIAL PARTNERS	PROGRESS MEASUREMENTS
STRATEGY #1			
Expand housing opportunity in mixed use and downtown commercial districts	2021	• Planning Division Staff • Planning Commission	• Adoption of zoning amendment • Annual tracking of housing units permitted by type
Suggested Next Steps:	• Consider drafting a zoning code amendment revising the Authorized Use table to allow duplex and 3+ unit attached single-family housing (triplexes, quads, and rowhouses) by right in DC and MX districts and modifying conditions on the permitting of multifamily uses to allow ground-floor residential use on side streets. • Present draft zoning code amendment to Planning Commission for consideration and to City Council for approval and adoption.		
STRATEGY #2			
Consider making targeted rezones during Comprehensive Plan updates	2021/ Ongoing	• Planning Division Staff • Planning Commission	• Adoption of amended zoning map • Share of residential land by zoning district
Suggested Next Steps:	• Identify strategic locations (such as urban nodes, vacant land, and industrial lands) where rezoning may be needed to achieve desired residential mix/density or to reflect a built density that is higher than the current zoning classification. • Research and analyze potential benefits and impacts of rezoning in these areas to determine if rezoning is recommended. • If recommended, draft amended zoning map for consideration by Planning Commission and City Council during Comprehensive Plan updates.		
STRATEGY #3			
Diversify allowed housing types and update related lot and dimensional standards	2022	• Planning Division Staff • Planning Commission	• Adoption of zoning amendment • Annual tracking of housing units permitted by type
Suggested Next Steps:	• Consider drafting a zoning code amendment revising the Authorized Use table to allow cottage housing, duplexes, triplexes, quads, and rowhouses by right in all R zoning districts. Consider whether additional uses should be created (e.g., courtyard apartments, cluster developments) and add to Authorized use table as appropriate. Update minimum and maximum lot dimension standards to be consistent with new housing types. • Consider contracting with a transportation planner or engineer for a study of parking requirements to determine where and/or if off-street parking requirements can be reduced in some areas or for some housing types, and to evaluate alternative means for meeting parking requirements. • Consider updating the City's design standards manual to codify residential design requirements to allow for an administrative approval process for residential designs. • Present draft zoning code amendments and/or amended design standards manual to Planning Commission for consideration and to City Council for approval and adoption.		

STRATEGY	START TIMEFRAME	RESPONSIBLE PARTY & POTENTIAL PARTNERS	PROGRESS MEASUREMENTS
STRATEGY #4			
Strategy 4: Focus on key areas with residential development or redevelopment potential. Expand more mixed-use areas throughout the city.	2021/ Ongoing	• Planning Division Staff • Planning Commission	• Share of residential land by zoning district, including availability of land for mixed-use and multifamily development
Suggested Next Steps:	• Identify strategic locations (such as urban nodes, vacant land, and industrial lands) with residential development or redevelopment potential. • Analyze and evaluate the impact of updated residential zoning designations and permitted uses outlined in Strategies 2 and 3. Assess whether rezoning certain sites would better allow the city to attract desired housing types. Consider opportunities for increasing availability of land for mixed-use and multifamily development. Consider developing sub-area plans for key development/ redevelopment areas.		
STRATEGY #5			
Strategy 5: Continue community conversations around housing and housing for all	2022/ Ongoing	• Planning Division Staff • Communications Staff • Camas Public Library • Elected Officials • Community Organizations • Business Community	• Number of activities and number of persons engaged
Suggested Next Steps:	• Explore and develop avenues for continuing community conversations about housing, housing for all, and housing's connections to economic vitality, jobs, schools, and transportation. Such possible avenues include the Camas Public Library, City website and social media, and collaboration with community organizations.		
STRATEGY #6			
Strategy 6: Communicate available affordable housing resources	2022/ Ongoing	• Planning Division Staff • Communications Staff	• Number of website visitors • Number of inquiries about the City's MFTE or other incentives • Number of affordable housing units built
Suggested Next Steps:	• Develop a page on the City of Camas website dedicated to housing. This page could share information about the current supply of affordable housing in the city and about first time homebuyer assistance available through the Washington State Housing Finance Commission's down payment assistance program and others. • Advertise resources available for housing developers, landlords, and other housing industry professionals, such as the City's Multifamily Tax Exemption (MFTE) and any other potential incentives.		

STRATEGY	START TIMEFRAME	RESPONSIBLE PARTY & POTENTIAL PARTNERS	PROGRESS MEASUREMENTS
STRATEGY #7			
Strategy 7: Build partnerships to develop and preserve affordable housing for individuals, families, and seniors. Explore expansion of the MFTE program.	2023/ Ongoing	• Planning Division Staff • Planning Commission • Communications Staff • Development Community	• Number of developer outreach efforts • Number of inquiries about the City's MFTE or other incentives • Number of affordable housing units built
Suggested Next Steps:	• Review the Washington State Housing Finance Commission's (WSHFC's) Qualified Allocation Plan (QAP) for Low Income Housing Tax Credits (LIHTC). • Develop an outreach strategy to prospective LIHTC, including but not limited to the Vancouver Housing Authority, and developers of affordable housing or other housing types desired by the City of Camas. • Explore the possibility of expanding the City's Multifamily Tax Exemption (MFTE) program. If recommended, present to Planning Commission for consideration and to City Council for approval and adoption.		
STRATEGY #8			
Strategy 8: Explore funding source and cost reduction options for affordable housing	2022/ Ongoing	• Planning Division Staff • Planning Commission	• Adoption of a revised impact fee structure • Number of affordable housing units built or preserved
Suggested Next Steps:	• Develop a strategy for identifying and tracking potential funding opportunities for affordable housing development or retention. As possible opportunities become available, evaluate suitability in Camas and, if an opportunity is recommended by staff, present to Planning Commission and City Council for consideration. • Explore the possibility of restructuring the City's impact fees to reflect the size of residential structures. If this approach is recommended by staff, develop a revised structure for presentation to Planning Commission and City Council. • Consider opportunities to reduce costs for existing low- and moderate-income and/or senior homeowners.		

Appendix B:
Survey Results

This page intentionally left blank.

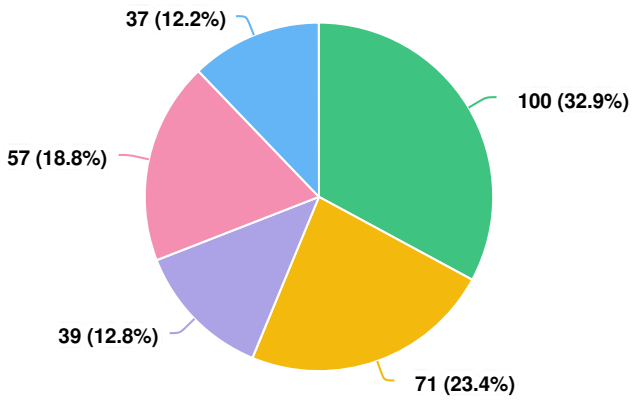
Camas Housing Survey

SURVEY RESPONSE REPORT
13 August 2020 - 22 June 2021

PROJECT NAME:
Your Housing Ideas

SURVEY QUESTIONS

Q1 How satisfied are you with the housing options currently available in Camas?

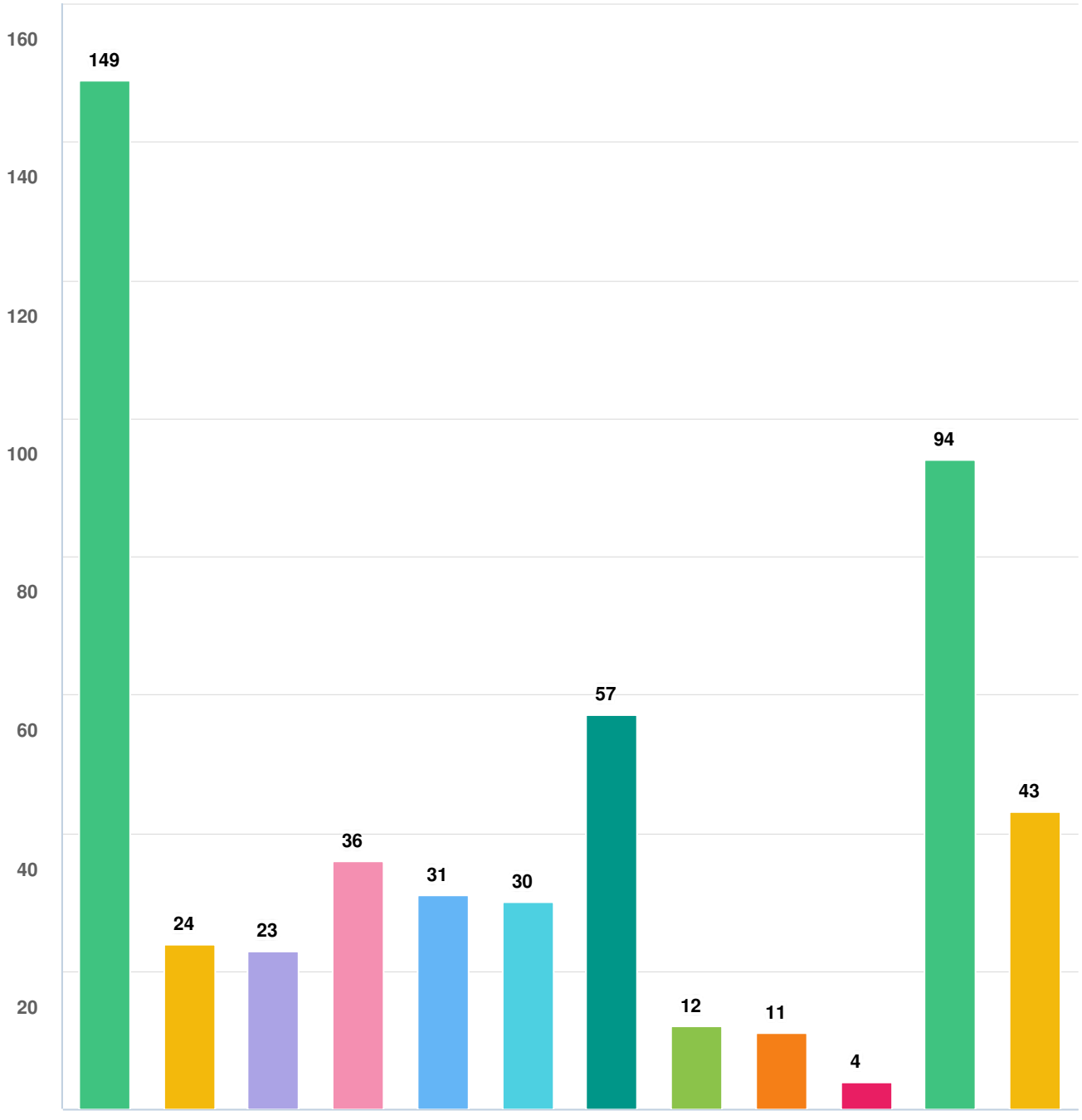


Question options

Very Satisfied | Somewhat Satisfied | Neither Satisfied nor Dissatisfied | Somewhat Dissatisfied | Very Dissatisfied

Optional question (304 response(s), 3 skipped)
Question type: Radio Button Question

Q2 Which factors most limit the housing choices available to you in Camas? Select up to three.



Question options

Cost
Location (too far from work, school, or other destinations)
Too small for my needs
Too large for my needs
Too few units available for sale
Too few units available for rent
Lacking desired amenities (outdoor space, parking, etc.)
Units are not accessible to persons with disabilities
Difficulty qualifying for a mortgage loan
Difficulty qualifying for a lease
None of these factors limit my housing choices
Other (please specify)

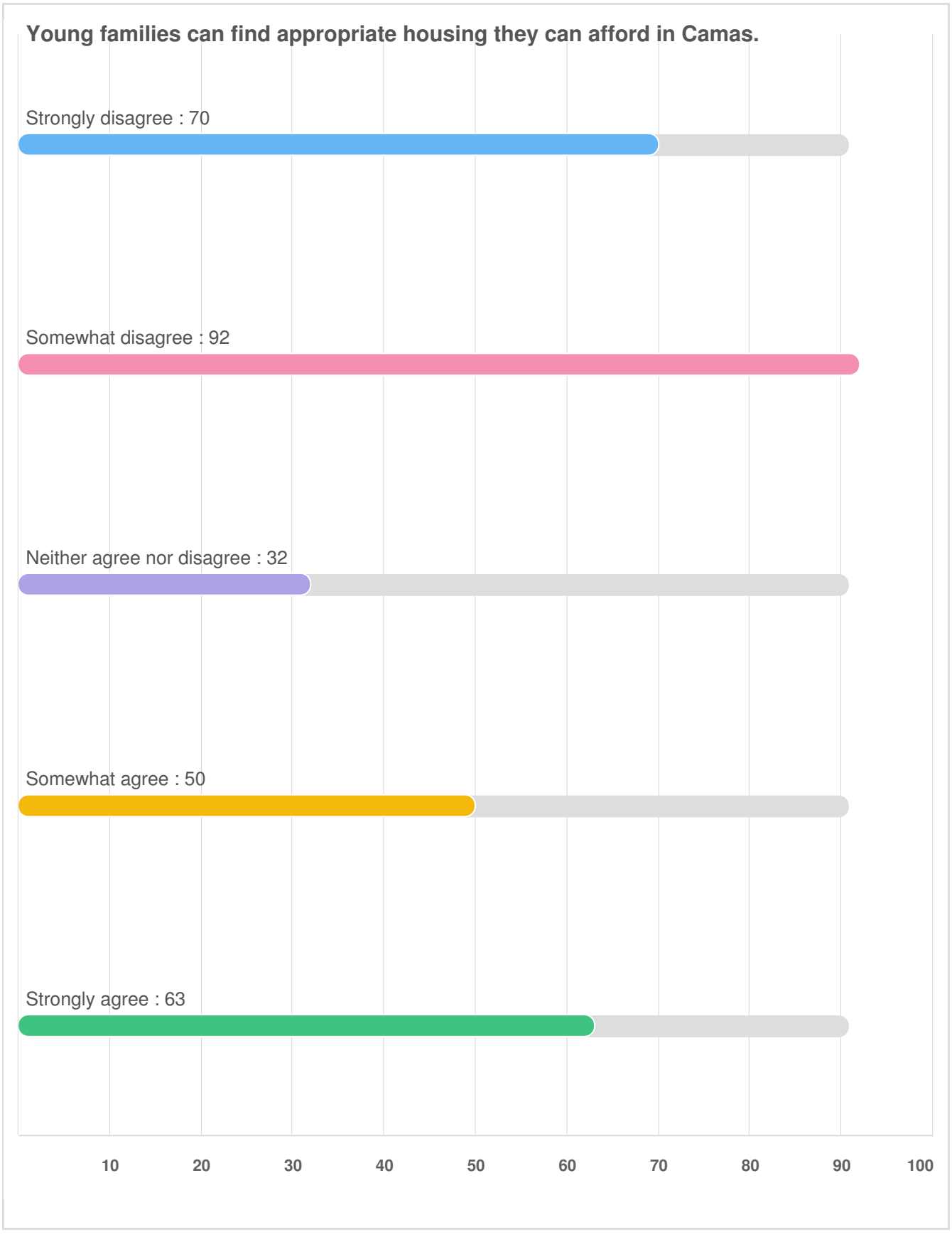
Optional question (306 response(s), 1 skipped)
Question type: Checkbox Question

Q3 Please indicate how strongly you agree with the following statements.

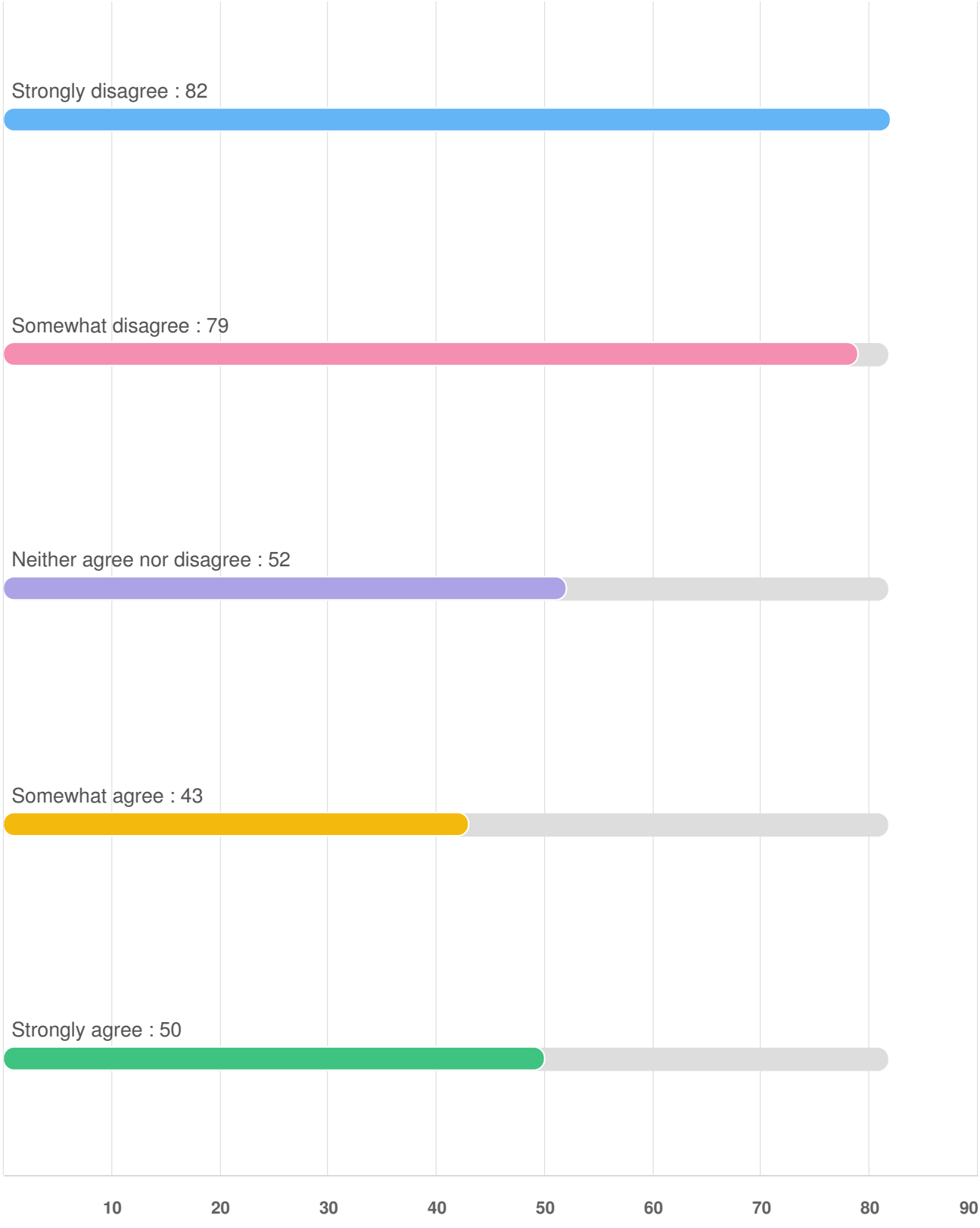


Optional question (307 response(s), 0 skipped)
Question type: Likert Question

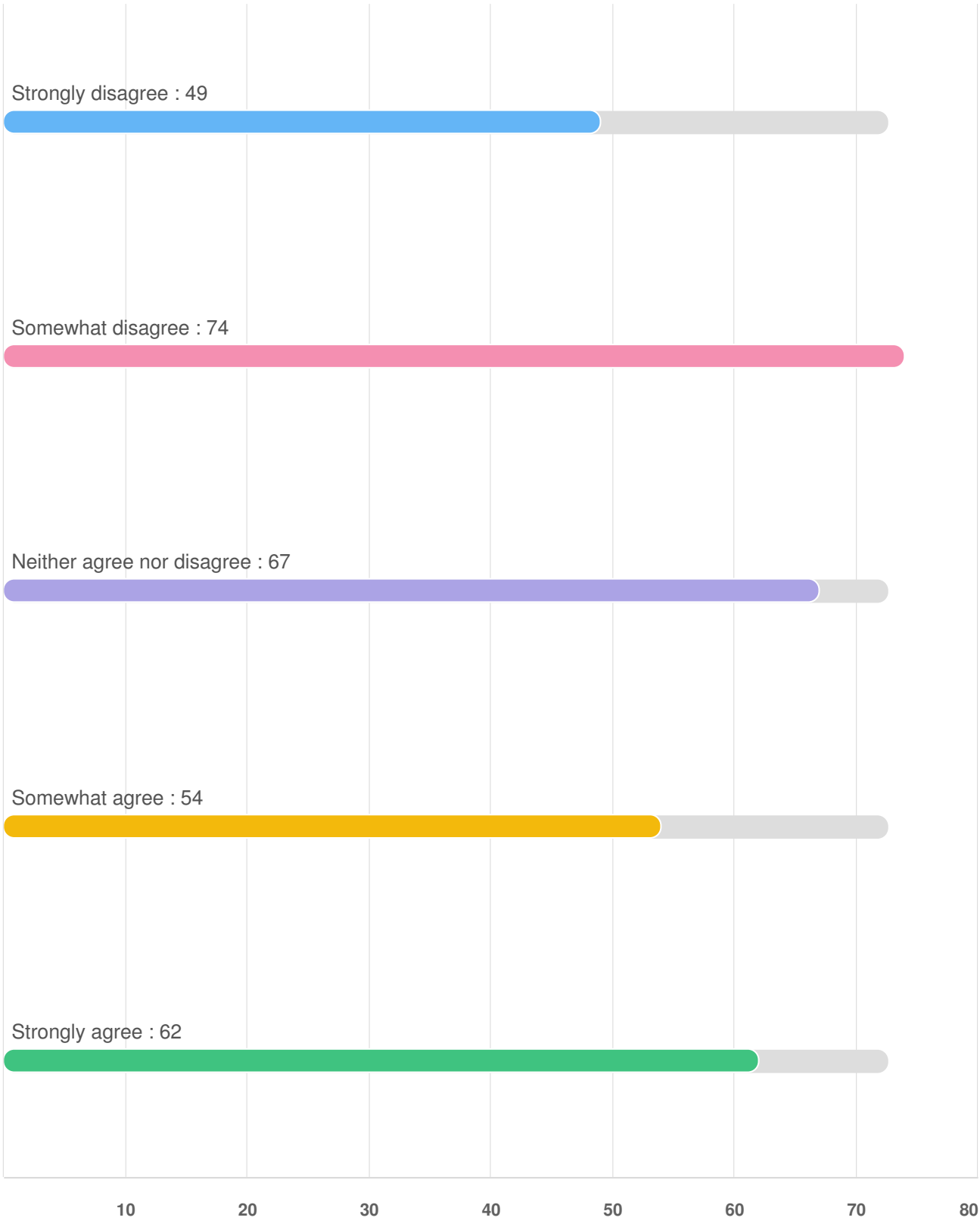
Q3 Please indicate how strongly you agree with the following statements.



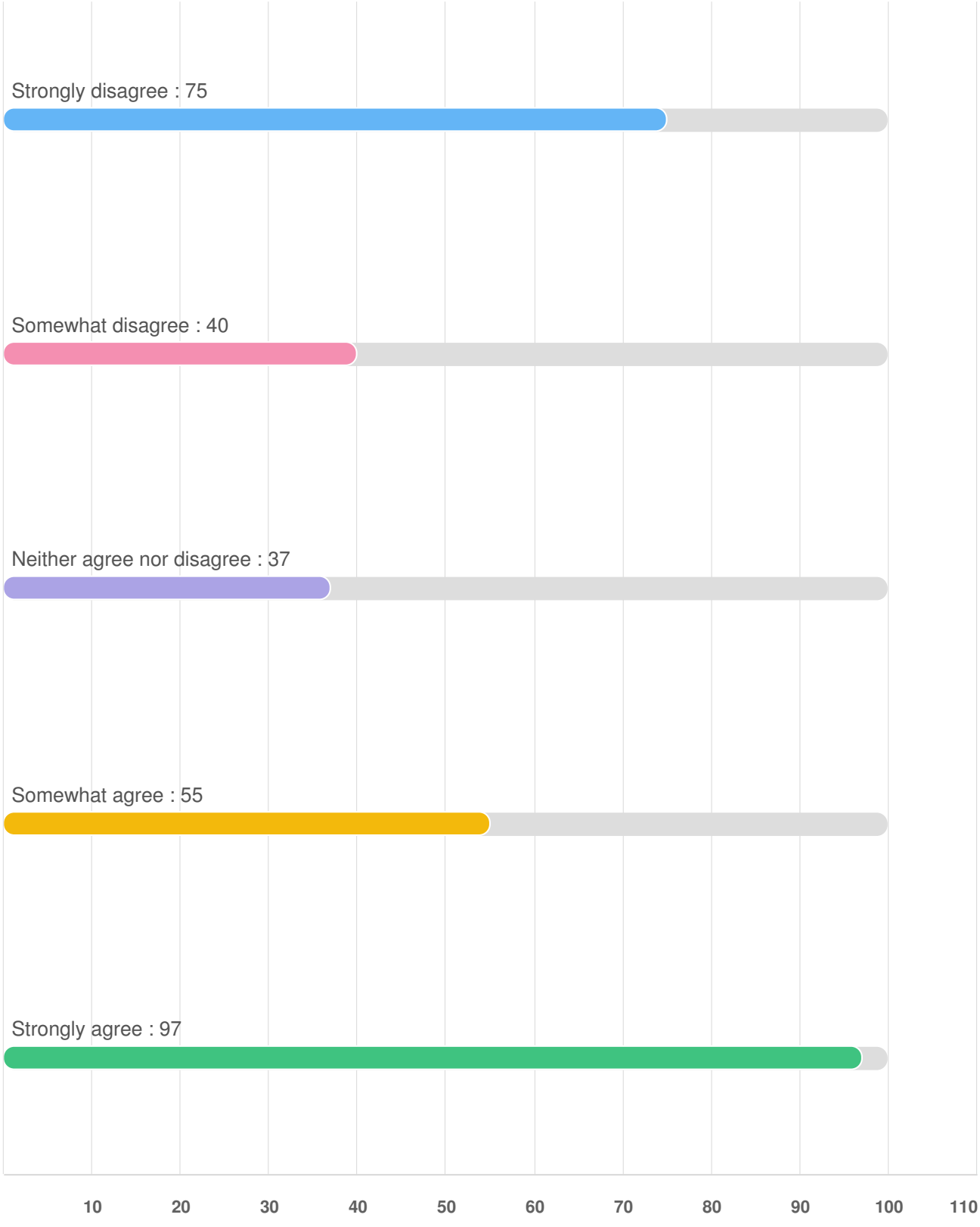
Seniors can find appropriate housing they can afford in Camas.



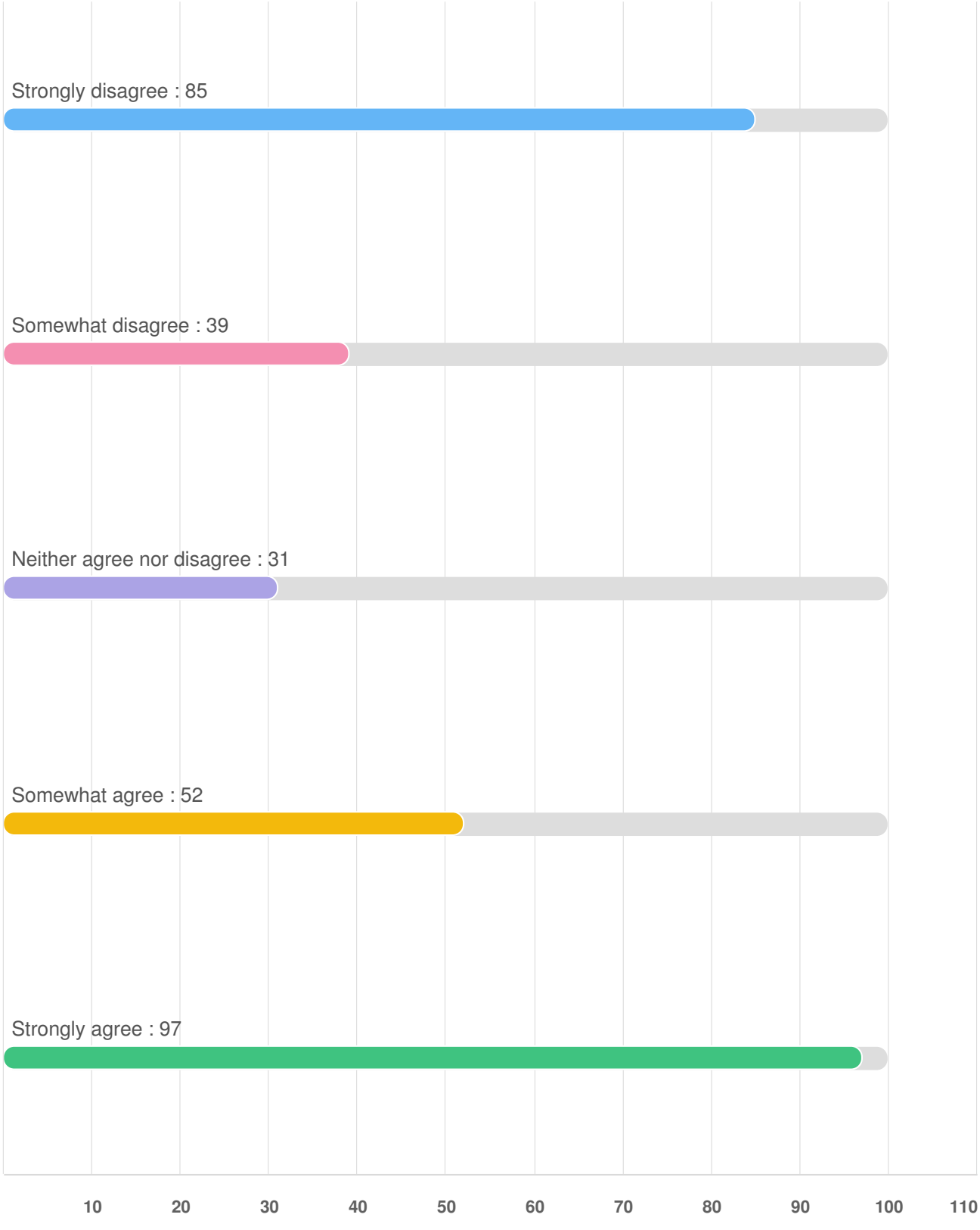
People who work in Camas can find appropriate housing they can afford in Camas.



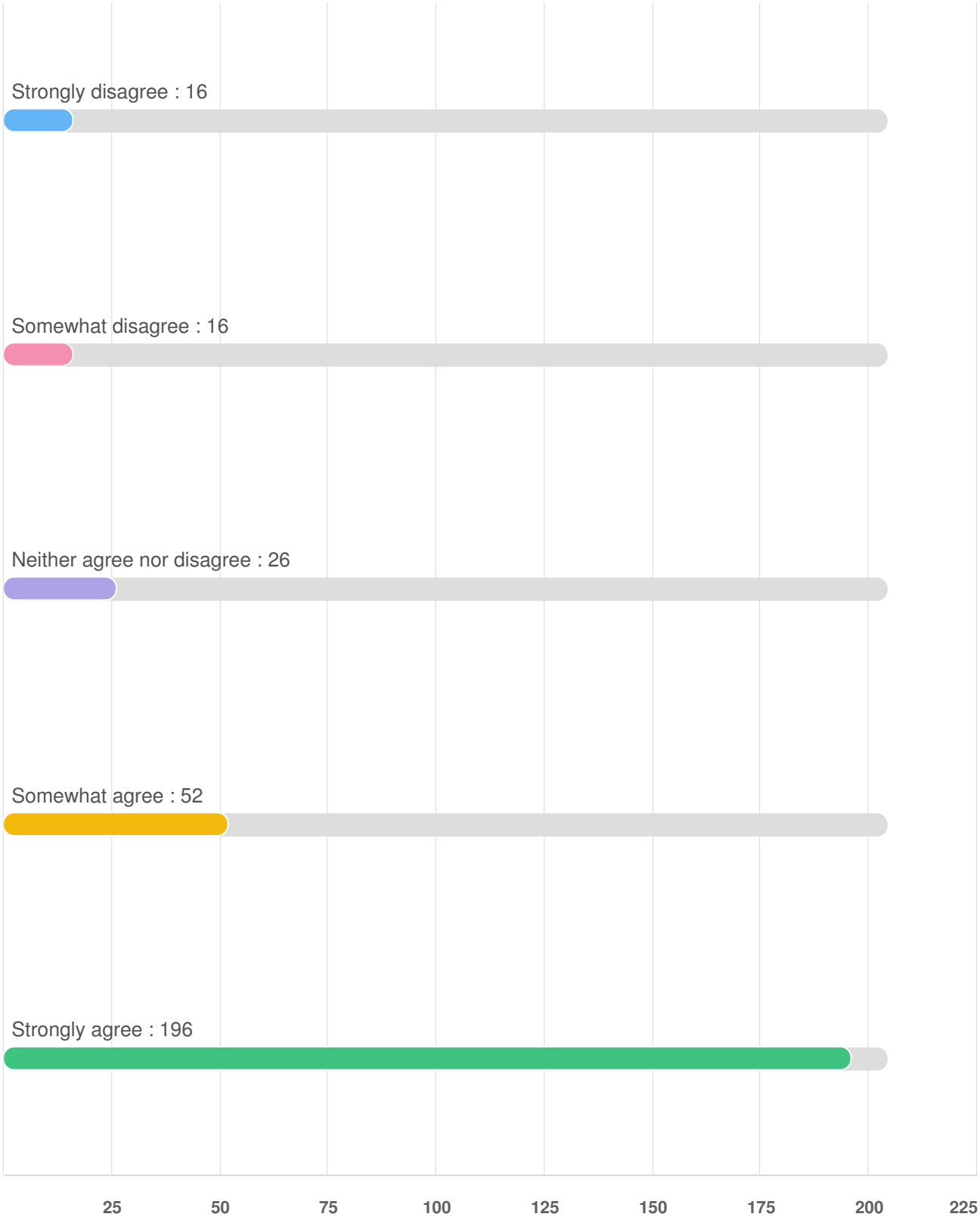
Camas needs greater variety in terms of housing types and prices.



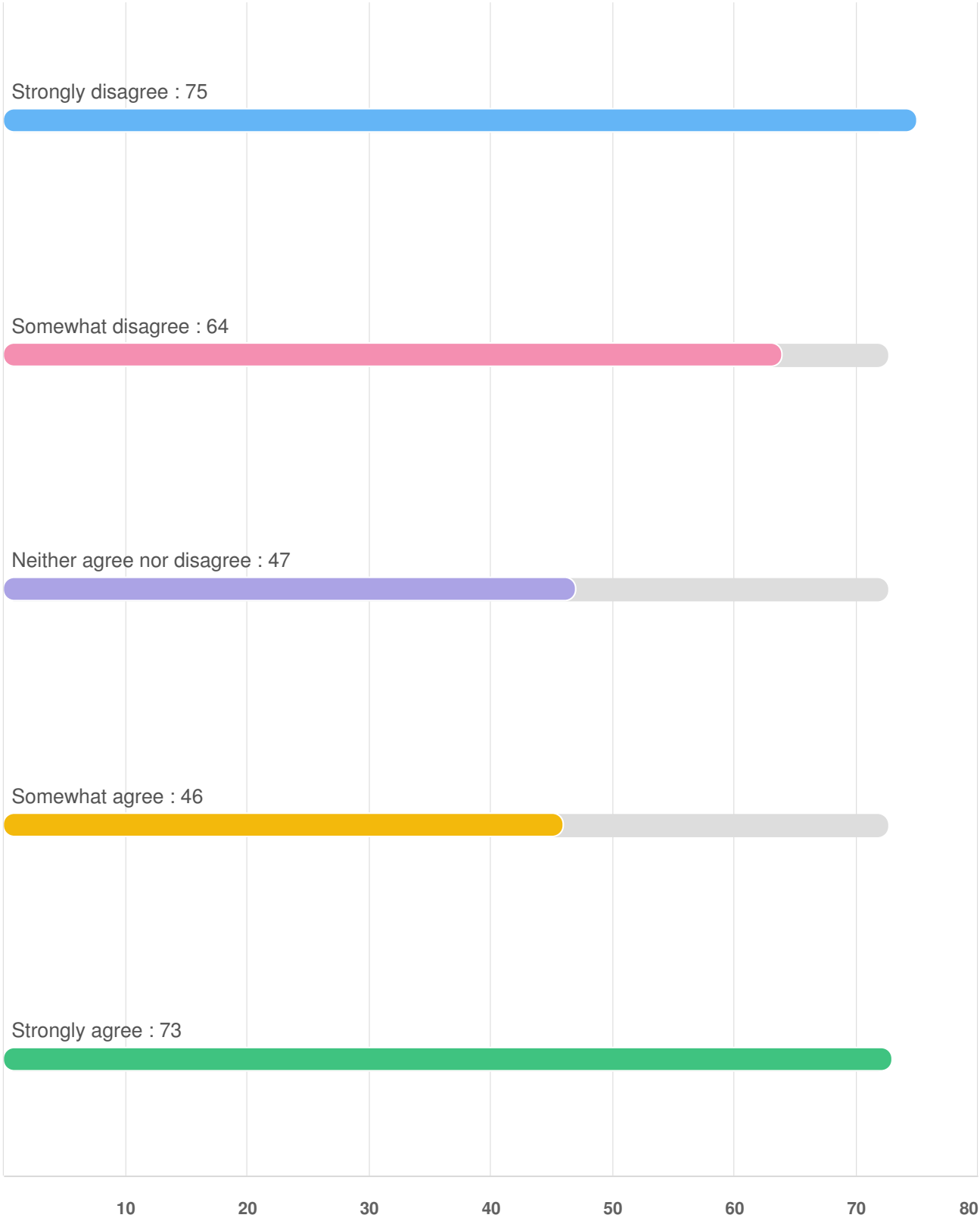
Lack of affordable housing is a serious issue in Camas.



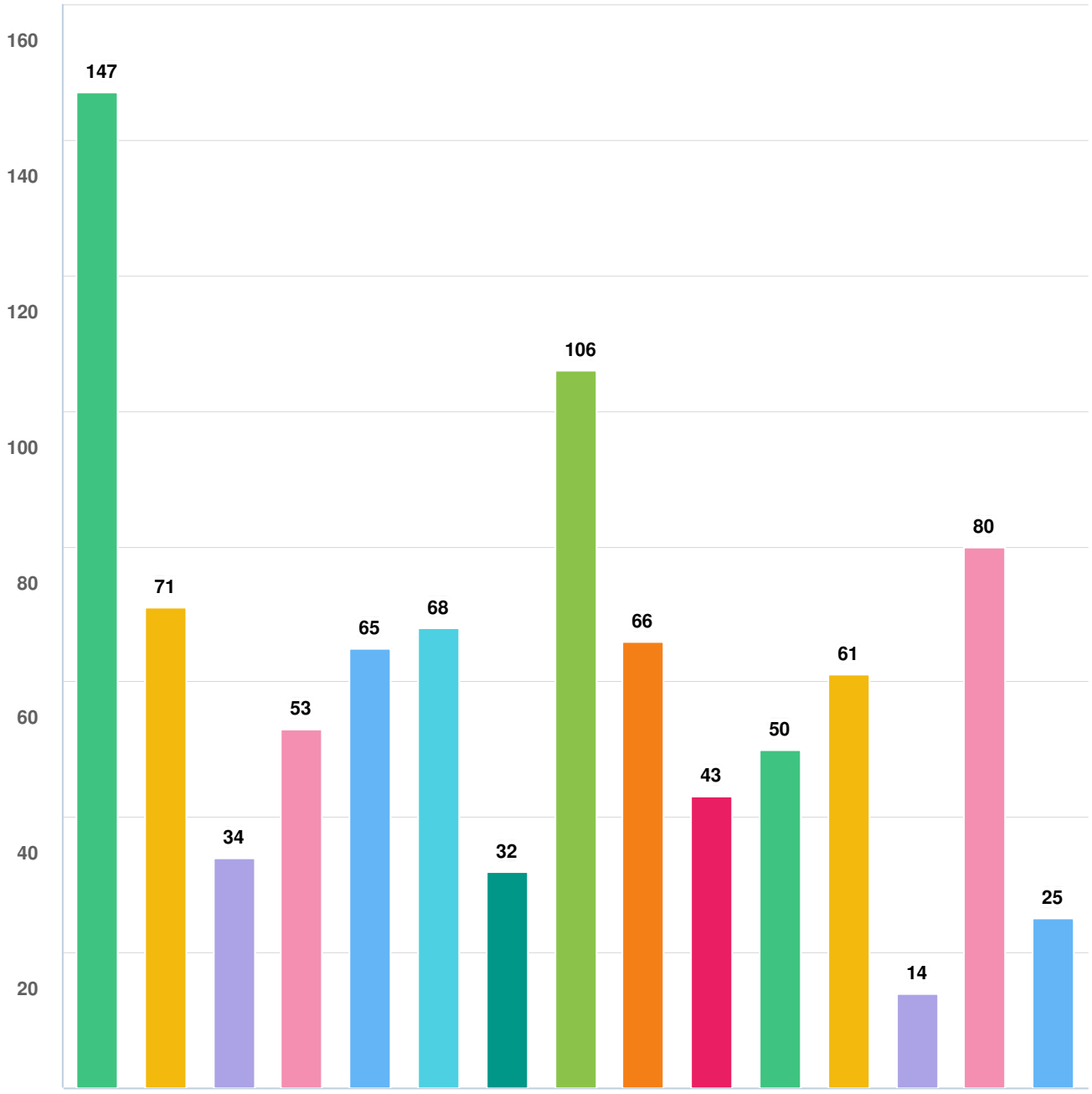
Camas should be cautious about any new residential development activity to preserve the character of the community.



There is enough housing at appropriate sizes and costs to meet the needs of our residents for the next 20 years.



Q4 Which of the following types of housing does Camas need more of? Check all that apply.

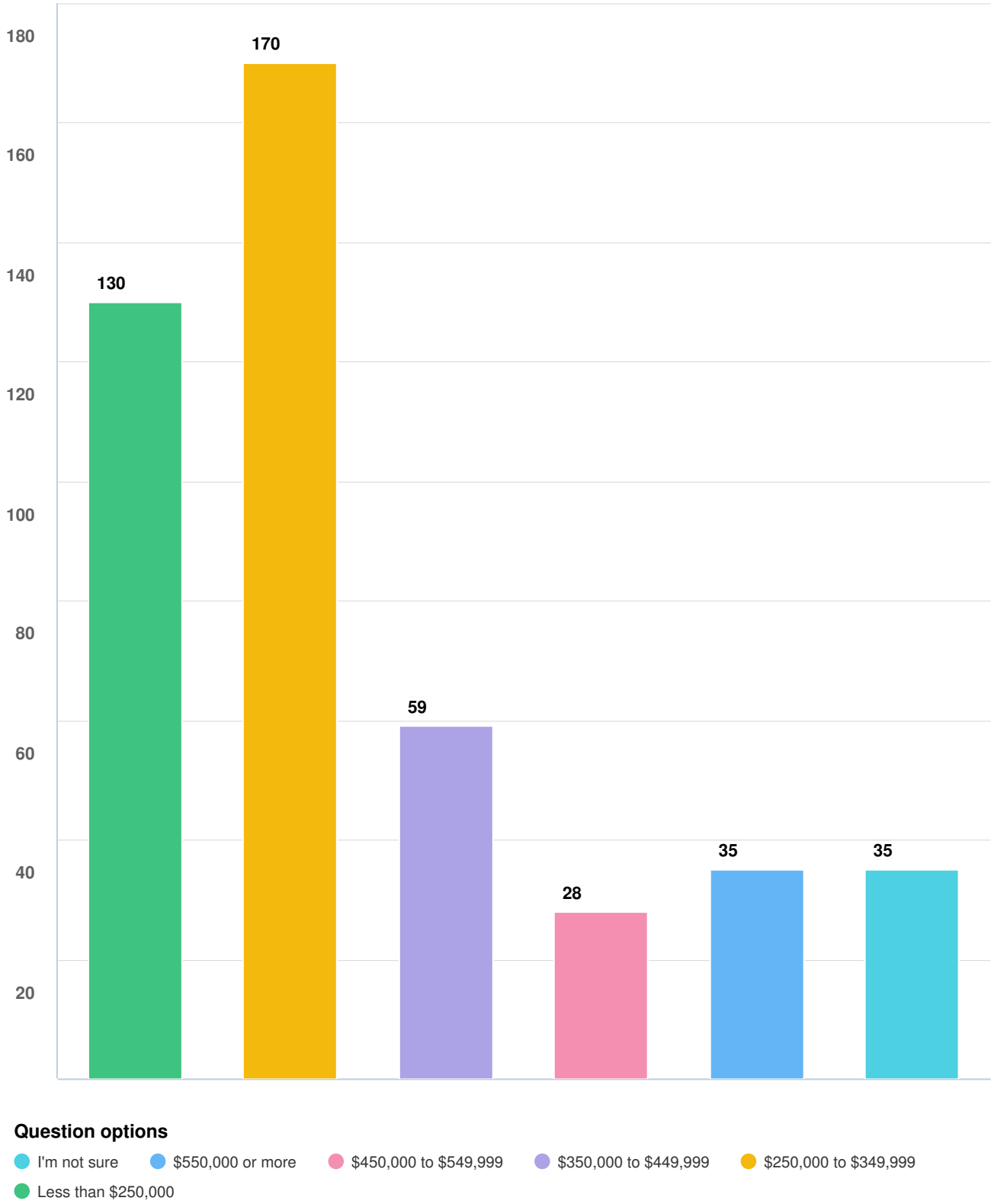


Question options

- Other (please specify)
- There is enough housing to meet our city's needs
- I'm not sure
- Accessory dwelling units (e.g., basement apartments, granny flats, carriage houses)
- Tiny homes
- Supportive housing for people with special needs
- Accessible housing/assisted housing for people with disabilities
- Senior housing
- Luxury apartments
- Mid-range apartments
- Affordable/workforce apartments
- Duplexes, triplexes, or four-plexes
- Rowhouses
- Large single-family homes
- Small single-family homes

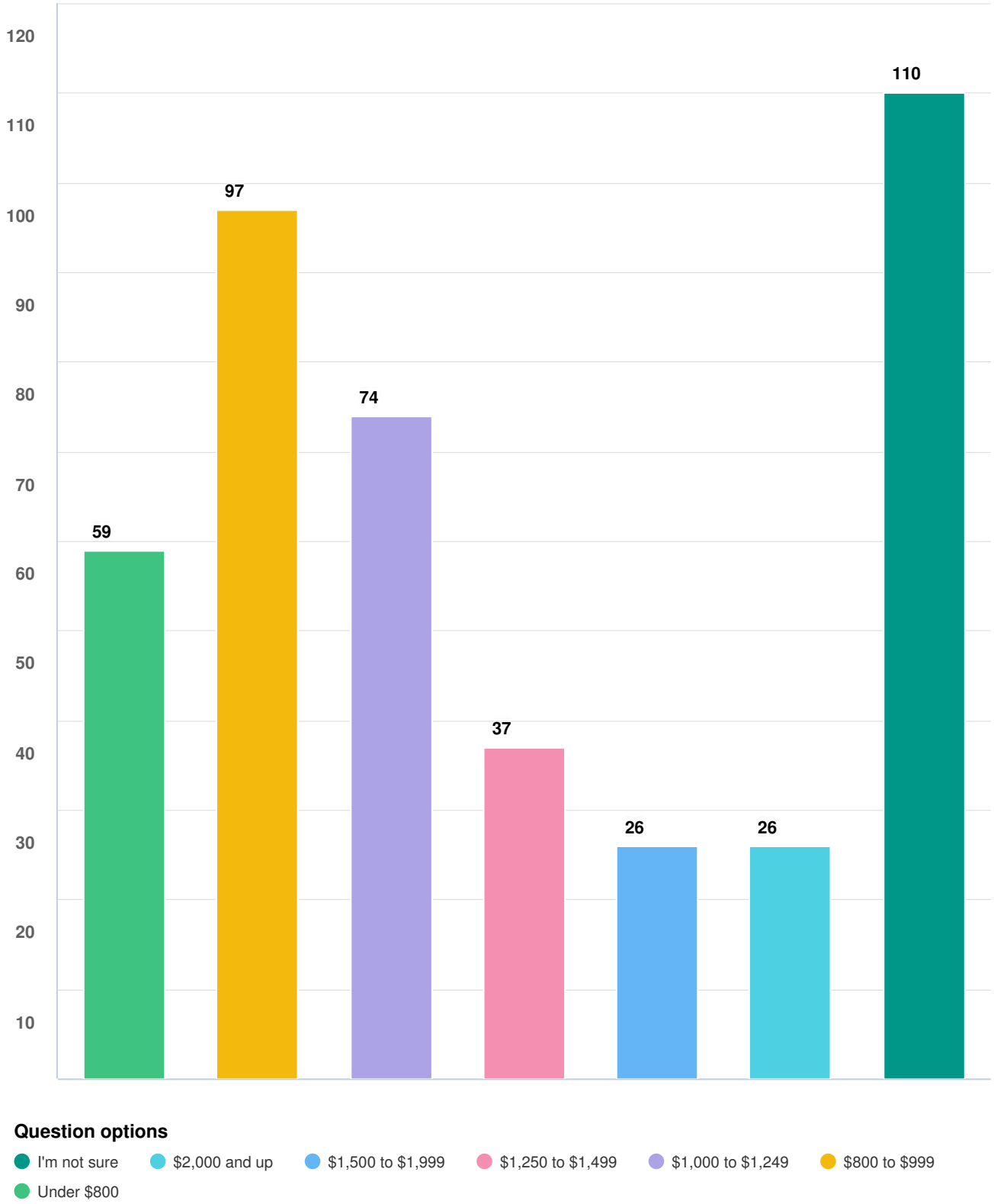
Optional question (306 response(s), 1 skipped)
Question type: Checkbox Question

Q5 In your opinion, what price range(s) have the biggest shortage of for-sale housing in Camas? Select up to two.



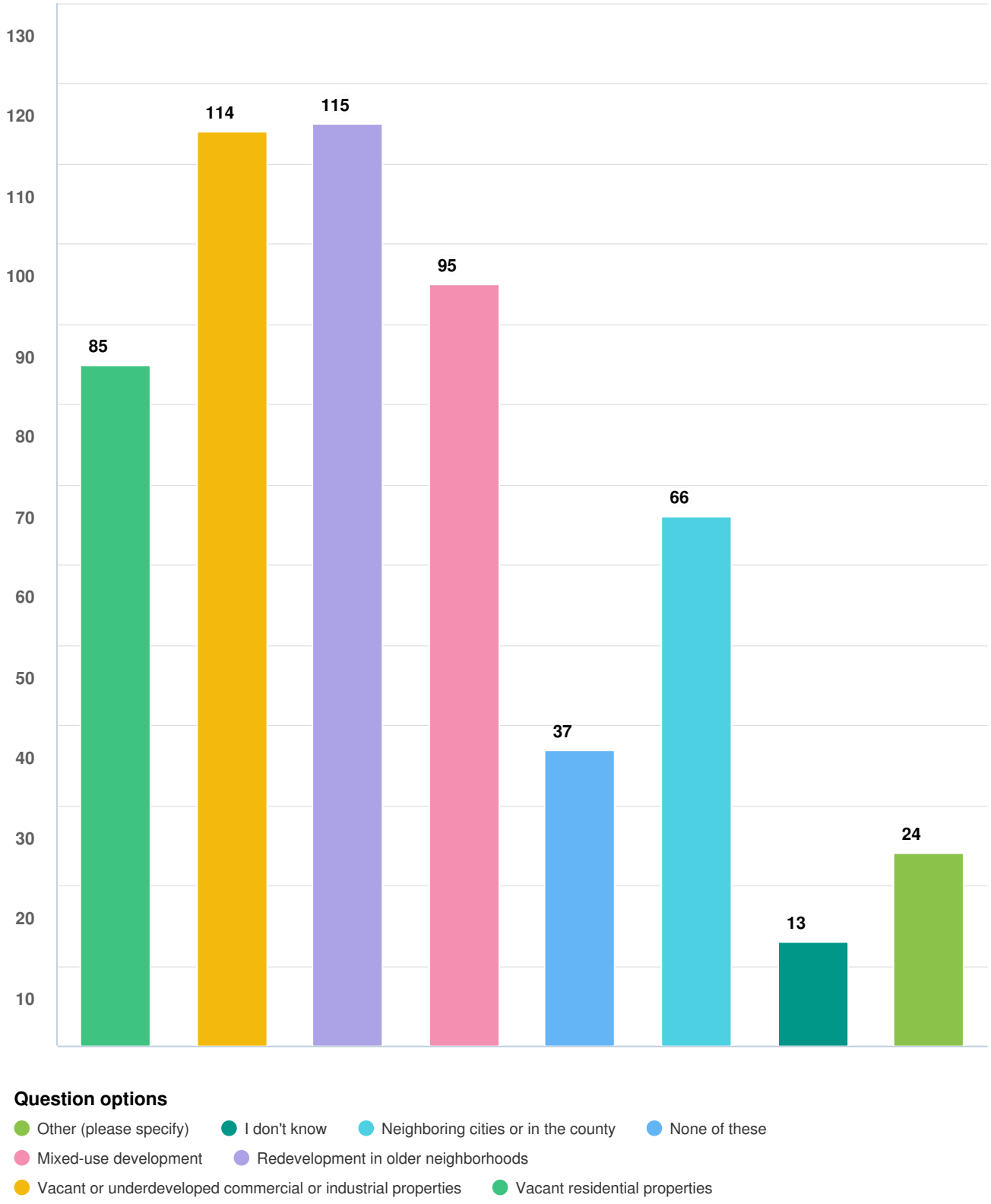
Optional question (302 response(s), 5 skipped)
Question type: Checkbox Question

Q6 In your opinion, what rental range(s) have the biggest shortage of rental housing in Camas? Select up to two.



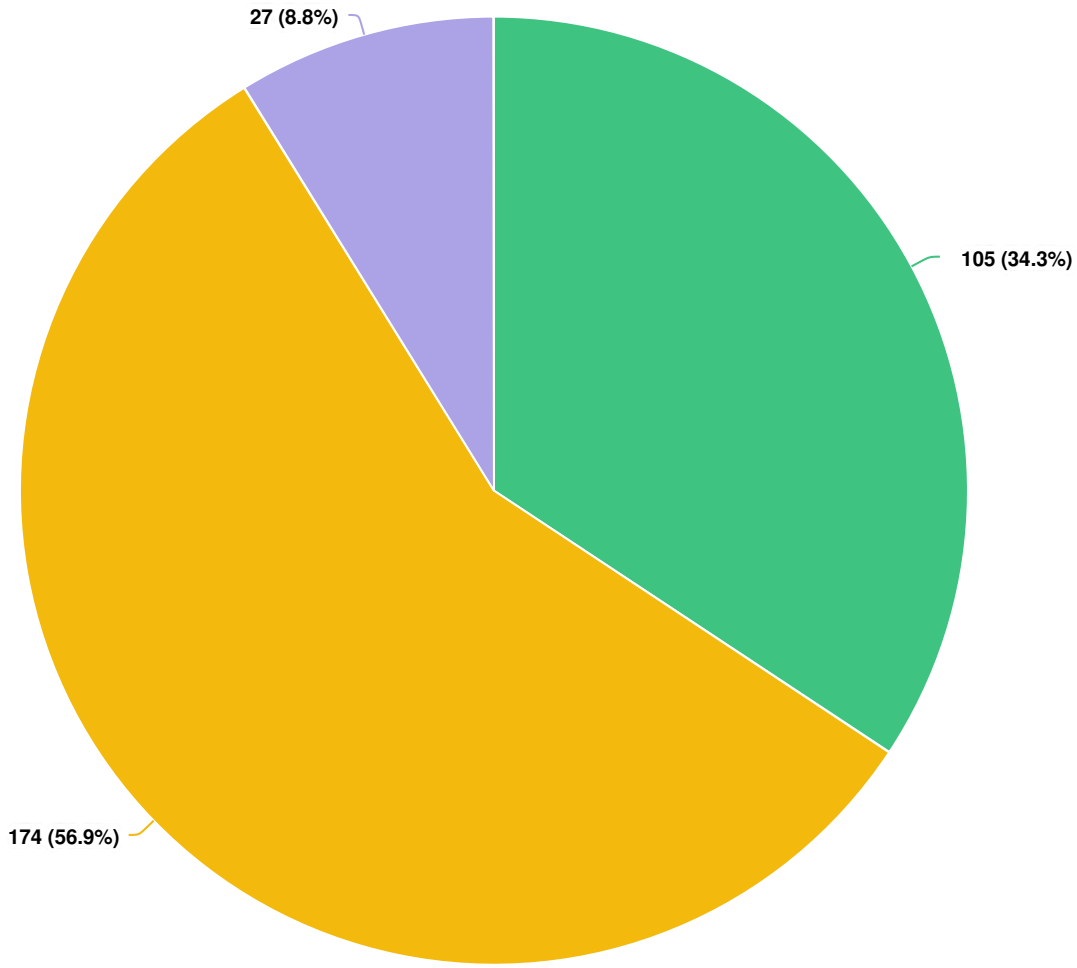
Optional question (303 response(s), 4 skipped)
Question type: Checkbox Question

Q7 Thinking about Camas over the next 20 years, where do you think new housing would be most appropriate, considering that it could be any type (e.g single family homes, ADUs, rowhouses, apartments, etc.)? Check all that apply.



Optional question (305 response(s), 2 skipped)
Question type: Checkbox Question

Q8 If you are a homeowner, have you ever considered adding an Accessory Dwelling Unit (ADU) to your property?

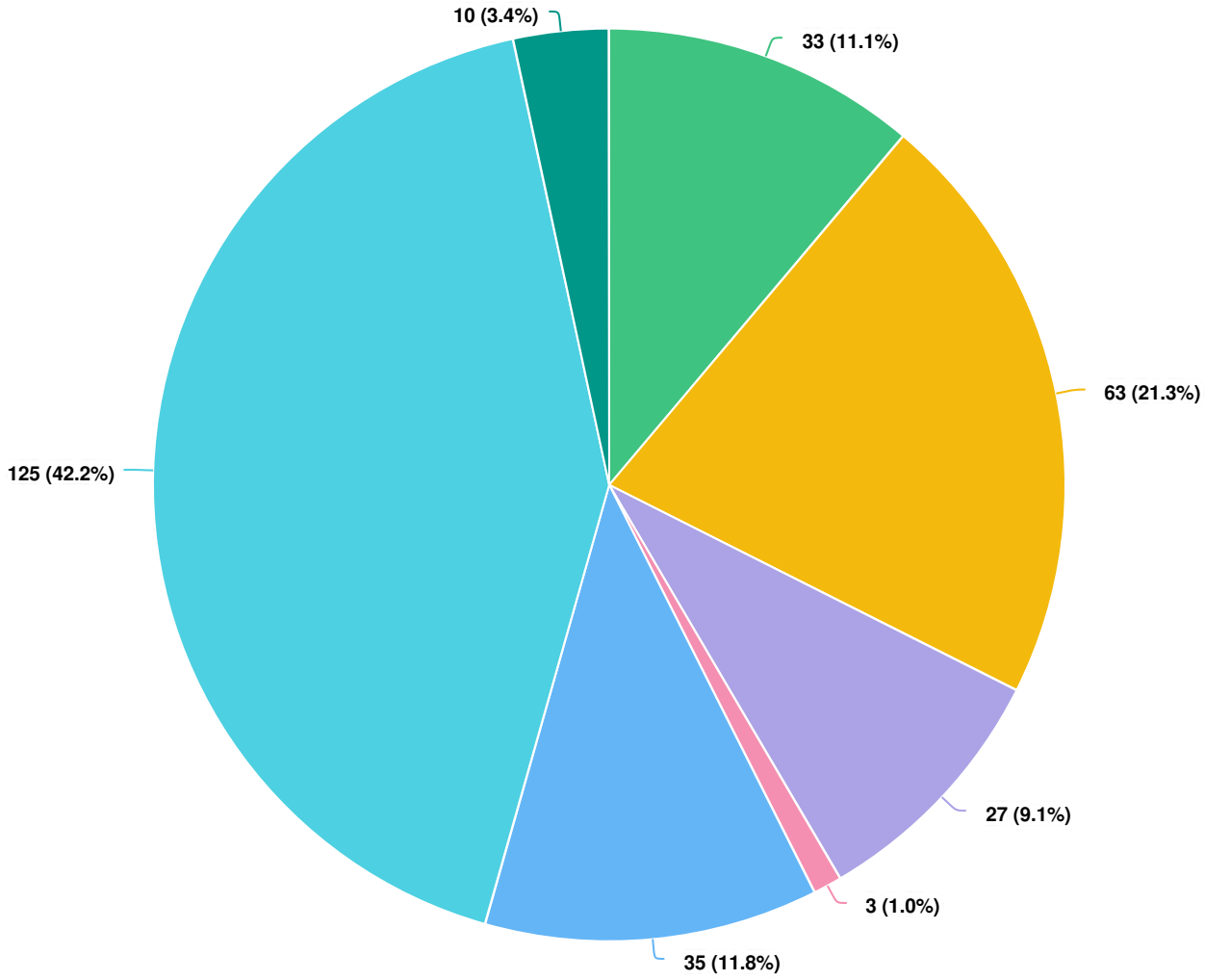


Question options

Not applicable / I am not a homeowner No Yes

Optional question (306 response(s), 1 skipped)
Question type: Radio Button Question

Q9 If you considered adding an ADU to your property, what would be your primary intent in doing so?

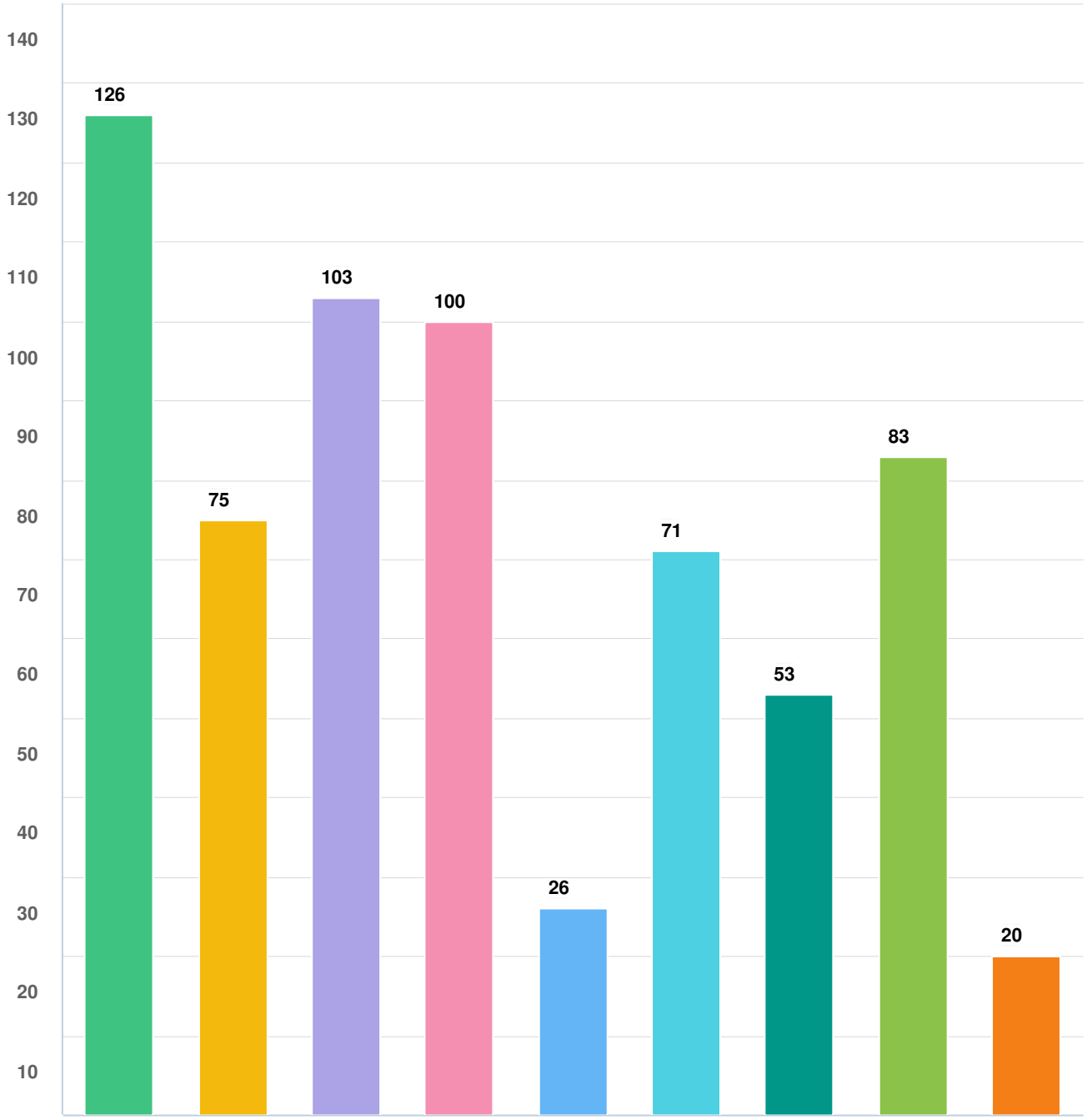


Question options

Other (please specify) Not applicable Earn extra income by renting the space Increase the value of your home
Create a guesthouse Provide a residence for relatives or friends
Provide a residence for someone in need of care or a caregiver

Optional question (296 response(s), 11 skipped)
Question type: Radio Button Question

Q10 What types of assistance may be helpful to address housing affordability needs in Camas? Check all that apply.

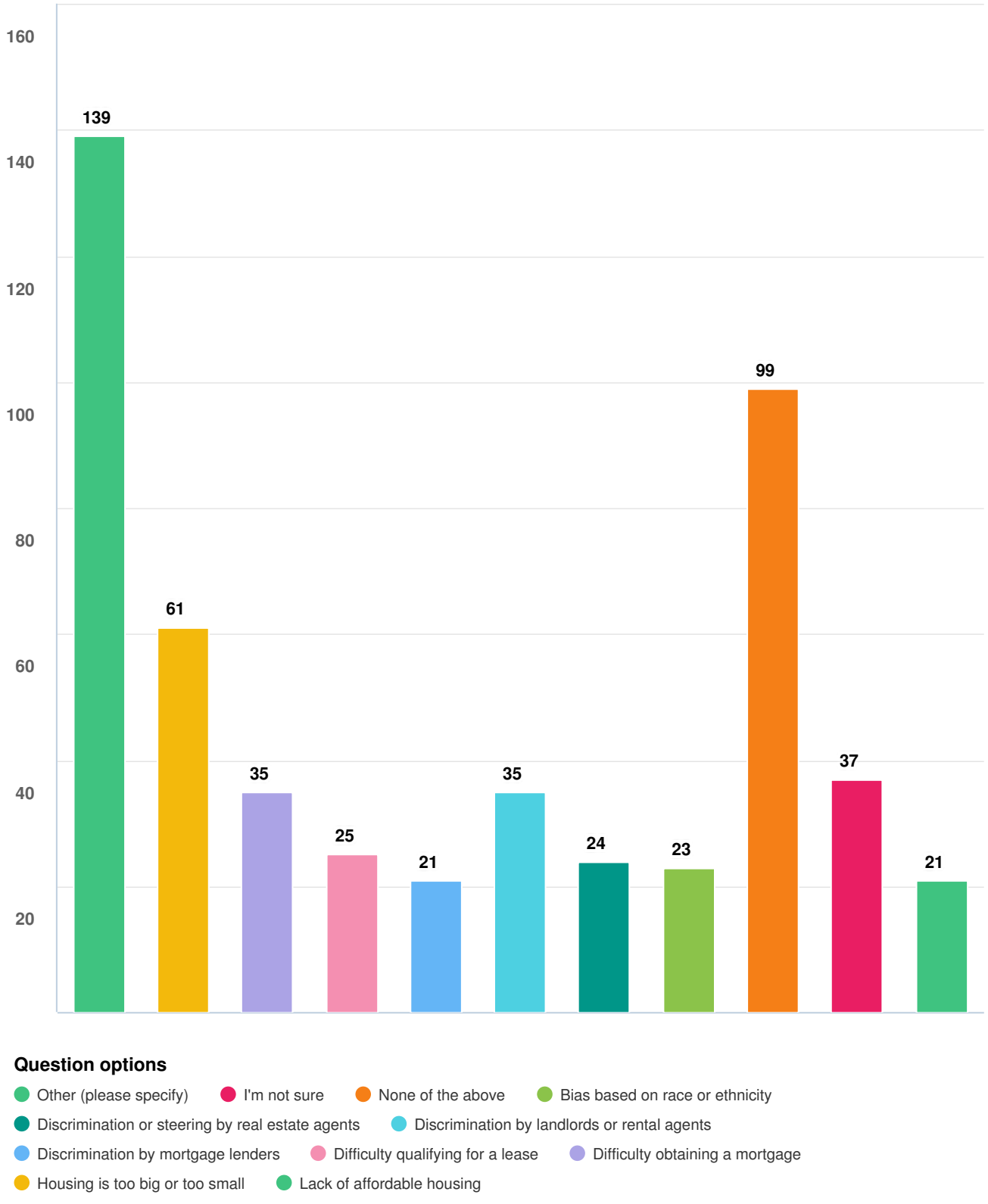


Question options

Other (please specify) · None of the above · Assistance with language or cultural barriers · Assistance for people who are homeless or at-risk of homelessness · Help with rental payments · More affordable rental units · First-time homebuyer down payment assistance · Homeownership preparation / credit counseling classes · More affordable for-sale units

Optional question (304 response(s), 3 skipped)
Question type: Checkbox Question

Q11 Are any of the following barriers to obtaining housing in Camas? Check all that apply.



Optional question (303 response(s), 4 skipped)
Question type: Checkbox Question

Q12 Are there any other issues or concerns you have about housing in Camas?

Screen Name Redacted 9/28/2020 02:19 PM	Too many cookie cutter neighborhoods that are taking over open space. Growth needs to be managed and be thoughtful.
Screen Name Redacted 9/28/2020 02:24 PM	Too much large single family housing in the hills, without enough environmental regulation.
Screen Name Redacted 9/28/2020 02:42 PM	Too many HOA's; vacant bank-owned properties; prices too high for quality of homes (both old and new); lack of housing downtown
Screen Name Redacted 9/28/2020 03:10 PM	It seems majority of residential neighborhoods are redundantly governed by private HOA. There should be easy way for new owners or potential new owners to opt-out of HOA rules and be govern solely through Camas city government.
Screen Name Redacted 9/28/2020 03:13 PM	Planning for increased housing in downtown/close to downtown for best use of space while considering parking. It's unfortunate that the people who work in downtown and make it so wonderful can not always afford to live in Camas.
Screen Name Redacted 9/28/2020 03:17 PM	Starter homes at 450k is unacceptable. 20% down for a new family starting out is not realistic. Inventory below 450k is hard to attain (multiple offers).
Screen Name Redacted 9/28/2020 03:40 PM	Camas is trying to jam way too much housing in too small an area. We already have major issues with runoff spoiling the lakes and creeks. It is not environmentally appropriate to build so much when it spoils the waterways. Also, there isn't enough fresh water supply for more homes.
Screen Name Redacted	Any new development should

9/28/2020 04:48 PM	consider development through the lens more sustainable development, reducing climate change, and promoting healthy lifestyles.
Screen Name Redacted 9/28/2020 06:15 PM	Lot sizes which are very small and offer nearly no outside open space.
Screen Name Redacted 9/28/2020 06:47 PM	Logistics. Everything gets tied up in the process and the fees are obscene. Camas can't even handle the traffic currently. Roads must be 4 lanes and roundabouts two lane. Drrr
Screen Name Redacted 9/28/2020 07:12 PM	I don't understand why we let developers squeeze so many houses on a lot and tear down all the trees.
Screen Name Redacted 9/28/2020 10:36 PM	I don't want huge tracks of houses that are super close together, all look the same with no neighborhood character, and have tiny streets taking over nature areas. I don't want Camas to look like California I want it to keep it's character. The smaller houses with distinct character in the Crown park area are much more pleasant than the new developments around Woodburn for example. I would rather variety all mixed into a neighborhood to help varieties of people to intermix and give neighborhoods interest.
Screen Name Redacted 9/28/2020 11:32 PM	The way Camas has allowed developers to ruin the Woodburn school area is shameful. It is easy to see that they allowed this for the high property tax amount we all have to pay. Each home having to pay these high property taxes twice a year - we get it it's about the money. The homes are crammed together, flag lot upon flag lot until they look like apartments complete with parking lots because there are TOO many homes in a square foot and they can't even park their cars in their 'driveways' ...The homes don't even

	appear to be up to code (they are closer than 5 ft) to the next home - it looks disgusting and takes away from our Camas charm - WE despise this - (except Californian's) so PLEASE do us all a favor and DO NOT continue to do this sort of building - it ruins our town...in many ways. So instead have the homes a respectable distance and sprinkled throughout Camas within older neighborhoods as well as new developments and in outer lying areas -- Keeping in mind the tree's - they are disappearing - WE do not want to end up a little Silicon Valley - let's be mindful of our resources and environment before they are gone - and we are nothing more than just another 'big' town.
Screen Name Redacted 9/29/2020 05:36 AM	Too many houses close together. Wrecking land that animals were using as their home.
Screen Name Redacted 9/29/2020 05:47 AM	Avoid building apartments as it brings values down along with other social issues. Leave the apartments in Vancouver
Screen Name Redacted 9/29/2020 09:50 AM	City infrastructure development needs to come before the housing development. The infrastructure needs to be paid by the developers and new homeowners. Existing homeowners should not bear the cost of new development. Any consideration of ADU or increased density in existing neighborhoods needs to include street and parking needs. Increased density will quickly change the culture and dynamics of Camas. There are plenty of lower cost housing options within minutes of Camas. Why do we feel that Camas needs to offer all types of housing? We are a suburb of Vancouver and Portland not a stand-alone city.

Screen Name Redacted 9/29/2020 10:21 AM	Probably have enough single-family homes planned. I'm concerned about schools being able to handle the increase in population.
Screen Name Redacted 9/29/2020 01:33 PM	Too many developments going in. The urban growth needs to slow. And the developments that are going on, are too tight and close to neighbors. I can't even find a house to buy that has a place for us to park our boat.
Screen Name Redacted 9/29/2020 03:08 PM	Houses are jammed together in tiny lots with no trees or open spaces
Screen Name Redacted 9/29/2020 04:20 PM	nope
Screen Name Redacted 9/29/2020 04:26 PM	over population.
Screen Name Redacted 9/30/2020 12:14 AM	traffic congestion seems to be increasing in Camas/Washougal, SPECIFICALLY commercial vehicles, double axle dump trucks, etc. both NE 3rd Ave thru town East/West That drive WAY too fast. This is making this a LESS livable community. so, no matter WHAT you may do w/ housing expansions/opportunities . . . need to consider livability factors, please. Hwy 14 roundabouts - - don't care for them.
Screen Name Redacted 9/30/2020 07:55 AM	Lack of diversity in housing options will lead to lack of diversity in our community and schools and will negatively impact our quality of life.
Screen Name Redacted 9/30/2020 11:06 AM	As we increase the density I'm concerned about having enough off-street parking. Adding to the traffic issues.
Screen Name Redacted 9/30/2020 12:10 PM	Rows and rows of new housing (whichever type) are not the only answer to creating space where people want to live. How can we increase our walkable spaces, mixed-

	use development, and access to high quality amenities for all Camas citizens?
Screen Name Redacted 9/30/2020 01:14 PM	If we have more developments, please focus on quality of construction, environmental impacts and developer-provided free space, and developers contributing to enlarging school capacity so existing citizens donipay the price.
Screen Name Redacted 9/30/2020 02:39 PM	Architecture plays a significant role in shaping the future of a community. We should be considering how our decisions might look 100 years from through social, environmental, and financial outcomes.
Screen Name Redacted 9/30/2020 02:45 PM	Please limit huge storage unit buildings
Screen Name Redacted 10/01/2020 03:58 PM	OVER-DEVELOPMENT already! Enough is enough! Not one tree is left standing when you guys let these greedy developers in. AND THEN YOU ALLOWED FOR BUILDING ON OUR WETLANDS???? WTF????
Screen Name Redacted 10/01/2020 11:43 PM	For homeowners- property taxes are out of control. They are on the verge of pricing current and new homeowners out of the city. Very unfortunate.
Screen Name Redacted 10/02/2020 10:57 AM	I see Camas trying to be everything to everyone...WE ARE NOT! We shouldn't try to fit to every one's needs. STOP giving away what most have worked hard for and want to live in an area where there is safety, good schools and good policing, low crime...that's what we work hard for and pay way too much in taxes to do so!
Screen Name Redacted 10/03/2020 09:17 AM	Our concern would be to change the dynamic in Camas . This city has small town atmosphere but provides big city amenities. Multiple dwelling

	units do not add to this city anything that is positive. Increasing traffic, crime and population is what we will get. This resident does not support multiple dwelling units.
Screen Name Redacted 10/03/2020 08:54 PM	I am concerned with how high the price is for small starter homes and that there are bidding wars for homes.
Screen Name Redacted 10/05/2020 08:05 PM	There are enough affordable housing options in Camas. I would like to see luxury condos in areas that are needing redevelopment.
Screen Name Redacted 10/06/2020 09:36 AM	We moved to Camas to get away from the big city feel, crime, vandalism, graffiti. We do not want low income housing in camas. Many homeowners will be likely to move if this happens.
Screen Name Redacted 10/06/2020 09:49 AM	Camas is known as a safe, quaint town. Increased population places the city in a high rate of crime.
Screen Name Redacted 10/06/2020 09:51 AM	You are destroying the environment and trees with all of the houses you are allowing. There is not enough infrastructure capacity (roads, school class size) to deal with this swelling of homes and the density of which you are packing them in.
Screen Name Redacted 10/06/2020 10:00 AM	Please don’t turn Camas into Portland
Screen Name Redacted 10/06/2020 10:00 AM	Affordable housing for seniors
Screen Name Redacted 10/06/2020 10:03 AM	Maintain the current housing. Don’t bring Portland’s problems to Camas by creating rampant low income or government assisted housing.
Screen Name Redacted 10/06/2020 10:19 AM	We do not want or need low income housing to drag down our property values. Let the market do its job.
Screen Name Redacted	Stop building on Camas land. We

10/06/2020 10:35 AM	are ruining the small town open country feel!
Screen Name Redacted 10/06/2020 10:36 AM	To many huge houses for the rich which drives up the market causing those who have lived here most of their lives to be unable to afford it. No more!!
Screen Name Redacted 10/06/2020 11:19 AM	We do not need the city to come in and decide what kind of housing is needed. It is up to the buyers and sellers. If you truly want to help, cut down city spending and lower taxes so people can pay off their property faster.
Screen Name Redacted 10/06/2020 11:58 AM	There are almost no options for middle class residents.
Screen Name Redacted 10/06/2020 12:03 PM	Too much development. Houses too close together.
Screen Name Redacted 10/06/2020 12:24 PM	That it is being over developed and is going to lose the charm that brought families here in the first place
Screen Name Redacted 10/06/2020 01:02 PM	We do not need more apartments or high density housing. Leave that to Vancouver and Portland. We do not want to be those places.
Screen Name Redacted 10/06/2020 03:27 PM	Yes, the City has shown a lack of respect for our green spaces and parks! Cutting down our trees and building ridiculous round abouts! More housing is just more housing and probems!!! Getting a survey like this is so disheartening- do you city employees even live in Camas or are you trying to justify your jobs?
Screen Name Redacted 10/06/2020 06:46 PM	No
Screen Name Redacted 10/06/2020 06:56 PM	We have plenty of housing and do not need to build. We need to preserve our small town
Screen Name Redacted	Sad to see the loss of green space

10/06/2020 10:58 PM	on the mountains.
Screen Name Redacted 10/08/2020 04:10 AM	Please keep Camas an aspirational town and don't dilute the tax base. Don't make the mistakes so many cities and towns make by adding density and increasing low income housing. We are not immune to the problems other cities and towns face . Attracting home buyers who are willing to pay high per capita property taxes helps the city maintain a high level of services.
Screen Name Redacted 10/08/2020 01:10 PM	Keep Camas rural.
Screen Name Redacted 10/09/2020 05:07 PM	Single story homes on large lots
Screen Name Redacted 10/09/2020 05:23 PM	The charm of the city is being ruined by over building in wildlife habitat
Screen Name Redacted 10/09/2020 05:44 PM	Impact fees and exorbitant permit and utility hookup fees have produced housing developments that only larger corporate builders can afford to make. Since govt fees are so high, we see neighborhoods that no one would aspire to live in. High density a long way from public transport is counterintuitive to what cities should desire.
Screen Name Redacted 10/09/2020 08:04 PM	Development plans for the north side of the lake need to be very, very carefully planned and considered so that the charm of Camas is not destroyed, and a larger traffic nightmare is not created. I don't think ADUs are the answer unless there are strict zoning regulations. For example, property with 2DU per acre can easily accommodate the parking issues and noise level created by an ADU. Smaller lots do not enhance livability for neighborhoods, but

	create parking headaches and additional noise and congestion. If Camas is intent on growth, it would be amazing to study master planned communities such as Highlands Ranch, CO and Rancho Santa Margarita or Ladera Ranch in Orange County. These communities have tried to balance housing needs and livability.
Screen Name Redacted 10/09/2020 08:18 PM	people afraid of growth
Screen Name Redacted 10/09/2020 08:19 PM	Small lots, crammed housing. Looking like a shitty city.
Screen Name Redacted 10/09/2020 08:33 PM	The cost is astronomical for someone like me who is single! I'm 47 years old living with my mother because of the price's of apartments! I have worked my whole life since age 15 and I never dreamed there would be a time I couldn't afford an apartment! I have excellent rental history but literally can not afford to spend an entire paycheck on rent because I am single!
Screen Name Redacted 10/09/2020 08:41 PM	The issues I have with regards to housing is that new housing will kill the natural open spaces that we were known for. Current housing around the core center of Camas is looking dilapidated and in bad need of code compliance to get these people to clean up their houses & yards...Drive around and you will see. I predict that if these eyesores continue, it will create a big divide between the old downtown and the new subdivisions...
Screen Name Redacted 10/09/2020 08:41 PM	Stop new housing developments (subdivisions) of big houses. Add public transportation. Think about schools/infrastucture (roads) before adding new housing.

Screen Name Redacted 10/09/2020 08:54 PM	Too many dangerous fireworks. Two days of the year it's uninhabitable.
Screen Name Redacted 10/09/2020 09:26 PM	Concerned about the future of the new housing developments and the condition/value they will have 20 years from now. Tract homes tend to lose value and are less likely to keep families in the city long term. If too many are built, the concentration can negatively impact the future of the Camas community.
Screen Name Redacted 10/09/2020 09:58 PM	We don't need anymore small row houses or townhouses with no backyards that cost as much as a whole house in Washougal or Vancouver.
Screen Name Redacted 10/09/2020 10:03 PM	Increased housing is destroying our city. Stop Turing us into another California LA!
Screen Name Redacted 10/09/2020 10:14 PM	When one house on property is sold (or a golf course) and the land is rezone to have lots thatvaye 5k-6k square feet is ridiculous. It is not sustainable for the Camas infrastructure especially schools.
Screen Name Redacted 10/09/2020 10:17 PM	Too many sub divisions
Screen Name Redacted 10/10/2020 01:12 AM	Too many large homes need smaller homes
Screen Name Redacted 10/10/2020 04:02 AM	None
Screen Name Redacted 10/10/2020 06:46 AM	What were the impact fees on the hundreds of new homes being built this last few years? And why the heck have our property taxes continued to increase so greatly every yr when our homes are getting older and there are so many new homes that are now paying taxes as well.

Screen Name Redacted 10/10/2020 07:47 AM	Stop any further developments. Camas is getting too big and it's affecting schools, traffic, utilities, etc!
Screen Name Redacted 10/10/2020 07:59 AM	I don’t want rapid development or the large scale addition of more housing.
Screen Name Redacted 10/10/2020 08:11 AM	I own a home outside of the city limits and there is so much red tape one has to go through to get a permit to build any structure on there property.
Screen Name Redacted 10/10/2020 08:57 AM	I am a landlord in Camas. I rent my places below market on purpose because I believe in affordable housing, and my tenants are amazing and respectful because of that. But I have had to raise the rent continuously every year because of property tax increases. That to me is the biggest hurdle for affordability.
Screen Name Redacted 10/10/2020 10:04 AM	Camas has way too much housing development going on and it's ruining the landscape and our town. Traffic, overcrowded schools are already a problem. Not enough parking downtown as it is and new building/development just continues regardless. Think about those who have lived here, those who moved here and purchased older homes to avoid contributing to development. Think about those folks who have lived here a lifetime, paid off their homes and can no longer afford to live here b/c of the high taxes! Crime has increased! Do NOT turn beautiful Camas over to greedy builders. You will turn our town into something out of California! Camasonians do NOT want that - listen to your fellow neighbors!
Screen Name Redacted 10/10/2020 10:57 AM	I am concerned with convenient, short-term solutions like ADU's that will be difficult to control, have the ability to change neighborhoods with

	overcrowding of cars, turn into VRBO's and violated CC&R's. I am not for any subsidized government housing.
Screen Name Redacted 10/10/2020 11:40 AM	Too many small lot housing divisions. Concerned about property values. Concerned about growth and increased crime.
Screen Name Redacted 10/10/2020 11:53 AM	Traffic in existing neighborhoods is an issue. The more we build, the worse it will get. Sierra Drive is a mess. There needs be a barrier put up at 38th and Sierra to eliminate the highway type situation currently on Sierra. Speed is a huge factor. These are supposed to be neighborhoods. They should only have neighborhood traffic. Not trucks, and cars passing through.
Screen Name Redacted 10/10/2020 12:16 PM	Not sure.
Screen Name Redacted 10/10/2020 01:58 PM	You have ignored citizens desire that NO development occur on the Northshore of Lacamas Lake. You have failed to ask "if" citizens even want more multi-unit apartments and rental properties, instead of being a city primarily of families who own their homes. You have failed to give us demographic information about median family income, the ages, and number of people living in a home. Do we have the infrastructure to support increased growth in housing? Everett/SR 500 is already jammed, and your roundabout will at best be a temporary fix along this main north-south corridor. You allowed the placement of the high school to be in a location that could not support the added traffic congestion the high school brought. The location of the high school in turn, triggered more home development in the northeast

	area of the city, further adding to the traffic congestion problems. We now have a mill that has laid off significant numbers of workers. Most of us see the handwriting on the wall, and that the mill will ultimately close. That means what happens with all the GP real estate? It seems to me that should be the focus of "development" discussions among the community. How to attract new businesses to the downtown area? Should we allow some of that GP land to be redeveloped into new housing? Or should it be reserved for business redevelopment? Should some of it become "mixed use" development? Should it be a park and residential, and if so, what type of residential development? We have a lot of businesses struggling right now due to COVID. How can we help them recover and create jobs in our city?
Screen Name Redacted 10/10/2020 02:07 PM	Please stop the housing developments. We are being over populated and Camas is becoming less livable. Keep apartments close to downtown, walkable and close to transit. Please keep our Camas livable, not squished together in cookie cutter houses on postage stamp size lots. Please keep this area open and livable.
Screen Name Redacted 10/10/2020 02:17 PM	Too much building, ruining the culture of the city.
Screen Name Redacted 10/10/2020 03:41 PM	My concerns are mostly around planning, zoning and character preservation. I dislike when the greenbelt buffer between the road and new housing disappears. I don't like overly groomed and manicured streets/sidewalks (i.e. Californian suburbia). I love the segments in town that have forest and trees on both sides so you forget you are right

	next to a subdivision.
Screen Name Redacted 10/10/2020 03:45 PM	It's very elite and white.
Screen Name Redacted 10/10/2020 03:46 PM	Concerned about demands placed upon the city by outside authorities (such as state government) to increase housing supply. Housing supply can adequately be addressed by the city.
Screen Name Redacted 10/10/2020 04:02 PM	No
Screen Name Redacted 10/10/2020 04:11 PM	This is not Portland and we will not sit silent while you try to impose Portland ideas in our area.
Screen Name Redacted 10/10/2020 04:22 PM	I hope City of Camas does not follow the policies followed by Portland. Folks move from Portland metro to get away from those policies.
Screen Name Redacted 10/10/2020 04:35 PM	Rising property taxes and school levies. Oh, and city government employees thinking they know what is best for Camas residents. "Of all tyrannies, a tyranny sincerely exercised for the good of its victims may be the most oppressive. It would be better to live under robber barons than under omnipotent moral busybodies. The robber baron's cruelty may sometimes sleep, his cupidity may at some point be satiated; but those who torment us for our own good will torment us without end for they do so with the approval of their own conscience." C.S. Lewis
Screen Name Redacted 10/10/2020 04:38 PM	My children can’t afford to stay in Camas. We raised them here, they graduated from Camas but have to move away to neighboring cities to buy first homes.
Screen Name Redacted 10/10/2020 04:43 PM	Stop high density housing developments. Stop taking away

	green spaces and outdoor recreation. We have plenty of housing.
Screen Name Redacted 10/10/2020 04:55 PM	Traffic, parking, road improvements needed if more development occurs. Paid for by the developers
Screen Name Redacted 10/10/2020 04:57 PM	This is NOT Portland, don't try to make it Portland. We don't need Mayor Wheeler and J. Hardesty ideals. This all seems familiar.....
Screen Name Redacted 10/10/2020 04:58 PM	I am concerned that bringing in "affordable housing" will lower Camas' present image as an upscale community with beautiful newer homes. owners who can afford high property taxes and levies, and excellent schools. Not every community needs to have tiny homes, subsidized rental properties, etc. We don't need or want this kind of development or growth, and we should avoid it, not invite or solicit it. Please don't downscale Camas or make it like Portland.
Screen Name Redacted 10/10/2020 05:06 PM	Camas is a great community that will change for the worse if we surrender to political correctness and allow it to become Portland. Those influences need to stay in Portland.
Screen Name Redacted 10/10/2020 05:20 PM	It appears we have many 'luxury' apartments but I don't see many smaller, single family homes that are in a lower price range.
Screen Name Redacted 10/10/2020 05:21 PM	Cost
Screen Name Redacted 10/10/2020 06:22 PM	loss of green\open space.
Screen Name Redacted 10/10/2020 06:36 PM	Not planned out well enough. We should sacrifice our Forrest and outdoor areas to get more people in houses. This will eliminate the reasons people want to move here.

Screen Name Redacted 10/10/2020 07:31 PM	Lack of city planning/urban sprawl
Screen Name Redacted 10/10/2020 07:44 PM	Its really important to be to preserve the greenspaces in camas as we look to add residents. Ensuring we have a good, functioning park/sidewalk/naturepath system to connect neighborhoods will keep the quality of life here and keep camas a desirable place to move. We also need to preserve accessibility of downtown!
Screen Name Redacted 10/10/2020 08:02 PM	Gads - who wrote up this questionnaire - clearly they feel there is some desperate need here - what am I missing - other than a dispassionately written questionnaire. And, just exactly when did you quit beating your wife? Seriously, you expect intelligent responses to these leading questions???
Screen Name Redacted 10/10/2020 08:34 PM	My main concern is finding a smaller affordable house if we downsize our current house.
Screen Name Redacted 10/10/2020 08:34 PM	The homeless are not dealt with. Police allow them to live in parks and neighborhoods and decrease value to homes and safety.
Screen Name Redacted 10/10/2020 08:41 PM	For someone that built their house in the mid-90s, now that I'm a senior the property taxes are more than I can afford. It's sad.
Screen Name Redacted 10/10/2020 08:44 PM	The new apartment complex in down town Camas looks horrible. It does not flow with the City. It looks just like downtown Portland, Actually I bet the builder is a Portland individual. They have no imagination. Where is the authenticity? It is a terrible reminder of what can happen to a lovely city like Camas if people do not pay attention. Shame on Camas City leaders for allowing a terrible looking

	structure to be in Camas. Where are you morals?? or your pocket book? I see
Screen Name Redacted 10/10/2020 08:57 PM	The main Issue I see is that the demand for housing of all types is higher than availability. The demand is high due to people wanting to relocate to Camas because it is such a great city. Real estate is always cyclical so if we try to add enough housing to accommodate everyone we will find a gluttony of houses when the market turns down.
Screen Name Redacted 10/10/2020 09:05 PM	Yes, let's keep Camas what it is, let's make sure it's not Going to be next Portland!
Screen Name Redacted 10/10/2020 09:40 PM	Don't want to live in a place with HOA. Want house that is 3 bed 2 bath and around 1500sq ft.
Screen Name Redacted 10/10/2020 10:23 PM	Allow market forces to drive the types and sizes of single family homes.
Screen Name Redacted 10/10/2020 10:44 PM	No
Screen Name Redacted 10/11/2020 07:25 AM	New building downtown with no new parking options
Screen Name Redacted 10/11/2020 08:10 AM	Prices have gone through the roof which is why we bought a new townhome here in Camas. The prices for a nice house were just too expensive for what you get. That's simply a function of the market and what people (us) would accept. We hated the idea of having to spend $800K for a house that would really be worth $500K in a normalized market, again which is why we just bought a new townhome and figured we'll move out of Camas when our kids graduate high school and use our equity for a home somewhere else at that time. I don't think it's a good idea for the government,

	especially a City government to artificially deflate/inflate pricing or availability. You start approving lower cost homes or affordable apartments or the like and manipulate the market all you're doing is asking for trouble down the road. Stay in the business of running the City and don't get in the business of accommodating or manipulating the local housing market. Let the market deal with that.
Screen Name Redacted 10/11/2020 08:54 AM	I am concerned there is too much building happening.
Screen Name Redacted 10/11/2020 09:02 AM	Lack of open space foresight and planning
Screen Name Redacted 10/11/2020 09:04 AM	I've experienced classism in Camas. There's a culture here that suggests that those who live "on the hill/ridge" are superior to those living "down the hill." That, in itself, made me reconsider my choice to live here.
Screen Name Redacted 10/11/2020 09:32 AM	Transit option from downtown Camas to Portland. Embrace our bedroom community status and make downtown walkable.
Screen Name Redacted 10/11/2020 10:29 AM	Too many new housing developments without concerns for the increase in traffic
Screen Name Redacted 10/11/2020 11:09 AM	I worry that open areas, wetlands, forests will be overbuilt. Especially with rental units and condo-developments. I like the small town atmosphere and worry Camas will become a subdivision extention of Vancouver.
Screen Name Redacted 10/11/2020 11:22 AM	Do NOT use Mill Lands to build residential. Even the caveats GP put in with the few they've "donated" (with headaches) to the City are startlingly clear. Learn from what happened in San Francisco - that property the US Navy sold to the

	City, insisted all clean and then huge scandal. Mill Lands need to be Super-funded. Do NOT touch them and certainly NOT for residential.
Screen Name Redacted 10/11/2020 12:21 PM	The reason people have moved into Camas and pay high property taxes is to retain a quality of life. If you dilute that quality, the people who are willing to pay for the standard will go somewhere else.
Screen Name Redacted 10/11/2020 01:47 PM	There has been too much high density building in camas that is taking away green spaces and outdoor recreation. If there's to be more development, it should be done more wisely with existing spaces.
Screen Name Redacted 10/11/2020 02:52 PM	Expand the trails and park areas
Screen Name Redacted 10/11/2020 03:49 PM	Vancouver has built a lot of affordable housing along 4th Plain. The area is notorious for high crime, awful schools and rampant homelessness. Why are we even considering replicating that in Camas. There are a lot of far more affordable areas in Clark county than Camas. If people are looking for affordability they should look elsewhere.
Screen Name Redacted 10/11/2020 10:41 PM	I hate seeing huge homes on tiny lots that tear down forests.....also way overpriced.
Screen Name Redacted 10/12/2020 11:59 AM	The city is selling out to big developers who don't care about the impact of cramming as many houses into a small case as they can to make the most money. It is ruining the landscape of the area as houses are built right on top of each other. This also impacts how many people are accessing small roads and the pathways around the lakes. Obviously the city gets more money

	from taxes for these developments but at what cost? This area is starting to look like California and is not set up for the influx of so many people living in such a small space.
Screen Name Redacted 10/12/2020 01:18 PM	Taxes
Screen Name Redacted 10/12/2020 03:12 PM	Concerns with maintaining forested areas & waterways. Very concerned with losing or not building community park space.
Screen Name Redacted 10/13/2020 03:40 AM	Sprawl is a major concern of mine, especially tearing down forests or open spaces to build.
Screen Name Redacted 10/13/2020 11:06 PM	Stop clear cutting trees and building roundabouts please.
Screen Name Redacted 10/14/2020 08:46 PM	More single-family homes under 2200 sq ft
Screen Name Redacted 10/15/2020 01:56 PM	Symbols of hate are being openly displayed in neighborhoods. Recent acts of hate and terrorism to BIPOC citizens and families have caused many to move away for their safety, i.e. the bear effigy, multiple threatening letters, and some folks have even had neighbors come to their door to tell them they are unwelcome. Don't develop lower income & accessible communities separate from mid/upper income neighborhoods! We have tons of industrial and a fair number of over sized residential properties that can be developed into mixed and multi family. The mill properties by 6th and along the river should redevelop into mixed live/work w affordable condos and give the city access to the river downtown.
Screen Name Redacted 10/16/2020 02:19 PM	Camas is becoming way too crowded. Slow the growth, especially for the wealthy.

Screen Name Redacted 10/16/2020 07:38 PM	That the city administrators are going to be more focused on cramming people into the city rather than making it a more habitable place to live. The ill-sized roads, crummy parks, and discontinuous sidewalks/bike lanes decrease the appeal of living here. Encouraging multi-unit dwellings or apartment complexes will do nothing to aid this but make more these neighborhoods subject to more crime and be less-desirable.
Screen Name Redacted 10/16/2020 07:49 PM	I do worry about adding more multi-unit rentals, as they make for more temporary citizens of Camas who do not often have the same investment in the community, yet can still vote to raise our property taxes. Also, many, many houses have been/are being added to Camas recently, yet only a little has been done to address our roads. Most of them are not wide enough to accommodate this growth, and I see plenty of congestion in our future.
Screen Name Redacted 10/17/2020 12:00 PM	Architectural style is lacking. More modern homes would really help. And we need to bury those power lines. More side walks.
Screen Name Redacted 10/17/2020 06:43 PM	Please bury powerlines so they don't keep getting taken down by trees and lose electricity every winter!
Screen Name Redacted 10/19/2020 01:35 PM	We seem to have too much high end housing and not enough midrange and affordable housing. Also I would like to ensure that our neighborhoods are intentionally mixed price so that we welcome, rather than exclude, residents. I am also not a fan of gated communities. Many of these questions seem like they require actual data rather than opinions. Seems like you would have an assessment of what housing stock is

	available across cost and need levels. Now, putting data collection aside, I can also see where knowing public perception of available housing is also useful - as long as you have a clear sense of the full demographics of those responding. You might add education, size/composition of household (#/ages, ?single, multi generational, etc)
Screen Name Redacted 10/19/2020 03:19 PM	The development of underdeveloped territory within our city worries me. I don't want any of the beautiful min-forests or plains-like areas to be cut down and replaced by more houses. I am also worried that out here, we're a little biased when it comes to race, ethnicity, some forms of religion and the relationship between these people and their real estate/rental agents.
Screen Name Redacted 10/20/2020 07:10 PM	Stop building new homes. Getting over populated and taking away from the natural setting of the city.
Screen Name Redacted 10/20/2020 07:10 PM	Stop building new homes. Over populated. Taking away from our beautiful natural environment.
Screen Name Redacted 10/20/2020 08:32 PM	We have to decide if we as a City want do things that promote the development of more housing at the current fast rate, or sit back and let nature take its course (let the market decide). I don't know what the right answer is.
Screen Name Redacted 10/22/2020 03:49 PM	My husband and I would like to buy a home in Camas but there aren't enough small homes available.
Screen Name Redacted 10/23/2020 10:07 AM	I'm concerned with cramming too many people within our current developed footprint, lowering existing home values by adding homes that take up most of their lot, or, worse, tearing apart treed areas when there

	is cleared farmland up for sale available just beyond our area. The VERY WORST thing would be to alter homes in downtown Camas in a way that destroys their historic character. The homes don't have to be huge, modern, or expensive to be special. Regardless of home size, the environment should be the #1 priority. We have the unique opportunity of designing around such beautiful nature, and taking advantage of that will protect both the environment and future values of our investments as the rest of the surrounding areas pack in as many people into cookie-cutter structures with non-indigenous landscaping that lacks anything that sets them apart from any other given city. I would've moved to Tigard or Beaverton if I wanted that.
Screen Name Redacted 10/24/2020 09:29 AM	Keep the Camas charm
Screen Name Redacted 10/25/2020 12:08 PM	Do not give cost, tax or impact fee discounts to new rental construction. If supports are required do rental assistance that goes directly to the landlord.
Screen Name Redacted 10/26/2020 11:58 AM	Is it safe / welcoming for diverse people? Are you a welcoming community?
Screen Name Redacted 10/26/2020 03:25 PM	Redlining and other discriminatory practices. lack or community resources for house-less community.
Screen Name Redacted 10/26/2020 04:48 PM	A huge majority of what is being built is luxury high end homes affordable to a small percentage of people. Also, so many forested areas have been clear cut to make way for subdivisions that are too tightly packed. Camas only seems to be focused on building residences instead of a balance between

	amenities and housing options. Camas is just one subdivision after another.
Screen Name Redacted 10/27/2020 10:08 AM	Development of enormous, overly-expensive housing developments has run amok. They are ugly, poorly built, and wipe out hundreds of acres of forest and farmland. All we seem to be doing is building for the rich.
Screen Name Redacted 10/28/2020 03:34 PM	The market has gone so crazy in Camas that a normal $450K-$500K house now goes for $800K. That is probably not accurate but close enough. Houses here are way above what a house should sell for. We decided that instead of upgrading over the next few years we'll just take our profit and move out when the last of our kids graduate from Camas HS in 5 years. Another problem I see with Camas housing is there is so much, how do I put it, cookie-cutter half-way decent housing i.e. Woodburn Hill, Green Mountain, etc that the character of Camas is changing to, - well a cookie-cutter community. I get it, those are affordable for the most part but we already see some of those even newer homes starting to age not so gracefully.
Screen Name Redacted 10/28/2020 05:47 PM	This survey is framed to elicit responses that would show support for low end housing vs. how residents want to see growth over the next 20 years.
Screen Name Redacted 10/28/2020 08:42 PM	So much private land is being purchased by outside developers. Camas is losing its green, and lush forests. We are losing so much, and feeling helpless in our own city.
Screen Name Redacted 10/28/2020 08:47 PM	There seems to be too many high-end, luxury homes. Would prefer to see smaller sized family homes and Co-op type of communities. Also

	incentives for solar and passive housing.
Screen Name Redacted 10/28/2020 08:57 PM	Increased Property taxes & high costs of homes.
Screen Name Redacted 10/28/2020 09:46 PM	Space for local farming (animals and vegetable) must be interspersed with housing development to feed the local population, we can't rely on large, faraway factory farms to feed our community. People need views of and experience in nature for well-being, and wildlife needs green space to co-exist with us. Natural space should be valued, and a certain percent of mature trees should be retained on each property developed. Any development should be planned with an eye to the future, what will the neighborhood look like in 30-50 years? There are mature, spaced-out developments in Portland that are a delight to walk thru, and there are crowded streets that are only inhabited by necessity instead of by choice.
Screen Name Redacted 10/28/2020 09:46 PM	1) Public transit access; 2) accessibility (single level living) for universal design; 3) high-density development close to downtown;
Screen Name Redacted 10/28/2020 11:24 PM	We need to express our values in this town. Law abiding- good education- and be nice!!
Screen Name Redacted 10/29/2020 12:03 AM	Do not develop north shore- build in all open spaces in city limits first
Screen Name Redacted 10/29/2020 08:06 AM	Stop forcing "affordable" housing into a market that doesn't want it. Your "affordable" housing that is at Round Lake isn't exactly affordable to those who truly need affordable housing. The market will determine what the value of a property is. Stop buying into the mentality that people should be able to live on minimum wages.

	Minimum wage is supposed to be where you start, not where you stop. Artificially inflating wages and artificially capping housing prices is the first step towards socialism.
Screen Name Redacted 10/29/2020 08:36 AM	High property taxes. And, Camas pushes and bends to developers fir new housing; but, the city doesn't take care of the older existing neighborhoods which are becoming an eyesore. The older neighborhoods are overdue for road and new sidewalk work, and underground utilities (paid by the City)
Screen Name Redacted 10/29/2020 08:44 AM	That it's going to become crowded with fewer trees, smaller lots housed shoved together and so totally ruing what remaining ambience left since this weak city has rolled over and let every greedy developer destroy open area after open area.
Screen Name Redacted 10/29/2020 09:03 AM	Grow slowly
Screen Name Redacted 10/29/2020 10:10 AM	Mega-developments that eliminate natural green space, trees, and habitat should be avoided. There should be more homes with decent sized lots created. If a development is created, a certain number of trees must be retained. We need to ensure that there are eco-barriers are created to keep contamination out of the lake systems.
Screen Name Redacted 10/29/2020 12:25 PM	The city should cater to current residents not future residents.
Screen Name Redacted 10/29/2020 03:43 PM	I'm mostly concerned that increased population density in Camas will contribute to unsatisfactory living conditions for those in the community. Packing people together isn't healthy for the individual or the city. People have the responsibility to

	financially prepare for housing well in advance of need.
Screen Name Redacted 10/29/2020 07:49 PM	Everything is so expensive. Older homes should be more affordable.
Screen Name Redacted 10/29/2020 09:13 PM	There are too many developments with HOAs. Also, unfortunately, when residential lots are split, multi-family houses are built rather than affordable single family homes. This results in more rentals rather than owner-occupied properties. Creating more opportunities for home ownership contributes to the stability of the community because of the financial and emotional investment of the people who buy them.
Screen Name Redacted 10/29/2020 09:39 PM	I would like to see Camas housing evolve with respect to our history, retaining the character of our town but moving forward with modern solutions, having sizable and affordable spaces for children and adults to play, keeping nature and its benefits easily accessible to our citizens a priority in new development.
Screen Name Redacted 10/30/2020 11:09 AM	Too many developments!!!! No longer country feel .overcrowded
Screen Name Redacted 10/30/2020 12:27 PM	The agenda to provide alittle packed in revenue chasing town turned into a small city with nothing but upper class individuals
Screen Name Redacted 10/30/2020 12:43 PM	you have no questions about protecting the natural environment. You should never develop grass valley which is home to many bird species. There are developments already at 192nd and Brady, 102nd near 38th, and others west of Lacamas Lake, this is enough protect wetlands, open space, and natural areas. They mean something to life on this planet. We are more than just

	humans. Portland is trying middle housing, density and ADU's. That is a primary reason we moved from Portland to Camas. Protect Camas. We can't provide housing for those Portland who can't tolerate the lifestyles, safety and health issues in California and Portland. My wife and I are not conservatives.
Screen Name Redacted 10/30/2020 01:10 PM	Too many track town houses being built
Screen Name Redacted 10/30/2020 01:52 PM	It would be a shame to see the character of Camas destroyed with housing covering all the nice open spaces. Let's preserve the beauty of the area. We should not cover every space with housing. When building is excessive there is a lot of tree and habitat loss. It would be good to have low-cost housing such as the Stephens Creek development in Southwest Portland. In addition to providing much needed housing, it might lead to greater ethnic diversity in the area.
Screen Name Redacted 10/30/2020 03:47 PM	Property taxes are high.
Screen Name Redacted 10/30/2020 09:44 PM	It is over developed as it is.
Screen Name Redacted 10/30/2020 11:15 PM	I am concerned by the huge, single-family homes developments that go into Camas, year after year. We don't need one more housing development full of large, expensive homes. This truly concerns me. We need diversity!!!! As the CSD Homeless Liaison, I am very concerned for our homeless youth. Can we please problem solve how to take care of these youth? Supportive housing? Youth shelter? We cannot be ignorant of the most vulnerable in our community.

Screen Name Redacted 10/31/2020 10:24 AM	NO APARTMENTS OR MOBILE HOMES PARKS
Screen Name Redacted 11/01/2020 12:46 PM	Don't change what made Camas a sought after town: nice suburban residential and open parks and farms. Camas doesn't need apartments or townhomes or low income residential, there's plenty of room for that in Vancouver.
Screen Name Redacted 11/04/2020 12:06 PM	In addition to housing, we need to ensure the infrastructure is there to support more housing. For instance, that we have room in neighboring schools or the ability to add a school in order to support an influx of families with students. And mixed use spaces allowing for, say, retail below and housing above could help with raising city funds via taxes.
Screen Name Redacted 11/04/2020 05:59 PM	Just too many LARGE homes taking over areas that make Camas special. First time home buyers or smaller families are unable to live here due to cost and lack of appropriate housing.
Screen Name Redacted 11/04/2020 06:36 PM	The lack of affordable housing is very concerning. How would a new teacher move here and teach here, for example? How would a newer firefighter be able to support their family in this community?
Screen Name Redacted 11/04/2020 07:48 PM	We have got to stop letting developers clear cut and destroy our vacant lands. I want to see the lake in lake road but I see brick walls. Also if a park or playground is added in a development it should be city property and owned and managed by the city so all residents can play not jusy those in the association of that development. Save the tree, prioritize greenspaces and hold developers accountable to all the people.

Screen Name Redacted 11/05/2020 12:46 AM	The clear-cutting of trees for developments is a serious problem. Lack of affordable housing for many who work here and for people who would make wonderful members of our community.
Screen Name Redacted 11/05/2020 07:36 AM	Can we please STOP new development....

Optional question (187 response(s), 120 skipped)
Question type: Essay Question

Q13 Which partners should be engaged in the conversation about housing diversity and affordability in Camas? What resources could they bring to the table?

Screen Name Redacted 9/28/2020 02:19 PM	I think diversity in our town is a huge concern. I'm not sure people of color feel welcomed.
Screen Name Redacted 9/28/2020 02:42 PM	Groups that support the interests of BIPOC in our community; EDI training and influence on policy in housing & development
Screen Name Redacted 9/28/2020 03:10 PM	Dissolving HOAs/or severely limiting HOAs power would increase diversity and affordability in Camas. And, at least anecdotally local real estate agents seem to promulgate negative stereotypes on dense living. But increasing density is the logical solution to increase housing supply, particularly for lower-cost units.
Screen Name Redacted 9/28/2020 03:13 PM	Downtown Camas Association—concerns and needs of downtown employees and owners. Recruiting businesses downtown and Camas in general is affected by housing availability.
Screen Name Redacted 9/28/2020 03:17 PM	The school district. Our schools need to be able to handle the growth & they are currently popping at the seams, especially CHS. More homes = 2nd traditional high school needed

	FIRST. Don't seek to attract new residents if the city cannot support them.
Screen Name Redacted 9/28/2020 03:40 PM	Housing diversity is not needed. Stop!
Screen Name Redacted 9/28/2020 06:15 PM	Banks, lending institutions, escrow companies and companies to help in ownership obstacles.
Screen Name Redacted 9/28/2020 06:47 PM	Hire the right people. Dont pay consultants
Screen Name Redacted 9/29/2020 09:50 AM	Existing homeowners are your constituency. Start there. Not your special interest groups.
Screen Name Redacted 9/29/2020 04:20 PM	banking industry / realtors
Screen Name Redacted 9/29/2020 04:26 PM	People who live here. You should ask them how they feel about overcrowding.
Screen Name Redacted 9/30/2020 12:14 AM	city, county, state governance partners; faith-based partners; seniors; families with children under age 18
Screen Name Redacted 9/30/2020 11:06 AM	LULAC - Ed Hamilton NAACP Council for the Homeless YWCA Clark County City of Vancouver City of Washougal Mortgage brokers and lenders
Screen Name Redacted 9/30/2020 12:10 PM	Camas public school district, local leaders of color (business owners, clergy, public service, volunteers, etc)
Screen Name Redacted 9/30/2020 02:21 PM	Nonprofits serving camas or Clark county.
Screen Name Redacted 9/30/2020 02:39 PM	The public is great, but not terribly useful. Most people lack the perspective and understanding to offer much value, with some rare exceptions. Perhaps having a clear objective in mind first (that is

	actionable, not just business babble) then ideating with a variety of stakeholders using design thinking frameworks to surface possible solutions would be an effective approach?
Screen Name Redacted 9/30/2020 02:45 PM	Seniors, college students, unemployed, rental owners
Screen Name Redacted 10/01/2020 03:58 PM	Shovels to plant trees, access to water for wildlife.
Screen Name Redacted 10/02/2020 10:57 AM	Seriously? Is there something I am missing on this topic? Why the concern? IS there some type of incentive to the city to do this? Perhaps the city needs to have business people on their council & in roles that can assist the City of Camas to do a better job in maintaining our small town the way it should be...clean, friendly and SAFE!
Screen Name Redacted 10/03/2020 08:54 PM	city leaders, citizen representatives, school district personnel, church communities, experts in the field, city planners
Screen Name Redacted 10/05/2020 08:05 PM	Homeowners, companies like Fisher Investments and Wafer-tech. In my opinion, the city is lacking basic amenities such as shopping and retail services. There also seems to be a decline in tech companies with the exit of Sharp and UL. I'm not sure why the school district keeps buying valuable, taxable property.
Screen Name Redacted 10/06/2020 09:36 AM	Send a survey to every single homeowner.
Screen Name Redacted 10/06/2020 09:51 AM	the community itself.
Screen Name Redacted 10/06/2020 10:03 AM	Camas Council, Clark County, HOAs in the area, major businesses in Camas, Police and Fire.

Screen Name Redacted 10/06/2020 10:19 AM	Home owners and residents. And keep the racial discrimination nonsense out of the conversation. If people have the money and good credit, they can buy in Camas. “Systemic racism” is not a problem in our community. We have people from various backgrounds...many educated and accomplished immigrants that bring vibrancy, talent and flavor to our community. What we DO NOT want or need is creating a magnet for drug addicts and people with mental illness who flock to our town to get subsidized housing. Who ever has plans to turn us into Portland had better knock it off.
Screen Name Redacted 10/06/2020 10:35 AM	Local residents only. "Experts" are not, they only have an agenda.
Screen Name Redacted 10/06/2020 11:19 AM	No one. Let the market decide. Keep government and "academic" "scholars" out of our decisions.
Screen Name Redacted 10/06/2020 11:58 AM	Teachers! Not only do they know how their wage (alone) makes home ownership in Camas an issue, but they also have direct contact with students and their parents so they can offer that perspective, as well.
Screen Name Redacted 10/06/2020 01:02 PM	Everyone. Just because someone can afford housing here doesn't mean they shouldn't have a voice.
Screen Name Redacted 10/06/2020 03:27 PM	Help our school district educate kids- and put your efforts in the right direction! This is way more important than your zoning questions-
Screen Name Redacted 10/06/2020 06:46 PM	Current residence. Do not include developers/contractors should be involved. Do not pay for “consultants”. Let the current citizens determine what they want.. don’t grow just because everyone says we need to.

Screen Name Redacted 10/06/2020 06:56 PM	Citizens only and Let us vote. No developers or consultants that have the opportunity for financial gains from the outcome. Have all decisions open for the citizens at city council meetings
Screen Name Redacted 10/06/2020 10:58 PM	None
Screen Name Redacted 10/08/2020 01:10 PM	Only Camas citizens should have say about Camas!
Screen Name Redacted 10/09/2020 05:23 PM	residents
Screen Name Redacted 10/09/2020 05:44 PM	Small builders and Camas citizens
Screen Name Redacted 10/09/2020 08:19 PM	Don’t ruin this small town.
Screen Name Redacted 10/09/2020 08:33 PM	I don’t know
Screen Name Redacted 10/09/2020 08:41 PM	Obviously certain city staff members, Camas tax payers, and representatives from a city or town going through the same thing Camas is experiencing. A wealth of knowledge is a phone call away-
Screen Name Redacted 10/09/2020 08:41 PM	Mass transit
Screen Name Redacted 10/09/2020 09:58 PM	The people of camas. Especially those who have lived here for longer than 10 years.
Screen Name Redacted 10/09/2020 10:03 PM	Stop the building!
Screen Name Redacted 10/09/2020 10:14 PM	Existing residents
Screen Name Redacted 10/09/2020 10:17 PM	None

Screen Name Redacted 10/10/2020 04:02 AM	Local Banks should be more helpful
Screen Name Redacted 10/10/2020 07:59 AM	The residents of Camas.
Screen Name Redacted 10/10/2020 08:11 AM	County and state regulations for building codes and fees to be more favorable to the builder or owner.
Screen Name Redacted 10/10/2020 08:57 AM	Small local landlords like myself should be included.
Screen Name Redacted 10/10/2020 10:04 AM	Bring to the table the current homeowners/neighbors who would be directly affected by low housing units and apartment planning BEFORE permits have been approved/issued for building. It is a known fact that crime is higher around apartments and low housing developments. Think of Camasonians and current tax paying homeowners first.
Screen Name Redacted 10/10/2020 10:15 AM	I strongly disagree with diversity initiatives since they are racist, based upon quotas and potentially illegal. Eligibility for housing, jobs/promotions should always be based upon merit and requisite qualifications.
Screen Name Redacted 10/10/2020 10:57 AM	Citizens, builder's association, get younger people with families and seniors that want to downsize involved.
Screen Name Redacted 10/10/2020 11:53 AM	Stop building. Fix what we have.
Screen Name Redacted 10/10/2020 12:16 PM	Don’t know of any
Screen Name Redacted 10/10/2020 01:58 PM	Freedom. Property rights. Tax-paying citizens. How about a diversity of farms and rural lands? How about letting the people truly decide "if" they

	want multi-million dollar homes along the Northshore? How about listening when the people say they want to focus development south of the lake? Too many special interests seek too much control. You can't even clean up Lacamas Lake. You ignore citizens wishes regarding the Northshore development. Why should we trust you will consider any input citizens offer now?
Screen Name Redacted 10/10/2020 02:07 PM	Listen to residents. I don't think we want to be squished together. Keep traffic in mind, and parks and open spaces, walking trails and such.
Screen Name Redacted 10/10/2020 02:17 PM	Do not interfere in the market conditions. Allow supply and demand to work, and if you want to help first time homeowners develop a stipend program to help with down payments.
Screen Name Redacted 10/10/2020 03:41 PM	I dont understand the question. But I do have lots of experience as a consultant for real estate developers and feel the town needs more restrictive planning.
Screen Name Redacted 10/10/2020 03:46 PM	No other "partners" needed. There are laws that address such things as housing discrimination and bank redlining. "Critical race theory" hucksters are not needed in Camas.
Screen Name Redacted 10/10/2020 04:02 PM	Camas is fine the way it is.
Screen Name Redacted 10/10/2020 04:35 PM	None because I don't think these are issues that need to be addressed or "fixed" by the city.
Screen Name Redacted 10/10/2020 04:38 PM	Builders and remodlers. We need more affordable housing not just street of dreams developments.
Screen Name Redacted 10/10/2020 04:55 PM	Don't know enough about the options available and who the 'partners' are but there should be community meetings about this

Screen Name Redacted 10/10/2020 04:57 PM	None whatsoever.
Screen Name Redacted 10/10/2020 04:58 PM	Existing homeowners for sure.....those who have made a large investment in their homes. Those organizations whose only goal is to serve the underserved with all manner of low cost housing need to hear our opposition. I am talking about "affordability" only. Diversity is an entirely different story. Latinos and African Americans should be welcomed to join the considerable presence of Asians that we already have.
Screen Name Redacted 10/10/2020 05:06 PM	Only those who understand, value and wish to preserve Camas' character. We could certainly use more affordable housing for buyers who can't afford a half million dollar home, but those options must be for people who plan to own and contribute to Camas' culture and appeal.
Screen Name Redacted 10/10/2020 05:20 PM	A diverse variety of folks representing not only sellers, buyers, lenders, landlords, but also women, men, minorities, renters, and homeowners.
Screen Name Redacted 10/10/2020 08:02 PM	How about realators?
Screen Name Redacted 10/10/2020 08:34 PM	Only those that were born and raised in the county. Californian's should not have input as they created this issue we are in.
Screen Name Redacted 10/10/2020 08:41 PM	The citizens, especially citizens that live close to any proposed development.
Screen Name Redacted 10/10/2020 10:23 PM	Don't agree with the premise, stope government meddling in market forces.
Screen Name Redacted 10/10/2020 10:44 PM	Let citizens decide for themselves.

Screen Name Redacted 10/10/2020 10:45 PM	I think Camas Is perfect. I think the development needs to stop. Camas is big enough and we're slowly loosing our small town feel with all this nonsense of development and affordability. There's plenty of diversity already. In my block alone we have at least 7 countries represented including mine of Mexico. I moved to Camas in 2005 and even back then Camas was and is a beautiful place to live. Plenty of diversity. I love it!
Screen Name Redacted 10/11/2020 07:25 AM	Habitat for humanity
Screen Name Redacted 10/11/2020 08:10 AM	I don't feel like that's the business of City government at this time. What does "housing diversity" even mean? What is affordable? Are you saying to lower the bar of entry artificially so people who normally couldn't afford housing now all of the sudden can afford housing? Problem with surveys like this is you don't define your assumptions so it's hard to understand the context around this question.
Screen Name Redacted 10/11/2020 08:54 AM	Anyone from Portland that will tell you what not to do
Screen Name Redacted 10/11/2020 09:02 AM	Environmental Parks and Open space School Board Public
Screen Name Redacted 10/11/2020 09:04 AM	Definitely a focus group of people of color, another of people with student loan debt (who would otherwise be able to buy homes in the area), and people who are working class. Each group can attest to their lived experiences and help others empathize with the real barriers to living comfortably here.
Screen Name Redacted	Land use representatives, homeless

10/11/2020 11:09 AM	and mental health professionals. Seniors.
Screen Name Redacted 10/11/2020 11:22 AM	Do your research into what other Cities have done, successfully. Mimic them. Camas seems very naive in all its Equity ways. So, you will have a steep climb in this learning.
Screen Name Redacted 10/11/2020 12:21 PM	Property owners who have vested interest in the community
Screen Name Redacted 10/11/2020 02:52 PM	Not the mega rich corporations
Screen Name Redacted 10/11/2020 03:49 PM	Partners (developers, special interest groups) that aren't donating to the campaigns of people on the city council.
Screen Name Redacted 10/11/2020 10:41 PM	Surveys from every Camas resident would be ideal.
Screen Name Redacted 10/12/2020 11:59 AM	People who are less concerned with making money and are more concerned with preserving what is a popular destination without ruining it with overcrowding and eye sore developments.
Screen Name Redacted 10/12/2020 01:18 PM	No one. If you want affordable or diversity look at other areas that are affordable and diversified. Take pride in what we have ..we can't please everyone!
Screen Name Redacted 10/12/2020 03:12 PM	Forestry service - how to live with wild animals as neighbors
Screen Name Redacted 10/13/2020 03:40 AM	People who have desired to move here but couldn't.
Screen Name Redacted 10/13/2020 11:06 PM	Students from local colleges, BIPOC community leaders in Vancouver and Portland, Homelessness prevention organizations, architects working on new types of housing that foster community and affordability

Screen Name Redacted 10/15/2020 01:56 PM	BIPOC families. Also lower income and less networked folks who may have not seen this survey. People who don't live in Camas who might move here if there were more diverse housing options. Get the mill to clean up and redevelop mill properties near downtown, and along the river.
Screen Name Redacted 10/16/2020 07:38 PM	Actual homeowners in Camas, WA, the people with a vested interest in the place they call home. We do not need mini-Portland over here.
Screen Name Redacted 10/16/2020 07:49 PM	The home owners of Camas should be engaged, as they are invested in the community and care about the well-being of the City. There are good reasons to live in Camas; let's hope we can keep them.
Screen Name Redacted 10/17/2020 12:00 PM	Home owners, builders, city personnel. I'd bring a thorough understanding of the current support that Washington offers as well as an understanding of the offerings from surrounding cities.
Screen Name Redacted 10/19/2020 01:35 PM	schools - as they hopefully have a good idea about the needs of their students' families
Screen Name Redacted 10/19/2020 03:19 PM	I am not sure.
Screen Name Redacted 10/20/2020 07:10 PM	None. Take that to Vancouver.
Screen Name Redacted 10/20/2020 07:10 PM	None
Screen Name Redacted 10/23/2020 10:07 AM	We should have an environmental council that includes cleaning up our lake and protecting the trees that guided Lewis and Clark westward. Thoughtful planning with consideration to the landscape can still allow for multi-family units.

	Removal of natural resources (ie, trees...) should have considerable fees (likewise, project-crippling fines for removal without said permits) to ensure development is done with our children's futures as the first consideration. Also, and this is so important, there should be crystal clear, publicly broadcast paper trails that ensure developers, council members, city employees, and others aren't simply lining each others' pockets. We should have a paid arborist on staff for the city to aid in this process, as well as a volunteer council of local residents to cross-check the integrity of the process.
Screen Name Redacted 10/25/2020 12:08 PM	Existing landlords. Do NOT engage the BIA or a representative of the real estate profession. They will lobby. They won't be advocating for the prospective resident or for the best interests or needs of the city. We need to look towards people who have Camas long term interests at heart. We don't want the transactional!
Screen Name Redacted 10/26/2020 12:58 PM	Realtors could have good ideas. Mortgage loaners too. Financial counselors with their experiences working with families. City utility staff too because the 5 utilities billed to residences is expensive and effects affordability. County staff could provide estimated property taxes on housing, which also effects affordability.
Screen Name Redacted 10/26/2020 03:25 PM	An Equity Director would be a useful tool in helping to steer Camas into being a welcoming community to people of all races and ethnicities and people of every socioeconomic status.
Screen Name Redacted	I would love it if Camas would

10/26/2020 04:48 PM	partner with creative people who know how to properly plan for livability in terms of repurposing existing structures and creating residences that are walkable to mom & pop type markets etc. Resources they could bring is I guess previous success stories of diverse projects.
Screen Name Redacted 10/27/2020 10:08 AM	Vancouver Housing Authority, People who need housing for disabled or elderly family members, Providers of community housing for the disabled, like L'Arche. We have talked about turning our properly into a L'Arche community home, but aren't sure we can afford it. But this is a big issue for us. Our daughter was in the special ed program at Camas High, and none of her friends seem to have any housing options, and several have ended up being exploited by people who want access to their SSI checks. We can do better than this.
Screen Name Redacted 10/28/2020 03:34 PM	Honestly I have no idea. I mean, who can move the real estate market to a more normalized situation? We have buyers coming up from California cashing out, coming up here and paying silly-high prices for anything that goes for sale here in Camas. Great for the buyers for sure and great for the City of Camas tax base. Those buyers are in heaven for many reasons, including moving to our amazing, beautiful Camas. And happy to have all of them and others as neighbors but it put us in a bad spot for affordable housing here. At this point you're doing what you can in terms of "affordability" by approving communities like Woodburn Hill and Green Mountain. How could you really be more affordable than that? Those entry-level homes are about as cheap as it

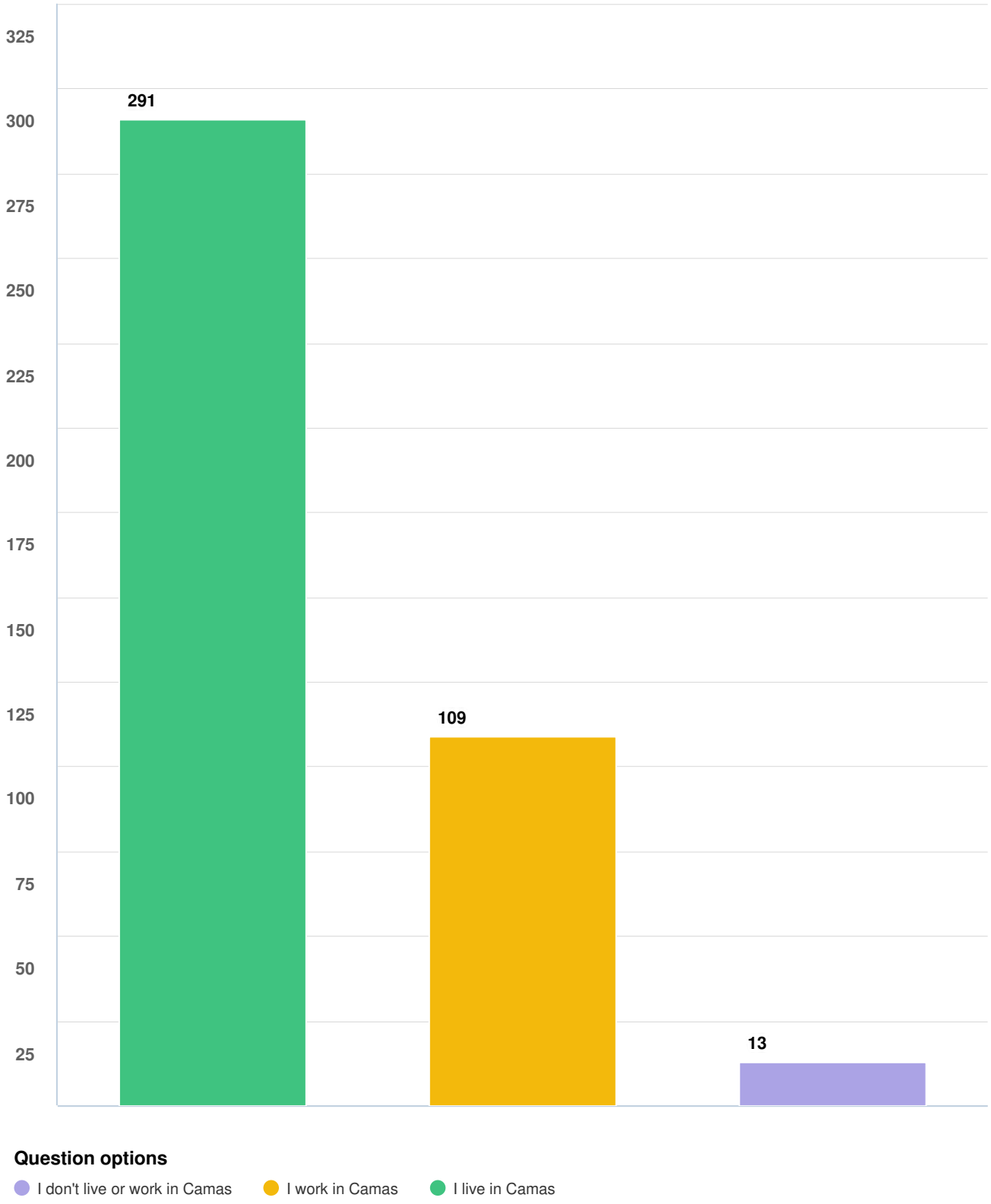
	gets for single family homes. I suppose you could build cheaper homes somewhere but no one will build those, I doubt there's money for a developer for that. And I wouldn't support local tax incentives for that type of housing, that much cheaper than the entry-level homes out there. Maybe bring in developers and ask them about building lower income housing and see what they say? I wouldn't think there are any politicians who know any better than a developer or even City staff.
Screen Name Redacted 10/28/2020 05:47 PM	Residents in neighborhoods where you are desiring to put low cost housing.
Screen Name Redacted 10/28/2020 08:42 PM	Futurewise and Camas City Planning: Bring much needed information, transparency and (hopefully) solutions. Please don't sell our town.
Screen Name Redacted 10/28/2020 09:46 PM	I don't have any to suggest.
Screen Name Redacted 10/28/2020 09:46 PM	1) Camas City Council needs an Equity Subcommittee; 2) Build a working relationship/partnership C-TRAN for planning public transit to serve more Camas households efficiently -- this is an absolute priority for Camas's future attractiveness and livability; 3) While Bend, OR is not perfect, it has been dealing with similar growth issues for a long time and may provide helpful ideas/examples;
Screen Name Redacted 10/28/2020 11:24 PM	None!
Screen Name Redacted 10/29/2020 08:36 AM	Citizens, HUD, licensed city planners, agency for the aging and disabled. Designers.
Screen Name Redacted	Who says we need diversity and

10/29/2020 08:44 AM	affordable housing? This is a presumptuous assumption from typically left-wing liberals.
Screen Name Redacted 10/29/2020 09:03 AM	I'm not aware of a diversity issue in Camas. Please don't create an issue that doesn't exist.
Screen Name Redacted 10/29/2020 10:10 AM	CREDC, environmental councils, public.
Screen Name Redacted 10/29/2020 12:25 PM	Voters.
Screen Name Redacted 10/29/2020 03:43 PM	Above all, Camas residents.
Screen Name Redacted 10/29/2020 09:13 PM	I can only think of who not to ask to join conversation—large developers such as DR Horton and Lennar.
Screen Name Redacted 10/29/2020 09:39 PM	Georgia Pacific; so much of their unused and full-of-potential land could completely revolutionize our downtown.
Screen Name Redacted 10/30/2020 12:27 PM	Not all Californians and real-estate agencies/Companies.....
Screen Name Redacted 10/30/2020 12:43 PM	Environmental Organizations, less emphasis from developers, local citizenry .
Screen Name Redacted 10/30/2020 01:52 PM	Environmental groups. Environmental impact studies should be performed on any area that is being considered for development.
Screen Name Redacted 10/30/2020 03:47 PM	Clark County Housing Authority, builders, planning departments from Camas and a city with successful multi-use/multi-income housing options, homelessness leaders in our community, professionals with experience in housing diversity.
Screen Name Redacted 10/30/2020 09:44 PM	A real economic team that can balance this mess out right now.
Screen Name Redacted	CORE Industries owners, Rachel &

10/30/2020 11:15 PM	Kevin Barber. Also the owners of Sumner House. They are very involved in helping serve our community and are passionate about meeting basic needs. They have a genuine heart for the community and they have a long history in Camas. Their wisdom is invaluable.
Screen Name Redacted 10/31/2020 10:24 AM	RESIDENTS
Screen Name Redacted 11/01/2020 12:46 PM	Anything that would add more park and open space and not turn it into Vancouver or Portland.
Screen Name Redacted 11/04/2020 12:06 PM	Local equity groups, school administrators, groups advocating for seniors and lower-income residents
Screen Name Redacted 11/04/2020 07:48 PM	Groups with people of color, single parents, families who were raised here and now can't afford to buy and rise their families here.
Screen Name Redacted 11/05/2020 12:46 AM	Citizens (Especially those earning below the median income), developers, city council, homeless and at-risk outreach programs, social workers, teachers, and community-focused economists.

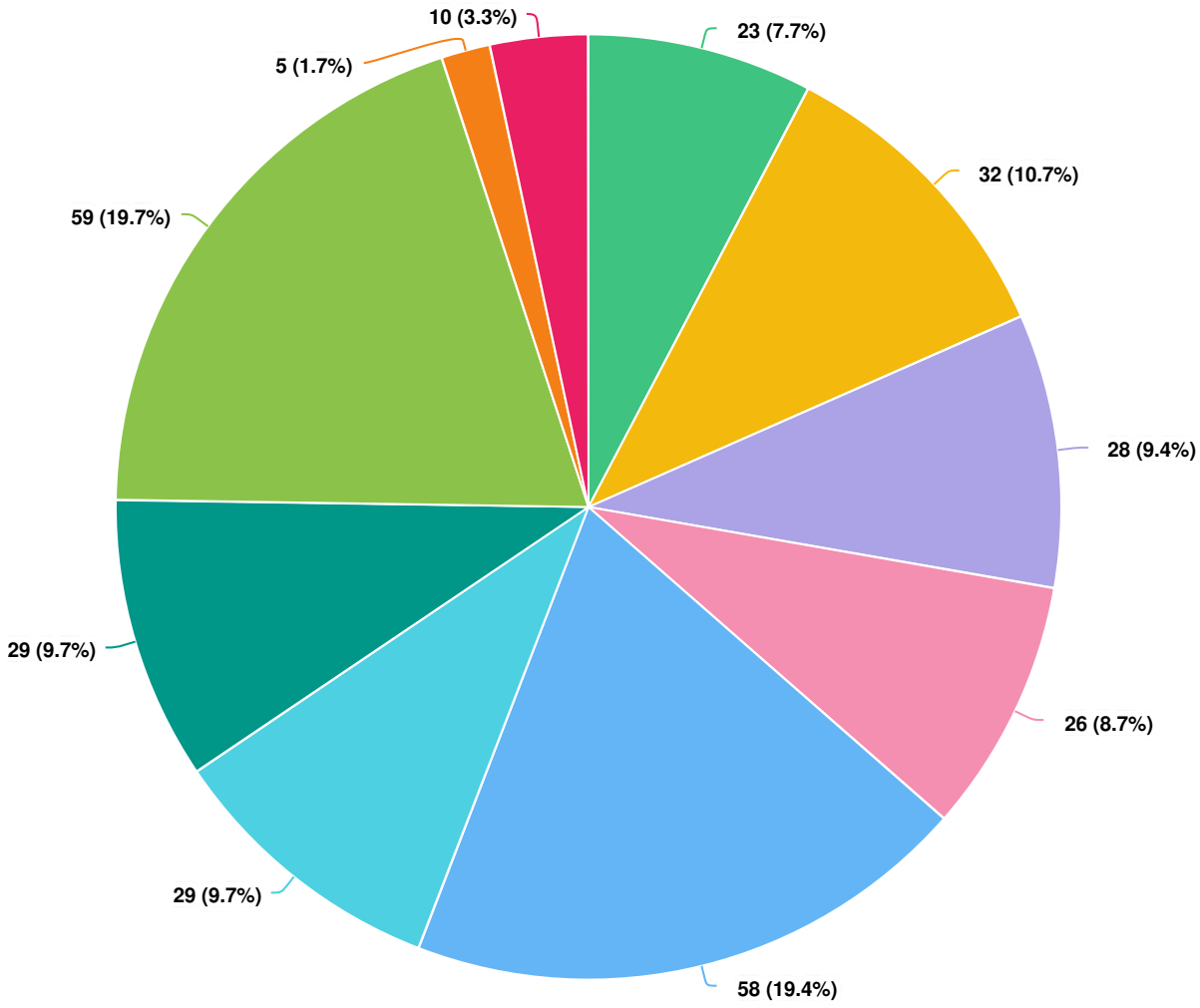
Optional question (127 response(s), 180 skipped)
Question type: Essay Question

Q14 Do you live or work in Camas? Check any that apply.



Optional question (306 response(s), 1 skipped)
Question type: Checkbox Question

Q15 What street(s) is nearest to where you live in Camas?

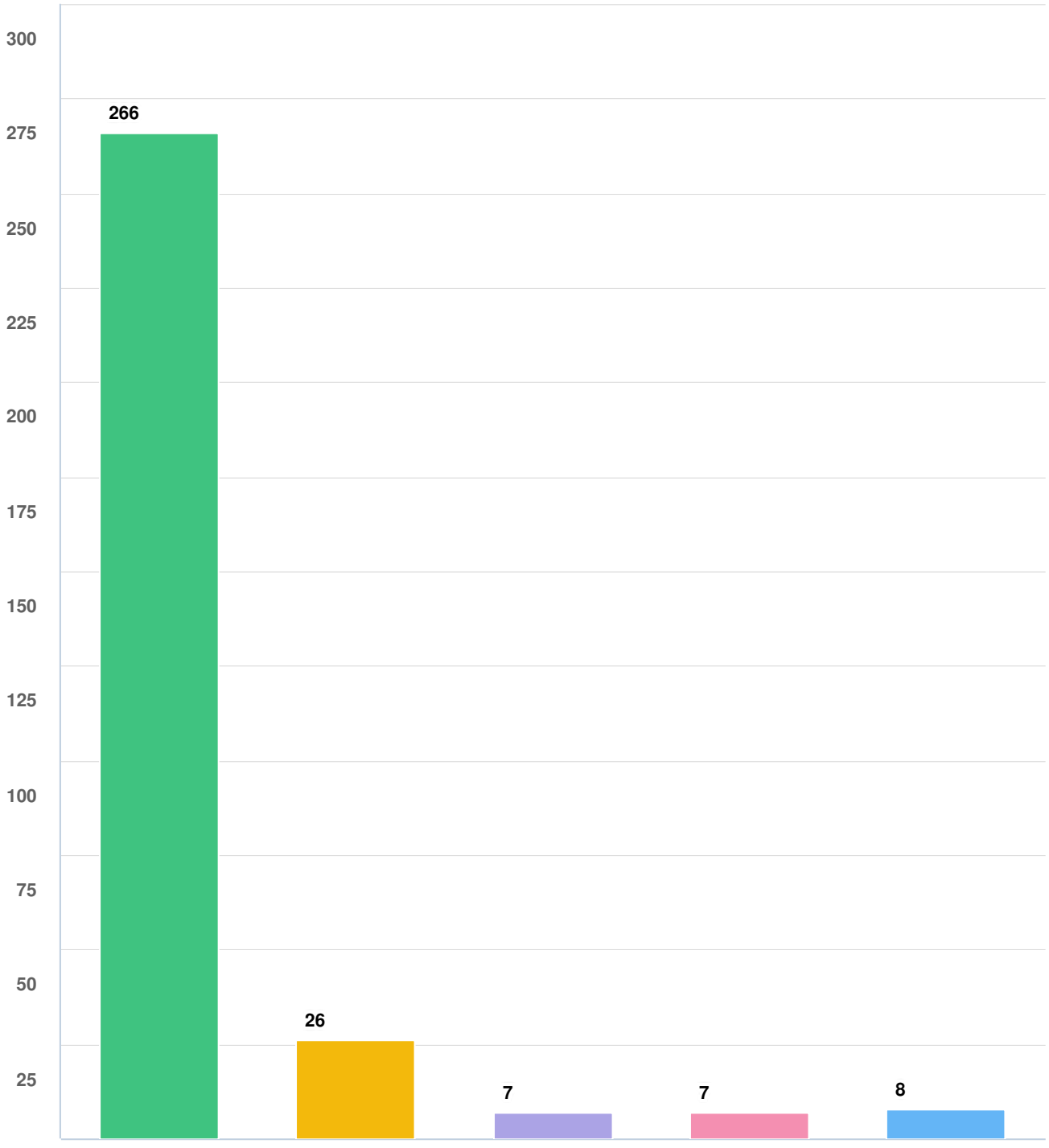


Question options

Not applicable / I don't live in Camas
SE 6th Avenue
NE Everett Street
NE 3rd Avenue
NW McIntosh Road
NW Lake Road
NW 38th Avenue
NW 28th Avenue / NW Fargo Street
NW 16th Avenue / NW 18th Avenue
NW 6th Avenue

Optional question (299 response(s), 8 skipped)
Question type: Radio Button Question

Q16 Do you own or rent your home? Check any that apply.



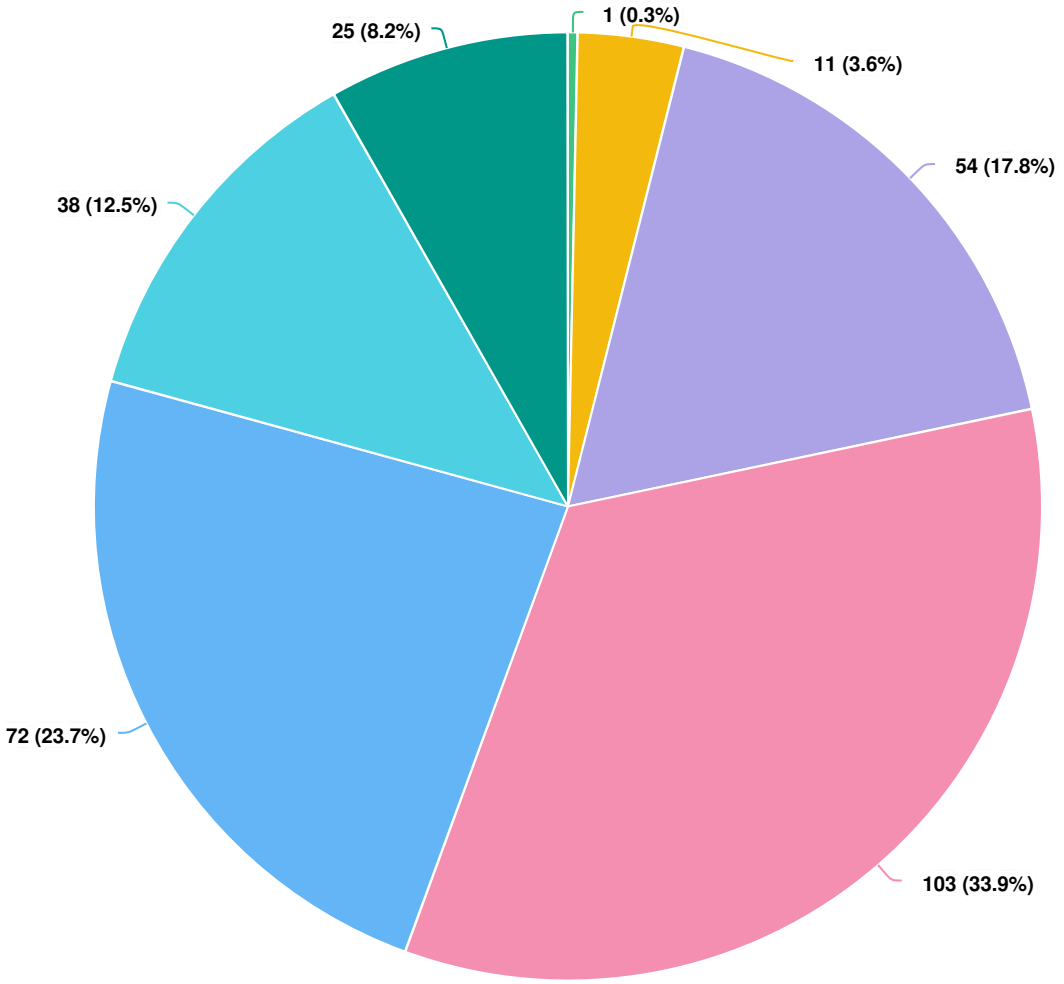
Question options

Other (please specify) I provide housing to more than my immediate family I live with friends or relatives

I rent my home I own my home

Optional question (302 response(s), 5 skipped)
Question type: Checkbox Question

Q17 What is your age group?

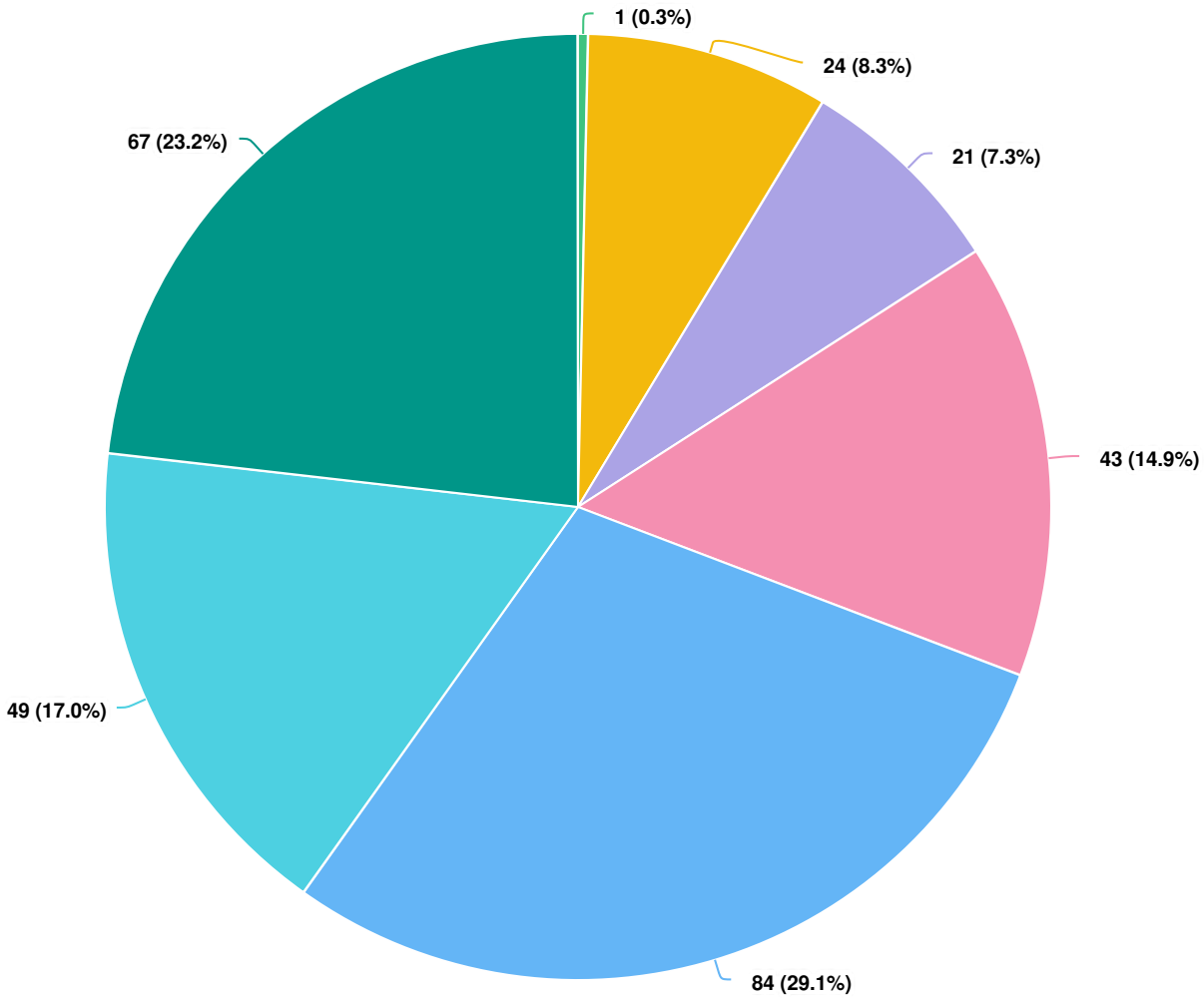


Question options

70 or over | 60 to 69 | 50 to 59 | 40 to 49 | 30 to 39 | 18 to 29 | Under 18

Optional question (304 response(s), 3 skipped)
Question type: Radio Button Question

Q18 What is your total household income?

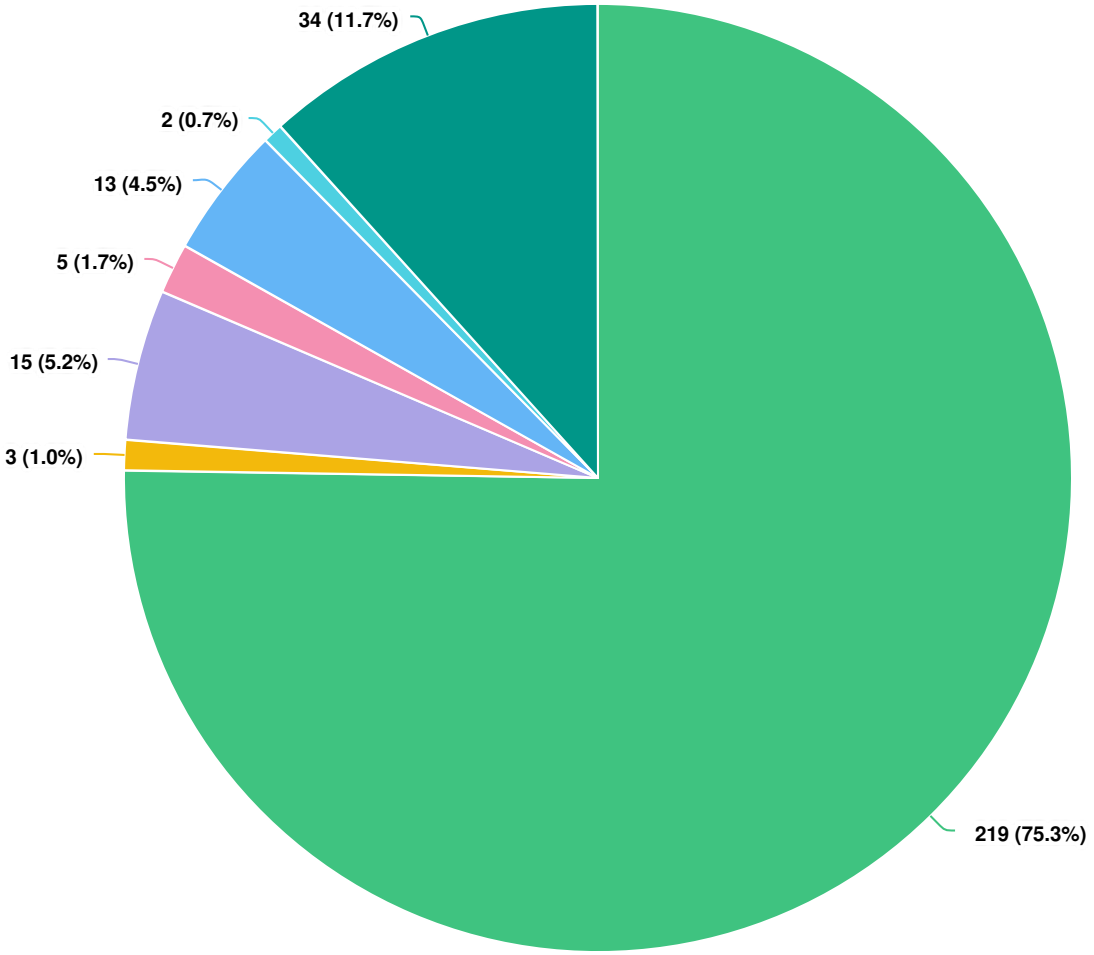


Question options

$200,000 or more
$150,000 to $199,999
$100,000 to $149,999
$75,000 to $99,999
$50,000 to $74,999
$25,000 to $49,999
Less than $25,000

Optional question (289 response(s), 18 skipped)
Question type: Radio Button Question

Q19 Which of the below best describes your race / ethnicity?



Question options

Other (please specify) Arab or Middle Eastern Asian or Pacific Islander Native American
Hispanic or Latino Black or African American White

Optional question (291 response(s), 16 skipped)
Question type: Radio Button Question

Appendix C:
Public Comments

This page intentionally left blank.

Exhibit 1
April 20, 2021

To City of Camas Commissioners and Staff

Subject: City's New Housing Plan

Unfortunately I am unable to make tonight's meeting since I coach a boys soccer team here in town, I did feel the need to comment on this plan, please accept this document as public testimony. I understand the City is in the process of creating a Housing Action Plan to support more housing diversity and affordability. The objective of this plan was to get public participation to understand current and future needs, the study included 300 participants, while we live in a City of 20,000 residents do you feel this was an accurate and thorough process by staff? What marketing or steps did staff take to get participants? I did not hear of the plan until after the public participation was closed, so I am worried that much of the public was not aware of this study. While I agree that diversity and affordability are valuable goals, I do not think these should be the primary goal of the City's Housing Plan. More importantly you may encourage developers to develop high rises and apartments, but you can't set the price tag of that house, nor their rent. That is at the discretion of the developer or landlord. Why aren't we evaluating our current housing situations and trying to build a better community landscape, ie. Require a percent of development to be open space or parks, public areas like play fields or community firepits, how about community markets or subdivision farmers markets like NorthWest Crossings in Bend, OR. High Density Developments require parking, when cars park on both sides of a narrow road and kids have nowhere to play except in the streets it creates driving hazards that are dangerous. Lookout Ridge in Washougal is a prime example of high density gone wrong. The Lookout Ridge Apartment structure has zero parking, cars are parked across sidewalk paths, cars are parked down the street into neighboring community's, this development is nowhere near a bus route and you cannot walk to a market? I was hoping that the City of Washougal would have seen the error of this development, yet they are looking at 3000sqft lots at NorthSide on 23rd St, the far edge of the City's UGB. There are plenty of spaces closer to Washougal and Camas Downtown Core that would accommodate 3000sqft lots. I'd encourage the City to look at Infill and redevelopment inside the city core first before adding incentives to the developers building at the edge or periphery of our town.

If the City wants to focus on affordability, I ask that you look at costs you have direct control over, like water and sewer rates, our city has some of the highest sewer and water rates in the county. Perhaps the city should be looking at sharing the cost of sewer and water extensions with our neighbor Washougal utilizing conditional use agreements. How about looking at outsourcing these services to Clark Regional WasteWater District or Clark Public Utilities. Has there ever been as study on these topics?

I ask the Council to consider these comments before making a housing plan that has incentives for developers and not the residents of Camas.

Ken Navidi

322 NE Cedar St. Camas, WA

From: Community Development Email
Sent: Tuesday, April 20, 2021 1:21 PM
To: Sarah Fox
Subject: FW: High density housing plan

Here's a comment received in the cdev inbox

Madeline Sutherland (She/Her)
Assistant Planner
Desk 360-817-7237
Cell 360-326-5524
www.cityofcamas.us | msutherland@cityofcamas.us

-----Original Message-----
From: charity noble <charitynoble1@gmail.com>
Sent: Tuesday, April 20, 2021 1:08 PM
To: Community Development Email <communitydevelopment@cityofcamas.us>
Subject: High density housing plan

WARNING: This message originated outside the City of Camas Mail system. DO NOT CLICK on links or open attachments unless you recognize the sender and are expecting the content. If you are unsure, click the Phish Alert button to redirect the email for ITD review.

Hello,

I would like to submit my concerns for the housing plan that is being presented to you this evening, April 20th.

I have concerns that this high density housing plan is not based on what camas residents need or want. The initial housing survey was open for anyone to participate, in any city or state...this does not reflect a true picture of the housing needs/desires for camas.

Many people move to camas to get away from high density cities. I'm concerned if we require developers to build a minimum of 6 units/acre that will turn camas into an overpopulated town and cause many tax payers to consider moving.

This plan was created by a company in Georgia, which doesn't seem to make sense to me. How could a Georgia resident know or understand the uniqueness and beauty of camas? Why not hire a local company that might have better insight?

Our schools, first responders, and infrastructure will be greatly impacted by the high density plan. I understand that camas must keep within compliance of the GMA...but we've seen a lot of development in the last year or two, including the massive apartment building near 192nd. Doesn't all this development count toward GMA requirements?

I'm asking you to please not rush into approving a plan that I feel is not right for camas.

Thank you,
Charity Dubay
Sent from my iPhone

From: Vince Wang <ruoniu_wang@hotmail.com>
Sent: Wednesday, March 10, 2021 2:10 PM
To: Sarah Fox; External link
Subject: Let's Talk Camas Housing: Sharing some resources about inclusionary zoning
Attachments: Shared Equity Housing One-Pager.pdf

Hi Sarah and Melissa,

My name is Vince Wang and I am a resident in Camas. I learned from a recent article (https://www.camaspostrecord.com/news/2021/mar/04/no-place-to-call-home-camas-housing-study-shows-lack-of-affordable-options/) that the city is exploring IZ policies. I happen to conduct a nationwide research study on inclusionary housing and would like to share some resources. Happy to chat more if there is any question or interest in knowing more on this front.

Here is a Shelterforce article that touches some of the questions about IZ brought up by city commissioners: https://shelterforce.org/2021/03/10/inclusionary-housing-secrets-to-success/

Here is the link to the newly published study: https://groundedsolutions.org/tools-for-success/resource-library/inclusionary-housing-united-statesAnd

Here is the link to the mapping tool and database: https://inclusionaryhousing.org/map/More

Broadly, I think the city could benefit from shared equity homeownership models to help lower-income, first-time homebuyers and help create inclusive and equitable communities. See the attached one-pager with some high-level information.

You can reach me via email or by cell 352-727-3747.

Best regards,
Vince

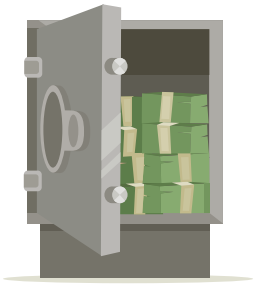
Shared Equity Housing

By the Numbers

1985-2018

Grounded Solutions Network, in partnership with the Lincoln Institute of Land Policy, has authored the most comprehensive study of shared equity housing programs conducted to date. ***Tracking Growth and Evaluating Performance of Shared Equity Homeownership Programs During Housing Market Fluctuations*** is based on data* collected from more than 4,000 housing units across 20 states over three decades, highlighting how shared equity homeownership promotes sustainable wealth building opportunities and lasting affordability for lower-income households.

*Source: HomeKeeper National Data Hub



The median shared equity household accumulates

$14,000

in earned equity. (compared to a median initial investment of $1,875)

6 out of 10



shared equity homeowners use their earned equity to eventually purchase a traditional market rate home.

7 out of 10

shared equity homeowners are first-time homebuyers



The share of minority households living in shared equity homes increased from

13% (1985-2000) to **43%** (2013-2018)





Over

99%

of shared equity homes avoid foreclosure proceedings



95%

of shared equity homes are priced affordably (under 30% of monthly income) for households earning 80 percent of AMI or below

GROUNDED SOLUTIONS NETWORK

LINCOLN INSTITUTE OF LAND POLICY

From: Randal Friedman <randalfriedman@gmail.com>
Sent: Tuesday, May 4, 2021 3:16 PM
To: Melissa Mailloux <melissa@mosaiccommunityplanning.com>
Cc: Sarah Fox <SFox@cityofcamas.us>
Subject: DRAFT HOUSING STUDY

Melissa — I'm very disappointed in this draft.

I took the time to participate in two focus groups.

Nothing of the two main points I made is acknowledged even though both are quite valid. My primary point about Georgia Pacific's property is even more relevant as I watch the 27 acre lab property demolished to the ground. Surrounded on three sides by residential, but still zoned Heavy Industry, it alone could support 500 units at an M-18 designation. That's 11% of our total 2040 need! Yet it doesn't exist for purposes of this draft Study. Nor does any other part of their property which is in the process of the issuance of a cleanup order. Why not make it clear the City of Camas would support a rezoning? At least on the lab property now being demolished?

In case you haven't seen it, our community has come together to ask the State of Washington to ensure a cleanup beyond heavy industrial standards. If nothing else, so that property could be available to meet housing mandates they are imposing. https://www.camaspostrecord.com/news/2021/apr/29/camas-residents-officials-weigh-in-on-paper-mill-cleanup-plan/

You seem intent on pushing state-mandated density further out, spreading it out, and reducing parking needs. Why don't you speak to the obvious: Downtown and mill property can be a significant part of a 2040 solution.

I find it classist and disrespectful to lower-income households, seniors, and others you "assume" won't have a car. Are you suggesting they can't find a better job that needs personal transportation? Are you suggesting their medical needs are limited to bus lines or expensive Uber drives for cancer treatment in Portland? Are you suggesting they can't have the same options for education, and recreation as their fellow citizens with cars? Are you suggesting they can't shop and dine where they would like? You are taking all this freedom away with your assumption.

The truth is many will have cars, and those cars will be parked further out in neighborhoods. Great to think of a senior having to negotiate groceries for several blocks. The truth is you are creating the Portland reality where Districts like Division and Hawthorne, with their high density units without parking, are impacting adjoining neighborhoods. I hear it from Portland folks loud and clear.

I suggested an in-lieu fee to build efficient parking downtown and allow more units instead of costly on-site parking. All part of my suggestion to focus on Downtown. Not a word I could find this considered by this draft Study.

I am glad you recognize that city fees make a difference, and a small unit shouldn't pay the same fees as a 5,000 sq ft McMansion. We agree on that.

You seem to have come in with an agenda to push inclusionary housing requirements. Great…make housing more expensive for everyone else. This in part to make up for the things you could have done if your goal was to actually make housing more affordable and accessible. Quite simply, if for purposes of discussion you could build 2,000 units in the greater downtown by 2040, that's 2,000 units that don't have to be built via inclusionary requirements, among others, that either raise the price of housing or impact surrounding neighborhoods.

If you really want to build a walkable and accessible Camas, cramming more units in outlying residential areas is not the way. Building downtown is. This is our path to meet housing and climate change mandates coming from Olympia.

You are putting Camas on the way to becoming Portland. Pretending people don't have cars in areas where they are needed, Pretending only wealthier people have cars, etc. You are perpetuating classism. Why don't you ask some of the recent households that have moved from Portland why they left?

Camas deserves better from this critically needed study. Our housing market is out of control.
Frankly, I'm wondering why I bothered to participate?

I will be sharing this via social media.

Randal Friedman

Sarah Fox

From: Sarah Fox
Sent: Tuesday, May 4, 2021 5:19 PM
To: 'Randal Friedman'
Cc: Melissa Mailloux
Subject: RE: DRAFT HOUSING STUDY
Attachments: Camas_HAP_-_Draft_HAP_Ver_7_Housing_Strategies.pdf

Randal,
Your comments will be added to the record and provided to the Planning Commission.

In reading your comments, I interpreted that an important aspect was misunderstood.

The draft HAP provides a suite of strategies from a multitude of options to achieve the city's goals. The plan will focus on lands within the city limits, not outside the city limits. Each strategy (if the HAP is approved) must in turn be further developed, analyzed, vetted and brought back to council for adoption. For example, a density standard or change to the zoning map, would be brought through the legislative process after the HAP is approved.

It seems as if you may have missed that the downtown housing strategy is the first in priority (Version 7 attached). The second strategy in priority is focused on upzoning and rezoning **targeted areas**. One of the targeted areas *could be* the heavy industrial properties. In short, there is much more work ahead of us once the strategies of this plan are accepted by Council. The scope of the HAP does not include narrowing its focus to the block level, as that is work for the next phase.

And finally, Camas has strategies for shared parking and reductions for mixed use buildings already in our code, and so this isn't a new concept, but could be refined further based on the strategy. The rate of car ownership is a well-studied subject in relation to the total cost of housing. Meaning that if the goal is to provide housing for those whose income is below the median, then any additional factor that could lower their rent should be considered. Car ownership has been declining among certain populations, and has become a matter of choice for others. There is a body of research devoted to what they call "right sized parking", which seeks to avoid overbuilding parking. The project team can provide more context and information on this aspect at upcoming meetings.

Sarah Fox, AICP (She/Her)
Senior Planner
Desk 360-817-7269
Cell 360-513-2729
www.cityofcamas.us | sfox@cityofcamas.us

From: Randal Friedman <randalfriedman@gmail.com>
Sent: Tuesday, May 4, 2021 6:35 PM
To: Sarah Fox <SFox@cityofcamas.us>
Cc: Melissa Mailloux <melissa@mosaiccommunityplanning.com>
Subject: Re: DRAFT HOUSING STUDY

WARNING: This message originated outside the City of Camas Mail system. DO NOT CLICK on links or open attachments unless you recognize the sender and are expecting the content. If you are unsure, click the Phish Alert button to redirect the email for ITD review.

Sarah — I don't think you fully understand me as well

Of course these are an array of strategies that are just proposals. They still have a process to go through. My point is this array would be different if, for example, this Study show specific to the mill property, the ability to accommodate 2,000 housing units of various types. That's 2,000 units that now off the table.

You and I both know when you say ""downtown" in Camas you are talking about our historic downtown and not the mill. Just like being the only Clark County property not in Clark Public Utility's jurisdiction, it seems treated as its own entity barred from anything planned over it but heavy industry.

Certainly makes the cleanup cheaper.

A growing number of people believe the mill should be on the table for conversation, especially when critical cleanup issues, such as land use, are being made. Unlike our Port, the City of Camas has been conspicuously silent about the draft clean up order and Public Participation Plan. This needs to change.

This Housing Study could easily provide the concept al road map for the Port. How about "Strategy X: working with the Port of Camas-Washougal on a conceptual plan for future reuse, such reuse to provide at least 2,000 units of housing to meet State mandates."

It defies logic the 27 acres being demolished cannot be considered for state-mandated housing, but someone's next-door lot sporting a tri-plex by right can. That is on the table.

If your response is saying the mill property is a "targeted area" then say so directly. Moreover, assign a planning goal to it for 2040 housing. Then back off some of these potentially intrusive other strategies.

I think our community needs to understand that choice, and be presented with it for discussion.

That was the point I made at two focus group discussions quite clearly. Obviously it wasn't heard.

As to "carless" people, there's a real difference between the real world and studies. Basic to your cited assumption is the resident of that unit doesn't deserve the same entitlement as everyone else: the provision of a parking spot. Why? Because the City refused to consider state-mandated housing at the mill, but instead took away your parking spot to help a developer save money to make up units that should have gone to the mill property. Whew!

From: Kevin Brady <Kevin.Brady@otak.com>
Sent: Thursday, May 6, 2021 7:13 AM
To: Sarah Fox
Subject: RE: Checking in

Sarah –

I reviewed this document again, and believe the main 'takeaway' is a potential need to have more direct communication with actual affordable housing developers – see Developing Partnerships, Page 20 of the report. I would suggest putting together a list of sites (preferably City-owned or with amenable owner) and providing a brief zoning/development summary and cost estimate related to a pro forma for each of these sites. You could then reach out to affordable housing developers to see if they would be interested in providing feedback on the feasibility of developing, with the hope that they might actually do so ...

Happy to chat more …

Otak
Kevin Brady | Senior Planner
Direct: 360.906.9423 | Mobile: 503-504-1951

From: Sarah Fox <SFox@cityofcamas.us>
Sent: Friday, April 30, 2021 3:49 PM
To: Kevin Brady <Kevin.Brady@otak.com>
Subject: RE: Checking in

Kevin,
Thank you for reaching out and discussing your thoughts on the first six chapters of the draft HAP. Attached is the draft Chapter 7 – Housing Strategies. I would appreciate your feedback.

City of Camas WASHINGTON
Sarah Fox, AICP (She/Her)
Senior Planner
Desk 360-817-7269
Cell 360-513-2729
www.cityofcamas.us | sfox@cityofcamas.us

BUILDING INDUSTRY ASSOCIATION OF CLARK COUNTY

May 17, 2021

Camas Planning Commission
616 NE 4th Ave.
Camas, WA 98607

RE: Camas Housing Action Plan

Dear Planning Commission and Community Development Staff;

I am writing to you on behalf of the Building Industry Association of Clark County (BIA) to respond to the request for comment on the proposed Housing Action Plan for the City of Camas. The action plan aims to explore strategies for affordable housing options and increased density.

Based on the proposed plan, we believe the majority of the strategies mentioned would be positive both for builders and the community of Camas. However, there were key points and suggestions that would disincentivize builders from building more affordable housing in Camas. The following strategies would hinder any efforts to build more housing, specifically affordable, middle-level housing in the City of Camas.

1. Mandatory Inclusionary Housing Policy in Camas:

Mandating a percentage of units built to be reserved as affordable units would hurt efforts to create more affordable housing options in the City of Camas. Providing incentives to builders such as reducing parking requirements, providing density bonuses, or other zoning-related strategies would be a better approach. Camas has the highest median household income in Clark County at $106,513 and such efforts would target those who make substantially less than the median income (60%-80% of median household income). Housing is considered affordable when 30% or less of household income is spent on housing. Based on this definition of affordable, those at the 60% level could afford a mortgage or rental payment of $1,598. We believe this is an achievable goal and mandating more stringent requirements would disincentivize building. The City of Camas needs to decide whether their intent is to create more affordable housing options for the community or if the goal is to create more low-income housing options.

Developers have a choice in when and where they build, having requirements for affordable units based on the size of the development, or requiring contribution to an affordable housing fund, creates incentives for dodging these requirements (i.e. building right below a certain size to avoid requirements). We believe the best strategy is to allow the market to dictate what is built. The city could up-zone areas in the urban core to elicit more affordable high-rise rental units, while at the same time allowing diversified housing types to create opportunities for row houses, town homes, cottage housing, and tiny homes. This strategy is exciting because it allows for homeownership rather than depending on rental units to achieve affordability. As mentioned in the plan, this could take place as a part of infill, redevelopment, vacant land development, etc. ADUs would also be a

great solution, where allowed. We are in full support of diversifying housing types as outlined in strategy three. We assert that a wholistic approach to address housing affordability is the best path forward.

2. Explore Funding Source Options for Affordable Housing:

As mentioned by the Planning Commission, monitoring outside funding sources may take a large amount of staff time. In contrast, incentives like those mentioned above and within the study would be pragmatic and efficient in the use of staff time and resources.

Moreover, the restructuring of impact fees based on the size of residential development would have the opposite effect desired. Average net profit for a builder in Clark County is 8%, well below the national average of 8.89% (according to a NYU Stern database of 7,000 companies across all sectors). Calculating these variable impact fees would enhance complexity and take more of staff's time.

In addition, builders and developers are struggling because the cost of building materials has skyrocketed. For example, framing lumber has increased the cost of new home construction by $36,000 Any additional costs will invariably be passed onto the buyer, negating any efforts to make housing more affordable. Additionally, an inflated increase of fees will not only affect current projects, but also require builders to reconsider future developments in Camas. Any increase in cost makes surrounding areas (not in Camas) more attractive to buyers and developers.

3. Explore Density Modifications in the R Zones:

We are supportive of this strategy. However, we are concerned with the suggestion of up-zoning to a 6-unit minimum density across all single family residential zoning districts. Up-zoning would be better used in urban nodes, vacant land, and the urban core in general. Downtown Camas is ripe for redevelopment and efforts should be focused there. We are concerned that increasing minimum density may lead to a loss of character for many residential areas in Camas and could discourage people from moving to Camas because the character and small town feel would be lost. As previously stated, this strategy may lead homebuyers to other jurisdictions if implemented. We agree with the Planning Commission that selective rezoning would be preferable to up-zoning.

We applaud the efforts of the Planning Commission and staff in considering and creating the Housing Action Plan. Going forward, we hope to be a partner to create mutually beneficial solutions for builders, buyers, and the City of Camas. We appreciate staff reaching out to the BIA to get our input on this matter.

Sincerely,



Justin Wood
Government Affairs Coordinator

From: Jihun Han <jihun@ccrealtors.com>
Sent: Tuesday, May 18, 2021 9:51 AM
To: Sarah Fox
Subject: Re: Camas Housing Action Plan

WARNING: This message originated outside the City of Camas Mail system. DO NOT CLICK on links or open attachments unless you recognize the sender and are expecting the content. If you are unsure, click the Phish Alert button to redirect the email for ITD review.

Hi Sarah,

My apologies for the delay in getting back to you. We had a virtual conference last week that took up most of my time. This looks spot on! Is there anything else you were looking for in regards to this?

Jihun Han / Director of REALTOR® Advocacy
jihun@ccrealtors.com

Clark County Association of REALTORS®
Direct: 503.501.1677 / Ext. 3102/ Fax: 360.695.8254
1514 Broadway St. STE 102
Vancouver, WA. 98663
www.ccrealtors.com

From: Sarah Fox <SFox@cityofcamas.us>
Date: Friday, May 7, 2021 at 11:48 AM
To: Jihun Han <jihun@ccrealtors.com>
Subject: Camas Housing Action Plan

This is the second of two emails. The draft HAP Chapters 1-6 were too large a file to send in one email.

Link to April meeting of the Planning Commission
Link to upcoming May meeting of the Planning Commission
Link to Let's Talk Camas Housing website

Sarah Fox, AICP (She/Her)
Senior Planner
Desk 360-817-7269
Cell 360-513-2729
www.cityofcamas.us | sfox@cityofcamas.us

From: Alan Peters <alanpeters@gmail.com>
Sent: Tuesday, May 18, 2021 12:59 PM
To: Community Development Email <communitydevelopment@cityofcamas.us>
Subject: Housing Action Plan Comments

WARNING: This message originated outside the City of Camas Mail system. DO NOT CLICK on links or open attachments unless you recognize the sender and are expecting the content. If you are unsure, click the Phish Alert button to redirect the email for ITD review.

Dear Planning Commission,

First, I'd like to acknowledge the work of the planning commission, staff, and the consultant team on the Housing Action Plan. I participated as a focus group member and know that the project team valued my input and that of other group members. The focus group represented a variety of viewpoints and the team did a great job of synthesizing our perspectives into a plan that reflects the diversity of our group and of the community as a whole.

Second, I'd like to express my support for the Housing Action Plan. The plan's goals and strategies will support the Camas 2035 Comprehensive Plan's vision of a diverse Camas, with a wide variety and range of housing for all ages and income levels. I am excited by the recommendations to expand housing opportunities in our downtown areas, to upzone the city's residential zones, and to allow for a diversity of housing types throughout the city. My neighborhood on Prune Hill includes homes ranging from 1,400 sq. ft. to 8,000 sq. ft. While all these homes are single-family, the assortment makes for an attractive streetscape and a diverse neighborhood of folks in different stages of life. If the plan is implemented, more of Camas may realize the benefits of a variety of housing types and densities present throughout our neighborhoods. If the plan is successful, more people will have access to the quality of life that Camas residents enjoy.

I encourage the planning commission to vote to recommend that the city council adopt the Housing Action Plan. And yet the plan is only a starting point. There is much work to be done if we want to realize the Camas 2035 vision, including work by the community to further explore the plan's strategies and implement them in the coming months and years.

Finally, a word about the mill. Today it is still operating, but if it someday closes, it may continue to be a jobs center, it may turn into housing, it may become a public park. More likely it will be mixed-use. But currently, the mill site is not a viable option we can count on to accommodate anticipated growth over the next 14 years. Still, the plan does not preclude the use of the mill site for future housing development (strategies 1 and 5 support this possibility), but it does not hinge our housing future on the chance that the mill will close. There are many large tracts of vacant land in our urban growth boundary that will be developed before then, and these sites provide our best opportunities to accommodate our housing needs in the coming years.

Alan Peters
4050 NW 12th Ave, Camas, WA

From: Vince Wang <ruoniu_wang@hotmail.com>
Sent: Monday, May 24, 2021 9:59 PM
To: Sarah Fox
Cc: Melissa Mailloux
Subject: RE: Let's Talk Camas Housing: Sharing some resources about inclusionary zoning

Sarah and Melissa,

Thanks for inviting me to the meeting last week. You both did an excellent job in presenting the plan and facilitating the meeting. And I think all the strategies you brought to the commissioners for consideration are on target in addressing community's needs. I stayed for the most of the meeting; and I, sadness to say, left the meeting with much disappointment. I was going to put my comments below to the public channel. But now I am passing them to you, feeling this way may be more "polite." I don't know how much can be changed/challenged at this stage given decisions have already been made by the commissioners. Feel free to share my comments with anyone you think should be aware of.

In essence, I question the validity of decisions made by the commissioners in meeting the due diligence.

I left the May 18 planning commission meeting with disappointment. When commissioners interpreted community's ask for "diversity" and "affordability," what I heard is a narrow definition of those terms. Their intentionally leaving out of lower-/moderate-income residents when talking about affordability and not even say a word about race and ethnicity when talking about diversity is concerning. Also, I don't like the process of how the commissioners killed strategies 6 and 11. I observed that a couple commissioners essentially used their subjective opinions of "I feel this is wrong" to object demonstrated successful programs with long-term effect in at least some communities across the country. To be clear, I am not saying these strategies will surely be effective in our community. But the concerns brought up by a couple commissioners show plainly superficial and partial understanding of those strategies. And I don't see them bother to learn more about how these strategies could potentially benefit the community and directly help promote diversity and affordability - despite the fact that our planner and consultant have put effort to investigate more upon their previous request and suggested them to think further during the meeting. The City has invested tremendous time and resources to come up a housing plan that – ideally and desirably – works for all, but fundamental issues are intentionally left out and potentially important strategies are stricken out by in my view some short-sighted commissioners who only prioritize "lower hanging fruits."

The City is becoming more diverse, and housing market dynamics caused by regional, national, and global forces have made the affordability issue more severe to existing residents (let alone those who want to move here) and to higher income levels (and unfortunately we know that this trend is ongoing and is very likely to stay). Without the real commitment and dare to confronting these challenges, we are more likely to be headed in a more expensive, exclusive community.

Vince

STATE OF WASHINGTON

DEPARTMENT OF COMMERCE

1011 Plum Street SE • PO Box 42525 • Olympia, Washington 98504-2525 • (360) 725-4000
www.commerce.wa.gov

June 2, 2021

Camas City Council
c/o Sarah Fox, Senior Planner
City of Camas
616 NE Fourth Avenue
Camas, Washington 98607

Sent Via Electronic Mail

RE: Draft Housing Action Plan

Dear council members:

Thank you for the opportunity to comment on your proposed draft housing action plan (HAP). We appreciate your coordination with our agency as you work to fulfill the HB 1923 grant contract to develop this plan.

Camas has done a good job at completing all of the required items within the HB 1923 grant contract. The HAP if implemented as designed will help the city meet its housing needs by accommodating the future population demand with a greater diversity of housing options and greater affordability, while addressing displacement and preserving affordable housing. We especially like and applaud city's work on the following items:

- The stakeholder focus groups and interviews, which in combination with the survey and other outreach, will help the city plan to address the specific needs and desires of Camas that may not have been evident in the data.
- The buildable lands analysis review of Camas' building capacity will be very helpful in informing the actions that will need to take place from the HAP to accommodate growth within the community.
- The specificity of the actions recommended within the strategies will help the city quickly transition to taking actions that will increase housing capacity, diversify the housing options, and address housing affordability and displacement.
- The prioritization of actions as recommended by the Planning Commission is a best practice that we recommend all cities incorporate into their HAPs. A prioritized action list will help the city quickly take next steps in its upcoming work plan to address the city's housing needs.

As the city looks to adoption and implementation of this strong set of housing strategies, we have a few suggestions for strengthening your plan.

- We recommend the city include a table of actions associated with each strategy to compile the recommendations in one place. We recommend this table include additional information that will help the city to take the next steps to implement the actions, including level of effort or amount of resources needed to complete, agencies or partners involved, and/or considerations or action needed.
- We recommend the city make a plan for how to monitor the goals within the HAP. A monitoring plan would allow the city to measure its progress and evaluate which changes have been effective at meeting the goals, and which might need modifications to meet the intended purpose.

Additionally, the Washington State legislature has funded additional grants to increase residential building capacity in the next biennium. Please be on the lookout for future funding opportunities to implement actions with this HAP coming through Commerce in the late summer or early fall.

Congratulations to the staff for the great work the draft housing action plan represents. If you have any questions or need technical assistance, please feel free to contact me at steve.roberge@commerce.wa.gov or (360) 764-0112. We extend our continued support to the City of Camas as you review this draft plan for adoption as intended direction for housing policy.

Sincerely,



Steve Roberge
GMS Deputy Managing Director
Growth Management Services

cc: Sarah Fox, Senior Planner, City of Camas
Phil Bourquin, Community Development Director, City of Camas
David Andersen, AICP, Managing Director, Growth Management Services
Steve Roberge, Deputy Managing Director, Growth Management Services
Anne Fritzel, AICP, Senior Housing Planner, Growth Management Services
Laura Hodgson, Associate Housing Planner, Growth Management Services

Randal Friedman
1187 NW 10th Ave
Camas, WA 98607

Acting Mayor Ellen Burton
City of Camas
616 NE 4th Ave
Camas, WA 98607

Ellen -- For 32 years I was the US Navy's civilian representative to the State of California. Often speaking for all the military services, I spoke simple truths and spoke them plainly. I spoke to powerful interests such as International Shipping's trade association, the Los Angeles Department of Water and Power and the Pay Day Lending industry. Plain and simple truths to protect the military mission so dependent on California's land, sea and air space.

It was the voice of the Admiral, I was often reminded, when I spoke this plain truth. That's where my expression "plain truth" comes from. Plain truth can challenge the "*status quo*" making all the more reason it needs to be spoken.

Camas is at a point where plain truths are needed.

The Council voted 6-0 to recognize the Camas Mill as central to Camas' future, and state those reasons in writing to Governor Inslee's Department of Ecology Director.

With full support from the Port, Camas is on its way embracing a future with great opportunity for every interest group, including our young families. From riverfront restoration to hotels, from hi-tech offices to thousands of housing units, it all comes together consistent with protection of our historic downtown. The mill property is the future Camas where affordable housing, and other sustainable development with the lowest carbon footprint, belongs.

This future depends on proper cleanup hence the City's bold action to Director Watson. As noted in your letter it is a future offering "opportunities for a wide variety of future uses." Apparently, though, not housing.

I offer a new Housing Strategy implementing this future.

It isn't new to staff and the consultant team. I suggested in both focus groups it was the most important action this plan should take. Discussed on the next page, it was brought up more than a year ago in the North Shore visioning process.

Speaking plain truth, this strategy must be included in any Housing Action Plan reflecting evolving Camas policy.

New Housing Action Plan Strategy

- Recognize decommissioned portions of the Camas Mill are desirable locations for housing consistent with affordability, high-density, and low-carbon goals. These shuttered facilities should be rezoned to mixed use and have remediation sufficient to support Camas' housing needs. The mill property and downtown should be the primary focus for maintaining affordable housing in Camas.

All that's needed now is a page of supporting text for explanation and context. If resources are an issue, there are any number of expert volunteers that could agree on a conceptual approach. I'll be the first Volunteer. It needn't cost money. We don't need a consultant to write it.

Just as I asked for decisive action to send a support letter to Director Watson, I ask you take decisive action directing staff to add this strategy, or something similar, before a public hearing is held.

Directing thousands of required housing units out of neighborhoods to downtown should be basic to the public discussion, and not something from an invisible voice on a Zoom call.

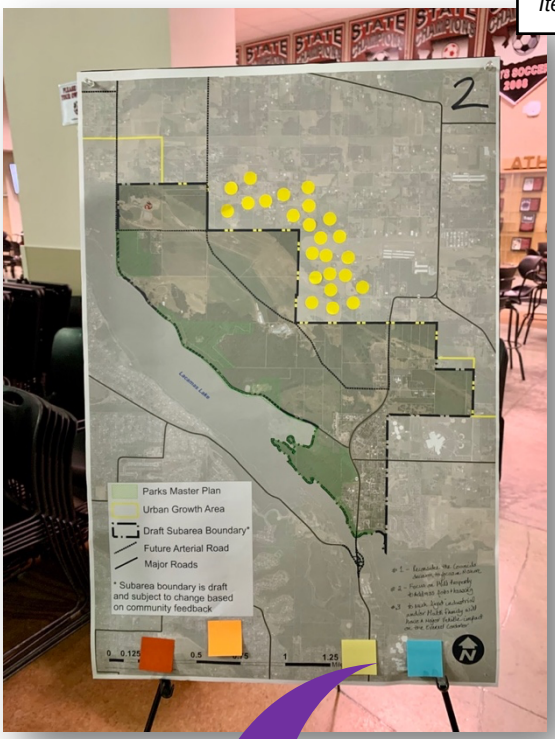
This was a message from the North Shore Sub-Area Plan "visioning" meeting February 4th, 2020. I heard it referred to at this past meeting.

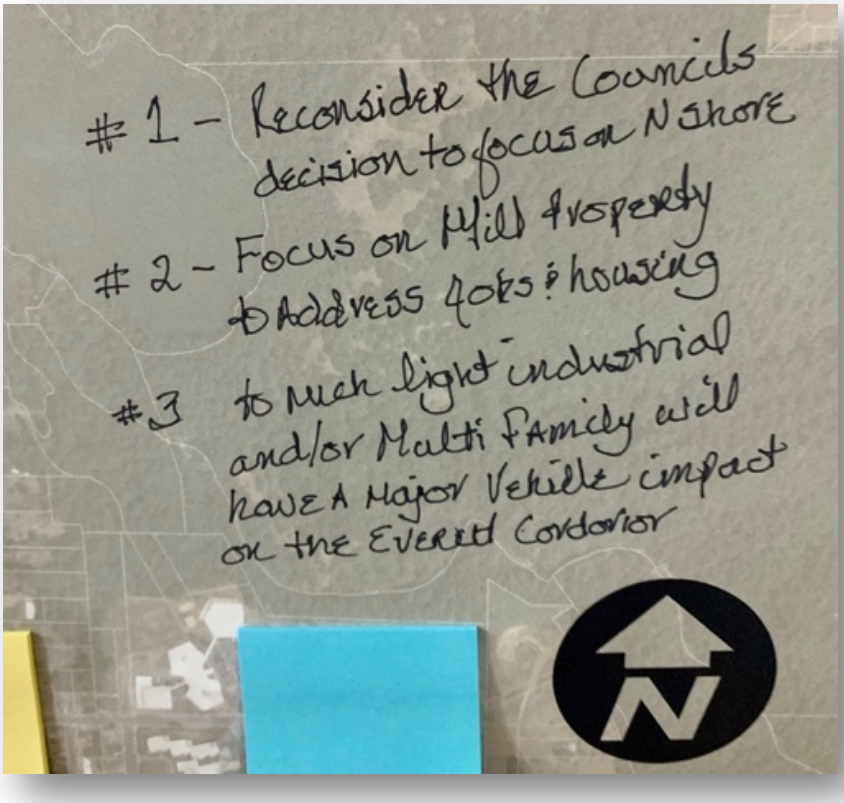
The notes on the "winning" map, the map that refused to recognize the North Shore for intense development, said:

- #2 - Focus on Mill Property to address jobs & housing

What was #1?

- #1 - Reconsider the Councils decision to focus on N Shore





Despite not being included on the North Shore's City's web page, this map remains an expression of the people of Camas. They spoke some plain truth. It needs to be listened to. Staff needs to be told to do this.

Staff represents the community and not the other way around. Who's driving this agenda? The community or consultants?

It should be a central question in considering an Interim Mayor and/or Interim City Administrator.

It starts with this Housing Action Plan.

I hope you agree it is finally time for recognizing what Camas residents identified when last we could meet in public.

They said it clearly. Let's get started.

We can also start at next week's virtual Town Hall.

Randal Friedman

From: Ellen Burton
Sent: Thursday, June 10, 2021 9:35 AM
To: Sarah Fox
Cc: Phil Bourquin
Subject: Fwd: FOLLOW-UP ON HOUSING ACTION PLAN PUBLIC COMMENTS

Hi Sarah,
Here is a comment about including the 26 acres in the housing plan for density considerations.
Thanks,
Ellen

Begin forwarded message:

> **From:** Carrie Schulstad <director@downtowncamas.com>
> **Date:** June 10, 2021 at 9:05:26 AM PDT
> **To:** Ellen Burton <EBurton@cityofcamas.us>
> **Cc:** Caroline Mercury <csmercury@outlook.com>, Sarah Laughlin <slaughlin@fuelmedical.com>, Randy Curtis <curtisrm@comcast.net>, Randal Friedman <randalfriedman@gmail.com>
> **Subject: Re: FOLLOW-UP ON HOUSING ACTION PLAN PUBLIC COMMENTS**
>
> WARNING: This message originated outside the City of Camas Mail system. DO NOT CLICK on links or open attachments unless you recognize the sender and are expecting the content. If you are unsure, click the Phish Alert button to redirect the email for ITD review.
>
> Hi Ellen,
> I concur with Randal. The way our current downtown and the downtown into the future will truly thrive is with more close in housing and thoughtful mixed use and physical amenities that bring the community together. Let's show how this can be done not just well, but the best possible! On both the 27 acres (soon hopefully!) and the main campus when able. We know our town and our Main Street very well and this is what we're asking to have considered. Thank you.
>
> Carrie Schulstad
> Downtown Camas Association
> 360-904-0218
> director@downtowncamas.com
>
> > On Jun 9, 2021, at 2:28 PM, Randal Friedman <randalfriedman@gmail.com> wrote:
> >
> > The attached letter provides follow-up and a specific recommendation on the Housing Action Plan recognizing downtown and decommissioned parts of the Camas Mill as the central focus of housing policy versus the current approach pushing it into neighborhoods.
> >
> > I would also ask this be discussed at next weeks virtual town hall.
> >
> > Thank you for your heroics in keeping Camas moving forward.

Melissa Mailloux

From: Melissa Mailloux <melissa@mosaiccommunityplanning.com> on behalf of Melissa Mailloux
Sent: Wednesday, June 23, 2021 6:26 PM
To: Melissa Mailloux
Subject: FW: Public Comment for Hearing for Camas Housing Action Plan

From: Carrie Schulstad <director@downtowncamas.com>
Sent: Monday, June 21, 2021 6:14 PM
To: Public Comments <publiccomments@cityofcamas.us>
Subject: Public Comment for Hearing for Camas Housing Action Plan

WARNING: This message originated outside the City of Camas Mail system. DO NOT CLICK on links or open attachments unless you recognize the sender and are expecting the content. If you are unsure, click the Phish Alert button to redirect the email for ITD review.

Thank you City Council and staff for this opportunity to give comment.

It is imperative for Downtown Camas to have more close-in housing to truly thrive. For a historic downtown to be the most robust, it should be an “18 hour downtown”, 6pm-12MN and this happens when you have people living in and very close to downtown and supporting businesses during these hours.

The healthier and more robust our downtown core is, the more amenities and offerings and strength we have for our entire community.

It’s so very important that we are visioning the future for our downtown including housing. The mill property will have significant future potential and it’s important to be considering best future uses for our community now. It is key as we move forward to have housing options so people can live and work in close proximity. We want people who work in downtown to be able to afford to live in Camas, and for people with diverse income levels and ages to have the option to live close to downtown.

We appreciate that you are already looking at the downtown commercial zone as you’re considering different housing options. The DCA encourages the City to include all of downtown including future mill properties in the housing visioning and planning process. It can help satisfy housing mandates and needs, and also bolster the economic health of our downtown. Thank you.

Carrie

Carrie Schulstad

Executive Director
Downtown Camas Association
360.904.0218 cell
www.downtowncamas.com

Let’s Talk Possibilities!

"The mission of the Downtown Camas Association is to develop and promote historic Downtown Camas by creating a vibrant social, cultural and economic center of the community while emphasizing preservation of our city’s historic features."

Date:	May 23, 2024
To:	Alan Peters, City of Camas (cc: Nicole McDermott, WSP)
From:	Tyler Bump, Jennifer Cannon, Mary Chase, ECOnorthwest
Subject:	Revised Housing Analysis, City of Camas Comprehensive Plan Update

Section 1. Housing Element Analysis

Introduction

The City of Camas Comprehensive Plan update offers an opportunity to refine the vision, goals, and policies to address the current housing needs for the next 20 years from 2025 to 2045. The Comprehensive Plan is a foundational document that provides a vision and policy direction for managing growth and development while considering effects on the built and natural environment and public facilities.

The Housing Element will include recalibrated goals and policies to better accommodate the diverse household needs of the whole community across the income spectrum. The City is facing housing challenges that would benefit from improved access to more housing options, more affordable housing for older adults, smaller housing, more rentals and homeownership opportunities. Housing needs are not one-size-fits-all and instead should be thought of as a menu of different options with sufficient variety for different household incomes and sizes, personal or household preferences, life stages of people, and community location needs.

The Housing Element should identify sufficient land and strategies to accommodate existing and projected housing needs for all segments of the community over the next 20 years. In addition, it seeks to enhance neighborhoods, support the maintenance and improvement of existing housing stock and guide the development of new housing stock to accommodate a range of income levels, ages and special needs.

The Housing Element is supported by a housing needs analysis that quantifies existing and projected housing needs and identifies the number of housing units necessary to accommodate projected growth. Housing analysis is an important exercise as a community's housing needs tend to continually evolve based on changes in the broader economy, local demographics, and the regulatory environment.

The approach for updating the Housing Element will be informed by community input, state legislation requirements, priorities for the city, a comprehensive housing inventory and analysis based on the best available existing data, provided in the following section. This analysis evaluates the current and projected housing, existing conditions, housing market dynamics, and housing demand and includes detail on the community demographics, housing stock, housing market dynamics, expected housing demand, and special housing needs in the City of Camas. The insights from this analysis help build a factual basis for the housing policy updates.

Housing Action Plan

The City of Camas completed its Housing Action Plan in 2021, including a thorough community engagement process about current housing needs in the City. This included two virtual public meetings, seven focus groups and interviews, a housing survey with over 300 responses, a project website, and written public comments. Key findings about community priorities included:

- **Camas needs a greater variety of housing choices at a range of price points to meet residents' diverse needs**. Specific types of housing needed included starter homes for young adults looking to purchase a house, accessory dwelling units (ADUs), accessible housing for older adults, and apartments/condominiums.
- **There are development opportunities and incentives that the City could deploy to support more types of housing**, such as tax credits for multifamily construction, city-funded parking structures, strategically using available land, and working with Homeowner Associations (HOAs) to remove barriers for ADU development.
- **Cost was a leading factor that participants noted for limiting housing choice in Camas.** Addressing perceptions about affordable and multifamily housing is important to meet housing needs. Much of the housing stock today is single-family detached homes, but new multifamily/ mixed-use buildings near transit and central areas could expand options in the city.

Planning Framework

The City of Camas's first Comprehensive Growth Management Plan was adopted in 1994, which was replaced by the current Comprehensive Plan in June 2016 to fulfill the requirements of Washington State's Growth Management Act (GMA). The GMA is a series of state statutes first adopted in 1990 aimed at managing population growth, particularly in the state's fast-growing areas.

In Clark County, RCW 36.70A.040 requires all cities to "fully plan" for the elements of a Comprehensive Plan, including land use, housing, capital facilities, utilities, transportation, and climate change.[1] The current update process is part of a period update also required by the GMA, as part of an established schedule by the County.

The Clark County Countywide Planning Policies provides helpful guidance on the Comprehensive Plan update. Clark County is currently in the process of updating its Comprehensive Plan and its Countywide Planning Policies. The existing 20-year growth plan spans 2015-2035 and includes a Housing Element with relevant policies for jurisdictions within the County. Please see the Appendix for a summary of the existing relevant Clark County Countywide Planning Policies.

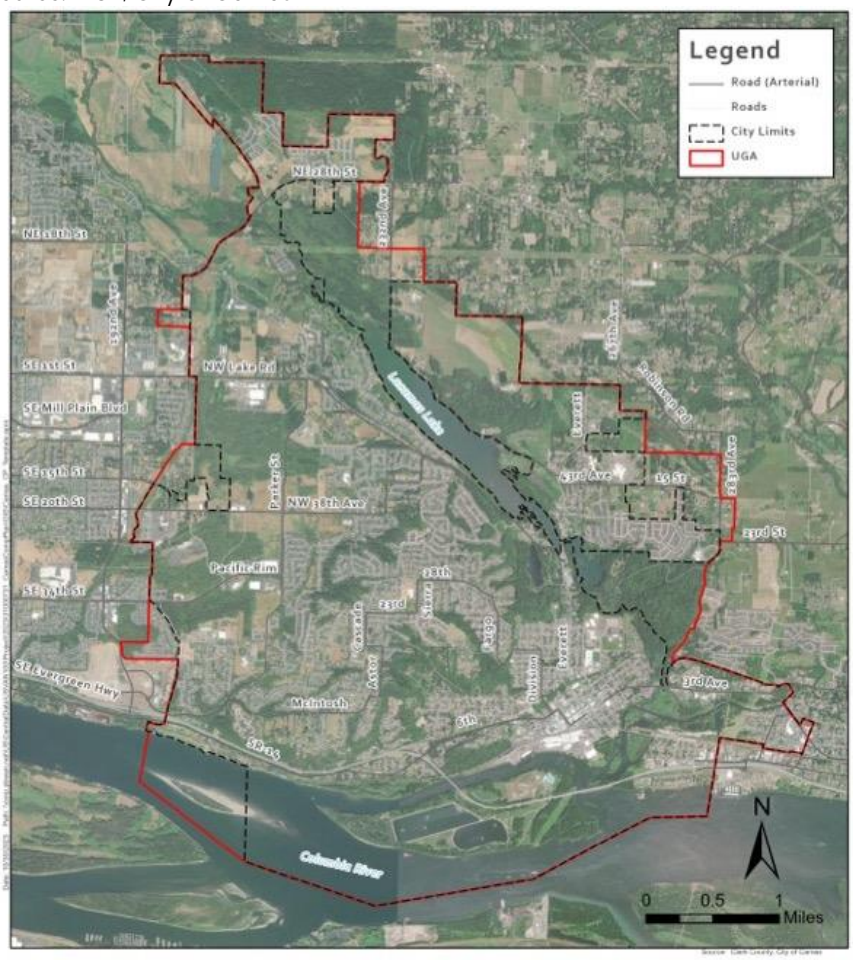
[1] The GMA includes other optional elements for economic development, parks and recreation, conservation, energy, sub areas, and ports.

City of Camas Profile

The City of Camas is a highly desirable place to live, offering a prime location nearby the growing cities and employment centers of Vancouver and Portland, and the smaller cities of Washougal and Battle Ground in south Clark County. The city is interconnected to the Portland Metropolitan region, located east and adjacent from Vancouver and northeast of Portland (see map below). Similar to the City of Vancouver, Camas has experienced high population growth over the last two decades, with an average annual growth rate of 5.2% which is double the rate of growth in Clark County and Washington State. Camas is generally more expensive both for rental housing and home prices compared with Clark County overall, including other suburban jurisdictions and larger cities like Vancouver and Portland. However, it does offer relatively low property taxes that can attract households from Oregon; consequently, this urban area has been absorbing some of the Portland metropolitan region's population growth over the past decade. The housing market in Camas has experienced accelerating demand trickling from the region, with median housing sales prices doubling over the past decade and the cost of average market rent for a one-bedroom apartment surpassing the cost in Portland and Vancouver.

This housing needs analysis includes many comparisons to the City of Camas and to Clark County, as a whole including both incorporated and unincorporated areas in the county, and in some cases, other cities, to provide helpful comparisons.

Exhibit 1. Site Location Map, City of Camas
Source: WSP, City of Camas



Summary of Findings

A summary of key findings from this Economic Development Element analysis is provided below to help describe key insights regarding the economic context, economic opportunities and challenges, and to inform Comprehensive Plan policy updates. The next section provides the full results and detail regarding these findings.

Community Demographic Trends

- **Since 2000, Camas has grown at a faster rate than Clark County or Washington State overall, more than doubling in size by 2023.** Camas's peer cities in Clark County like Battle Ground and Washougal have also seen higher rates of growth over the County average. As the population of these smaller cities increases, demand for housing also rises and affects the way that cities like Camas must plan to meet residents' housing needs.
- **In terms of land, Camas has expanded incrementally over time through annexations.** In the 2000's and early 2010's, the City added large new areas on the north side of Lacamas Lake, with a large portion of this area zoned for multifamily housing alongside employment and commercial areas.
- **Camas is becoming a more diverse community.** The share of people of color increased from 13 in 2008-2012 to 24 in 2018-2022. The City has also become slightly more diverse compared to Clark County overall (where 21 percent of residents were people of color in 2018-2022).
- **Camas is seeing a larger share of couples and families with children** and has a higher share of both groups than the County or State. The City also had a larger median household size, particularly in owner-occupied households.
- **Median household income in Camas is higher than both Clark County and the state of Washington at $133,000 in 2018-2022.** Adjusting for inflation, median income in the City still increased by 31 percent since 2008-2012. This increase is primarily due to growth in high-income households earning over $100,000 per year.
- **Median income in Camas is above the area median income (AMI).** In 2023, HUD determined the AMI to be $114,400 for a family of four in the Portland-Vancouver-Hillsboro, OR-WA MSA (including Camas). This is lower than median income in Camas itself which was $133,000 in 2018-2022 (Exhibit 14) and has been consistently lower than the City over time.
- **Four out of five households in Camas owned their homes in 2018-2022, at a higher rate than either Clark County or Washington.** The share of renter households stayed the same in Camas since 2008-2012, showing less than a 1 percent increase over this time period.
- **County-level trends indicate that homeownership disparities exist for some groups by race and ethnicity in Pierce County,** with households who are Black or African American, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, Hispanic or Latino (of any race), two or more races, or another race not listed had lower rates of homeownership.
- **At the County level, income levels also vary by race and ethnicity.** White households were generally in line with the overall median, while income was higher for American Indian or Alaska Native and

Asian households. In Clark County, households who were Black or African American, Native Hawaiian or Pacific Islander, Hispanic or Latino, two or more races, or another race had lower median household incomes than the overall average.

- **Overall levels of housing cost burden are decreasing, but more renters and low-income households experience higher rates.** In 2018-2022, 24 percent of all households experienced cost burden, lower than Clark County's rate of 33 percent overall. However, Different types of households may face varying levels of cost burden. In Camas, a higher share of renter households experienced cost burden in 2018-2022 compared to homeowners. Also in this time period, 100 percent of households earning less than $20,000 experienced severe cost burden (paying 50 percent or more of monthly income towards housing). Although cost burden is generally lower for homeowners, more people of color in Camas who own their homes experience cost burden compared to white, non-Hispanic homeowners.

Existing Housing Inventory

- **Camas and Clark County have both seen growth in their number of housing units in the past two decades.** Camas has seen a 108% change between 2000 and 2023 (annually this equates with an average of 221 new homes). The City of Camas's growth in housing units was lower than its population change (120%), indicating that the City has not been keeping pace by adding to its supply to meet the rising demand.

- **Camas and Clark County have both had steadily low vacancy rates for all housing units in total** (both at 4% in 2018-2022 with little change over the last decade). This level of vacancy is indicative of a healthy housing market with natural rates of turnover; however, the slight decrease in both the City and County could begin to indicate constrained supply of housing.

- **For two-bedroom multifamily units, Camas has seen spikes in vacancy, but these align with new construction trends** which can temporarily raise vacancy rates for newly delivered units but do not indicate long-term vacancy. In 2023, the City saw over 200 new housing units delivered, likely accounting for the fluctuation in vacancies, as well as deliveries in 2017 and 2020.

- **Since 2015, the City has permitted 2,763 new housing units.** Single detached homes have accounted for the largest share (70%) of new permits in the City of Camas, and another 8 percent were made up of attached townhomes. While apartments, condos, and units in mixed-use buildings made up 20 percent of new permits between 2015-2024, middle housing types like duplexes, triplexes, quadplexes, and accessory dwelling units (ADUs) were only 2 percent of all permits.

- **Median home sale prices in Camas and Clark County have increased over the last ten years,** with Camas's average prices generally remaining higher than the County or comparison cities of Battle Ground and Washougal. In 2023, the average home sale price in the City was **$704,000,** increasing by 119 percent since 2013. In comparison with surrounding jurisdictions, the average home sale in Camas was more expensive than the average home in the City of Portland (by $196,000) or Clark County (by $173,000) in 2023.

- **Prices are also increasing quickly in Camas and Clark County for the average 2-bedroom multifamily rental.** In 2024 year-to-date, the average 2-bedroom apartment rent was over $1,800 in the City and over $1,700 in Clark County. This indicates over a 35 percent increase since 2010 in the

City and County. Average 2-bedroom multifamily rents in Portland tracked closely with Camas in the 2010's, while rents in Vancouver remained lower (generally following countywide trends). Since 2020, rents in Camas have risen higher than both cities on average.

- **Compared with home sale price and rent increases in Camas, only households earning over 150 percent or more of AMI would be able to afford the average home in the City as of 2023.** However, the average 2-bedroom apartment is still affordable to households between 50 and 80 percent of AMI in Camas.
- **The City of Camas had 98 units of regulated affordable housing in 6 buildings** according to data from Oregon Metro and the City. Approximately half of these units are affordable respectively for residents between 30-50% of AMI and 50-80% of AMI. The City also has several long-term care residential facilities for older adults providing 135 units.

Future Housing Demand

- **Since 2000, Camas has grown at a faster rate than Clark County overall but is expected to slow based on County estimates by 2045.** The County's interim projections assume that new population growth in Camas is estimated to grow at an annual rate of 1.2% and account for 4.05% of countywide population growth.
- **County allocations show the need for 4,226 new housing units in Camas by 2045, adding around 211 new housing units per year.**
- **The City would add about 311 new units to meet the new permanent supportive housing target and 1,766 units affordable to low-income households below 80% of AMI by 2045.**
- **Camas residents with disabilities may require additional housing features for accessibility to meet their needs.** In 2018-2022, 8 percent of residents in Camas had at least one disability. The most common type of disability in the City was cognitive difficulties, followed by ambulatory and vision difficulties. These disabilities can require housing accommodations such as zero-step entryways, ramps, lifts, or other accessibility features.

Community Demographic Trends

Understanding population and housing characteristics are important for context for developing policies that anticipate the needs and goals of Camas. Key trends such as population growth, household size and composition, homeownership, and residents' characteristics like age, income, and race and ethnicity provide useful information about how Camas is changing and what changes are affecting housing demand in the city. Tracking these trends also helps to work towards equitable outcomes, by recognizing where there are existing gaps and what groups may face disproportionate challenges to accessing housing that meets their needs.

This assessment relied on data primarily sourced from the United States Census Bureau's 5-year American Community Survey (ACS) estimates,[2] CoStar, Washington Office of Financial Management (OFM), the United States Department of Housing and Urban Development (HUD), and the City of Camas. Primary geographies used include the City of Camas, Clark County, and Washington State, as well as targeted comparisons with surrounding comparable cities of Battle Ground and Washougal.

In some cases, the margin of error (MOE) with the Census Bureau's ACS data and other sources can be very high, severely reducing the accuracy of some variables. This typically happens for groups with smaller sample sizes or data filtered to smaller geographies. Where data is not available at the city level, we include information at the County level.

The Washington State Office of Financial Management (OFM) provides official state and local population estimates and projections for use in the allocation of funds, growth management, and other planning functions. This section utilizes official population estimates from 2000-2023 to understand Camas's population growth over the last few decades, as well as estimates of households and projections of these data through 2044.

Population Growth, Age, Race and Ethnicity

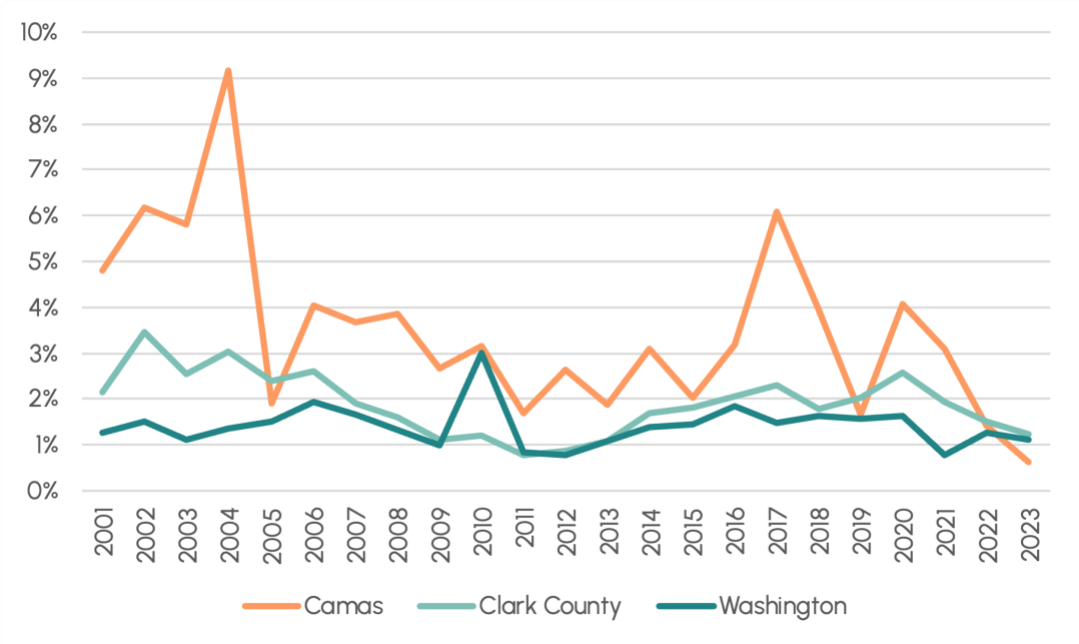
Since 2000, Camas has grown at a faster rate than Clark County or Washington State overall, increasing by 120% (or 5.2% annually on average). The City saw its greatest increases in population in 2004, 2017, and 2020 (Exhibit 3). Camas's peer cities in Clark County like Battle Ground and Washougal have also seen higher rates of growth over the County average per year. As the population of these smaller cities increase, demand for housing also rises and affects the way that cities like Camas must plan to meet residents' housing needs.

[2] 5-year estimates use data collected over a longer period of time used to increased statistical reliability of the data by using a larger sample for geographies with populations under and small groups within a population. Since Camas's population is below the threshold of 65,000 residents, 1-year estimates are not available at the city level. This report generally uses the most current estimates at the time of writing; for ACS data this is 2018-2022, as well as comparison over time to 2008-2012 data.

Exhibit 2. Total Population, Camas, Clark County, Washington, and Comparison Geographies, 2000-2023
Source: WA Office of Financial Management (Intercensal and postcensal)

JURISDICTION	POPULATION			CHANGE, 2000-2023	PERCENT CHANGE, 2000-2023	AAGR 2000-2023
	2000	2010	2023			
City of Camas	**12,462**	**19,355**	**27,420**	**14,958**	**120%**	**5.2%**
Clark County	342,194	425,363	527,400	185,206	54%	2.4%
City of Battle Ground	9,206	17,571	21,910	12,704	138%	6.0%
City of Washougal	8,595	14,095	17,490	8,895	103%	4.5%
Washington State	5,757,761	6,724,540	7,951,150	2,193,389	38%	1.7%

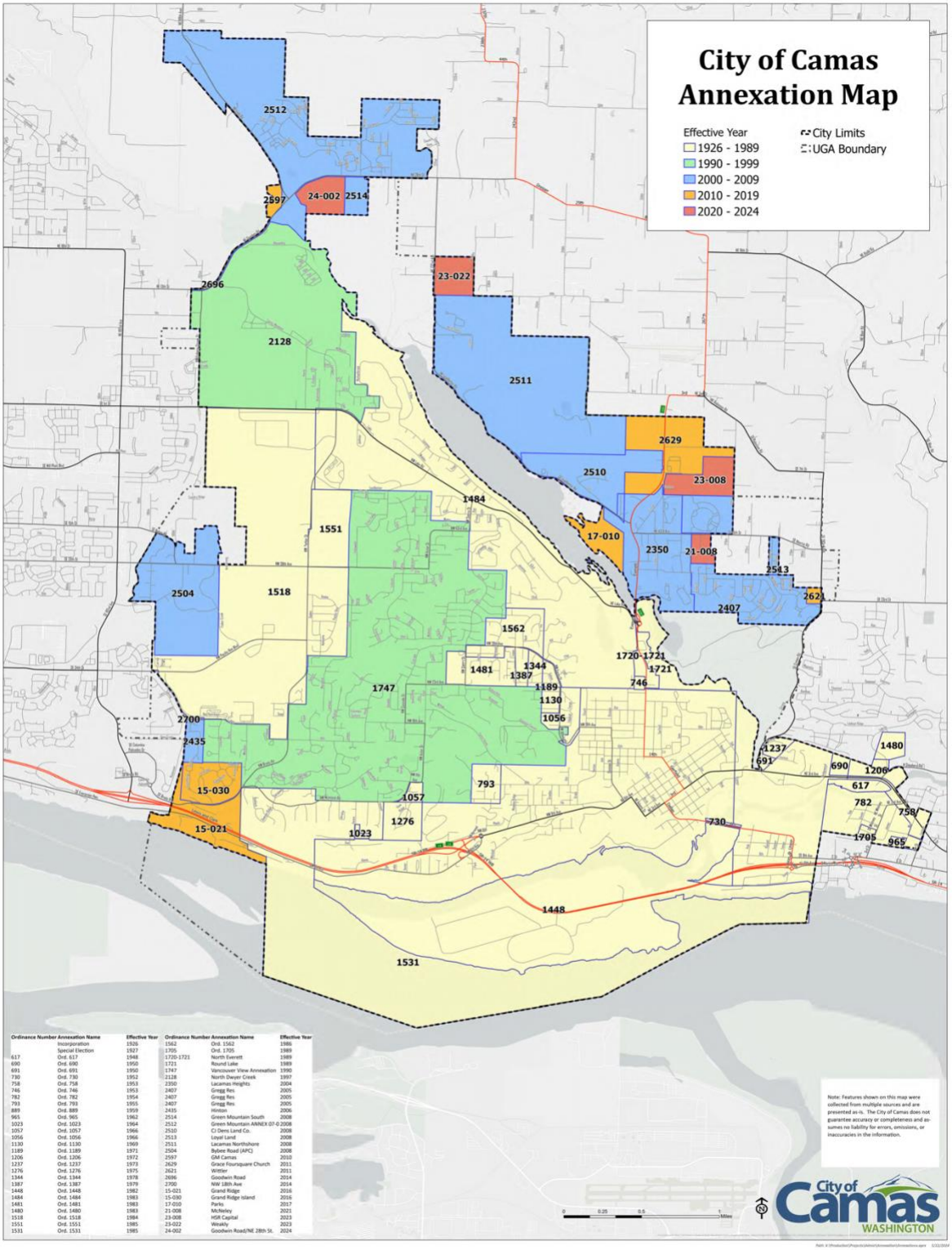
Exhibit 3. Population Growth Change Year-over-Year (YOY), Camas, Clark County, and Washington, 2000-2023
Source: WA Office of Financial Management (Intercensal and postcensal)



In terms of land, Camas has expanded incrementally over time through annexations. Although annexations can be used to bring in different types of land uses to a city (industrial, open space, etc.), the addition of new residential land use areas can increase the City's population and capacity for new housing. Exhibit 4 below shows new annexations in Camas as of 2016.[3] In the 2000's and early 2010's, the City added large new areas on the north side of Lacamas Lake, with a large portion of this area zoned for multifamily housing alongside employment and commercial areas.

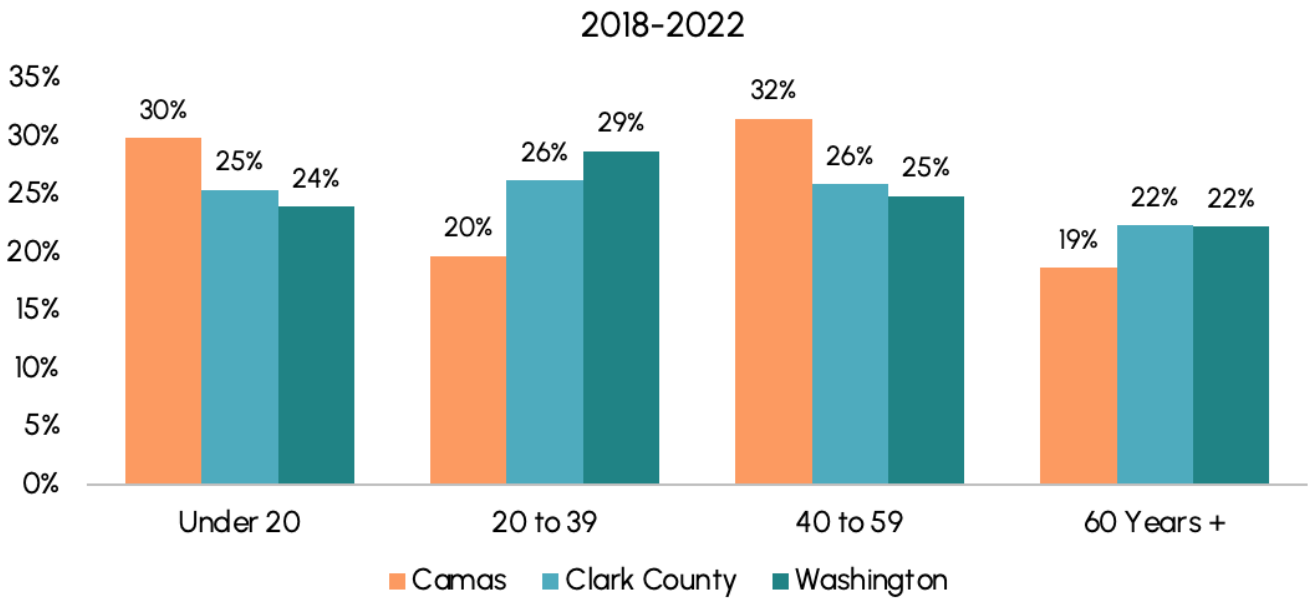
[3] Since the City's most recent annexation map, it has also annexed an additional 154 acres across four parcels since 2016.

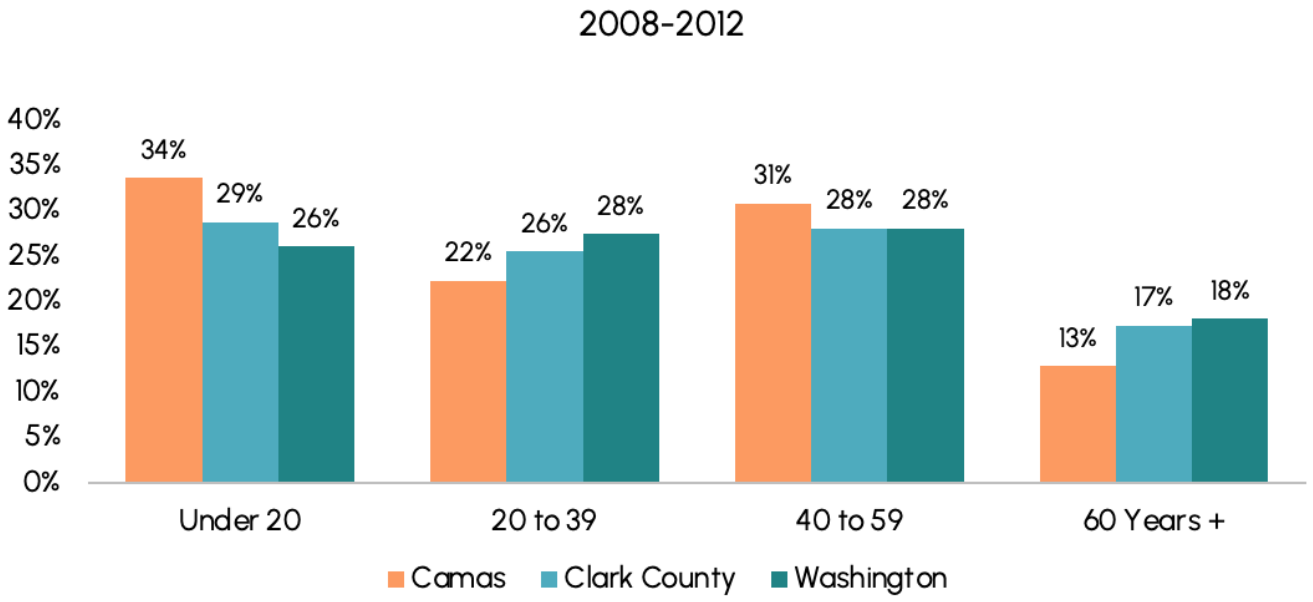
Exhibit 4. City of Camas Annexations Through 2024
Source: City of Camas



Camas has a quickly aging population. Between 2008-2012 and 2018-2022, Camas's share of residents under 18 saw the greatest decline from 34 to 30 percent of the population while the share of residents aged 60 years or over increased in this time period from 13 to 19 percent. The share of adults between the ages of 20 and 59 remained relatively stable.

Exhibit 5. Age Distribution, Camas, Clark County, and Washington, 2008-2012, 2018-2022
Source: U.S. Census Bureau, 2008-2012, 2018-2022 ACS 5-Year Estimates.





Median age in Camas increased by 4.3 years between 2008-2012 and 2018-2022, rising faster than Clark County or the State of Washington overall. Households' housing needs can change depending on different stages of life. For example, early- to mid-career workers (typically falling in the age 20 to

39 years category), multigenerational families with children, or older persons entering retirement may all have differing needs for the location, price, size, layout, or other features of their homes.

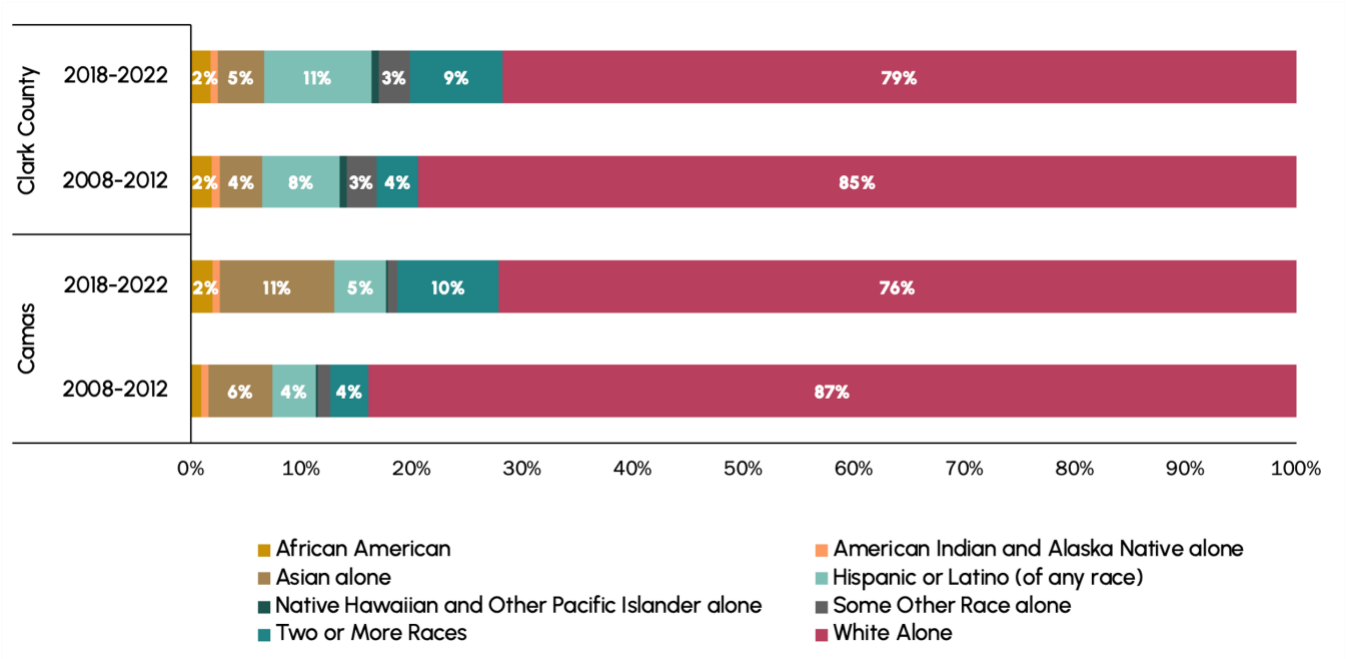
Growth of adults aged 50 and over is also reflected in shrinking household sizes and changing types shown below in Exhibit 9 and Exhibit 10, indicating a growing need for housing to accommodate older adults.

Exhibit 6. Median Age, Camas, Clark County, Washington, and Comparison Geographies 2008-2012, 2018-2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates

JURISDICTION	2008-2012	2018-2022	CHANGE
City of Camas	36	40	+4.3
Clark County	37	39	+2.0
State of Washington	37	38	+0.8

Camas is becoming a more diverse community, with the share of people of color increasing between 2008-2012 and 2018-2022. The City has also become slightly more diverse compared to Clark County overall. In 2018-2022, approximately one quarter percent of residents in Camas were people of color. The City saw the greatest increase since 2008-2012 in the share of residents who are Asian or two or more races; these groups grew respectively by 5 and 6 percent points. Changes to a city's race and ethnicity profile can indicate changing housing needs due to disparate impacts of historic and systemic discriminations faced by many people of color for accessing housing.

Exhibit 7. Population by Race and Ethnicity, Camas and Clark County, 2008-2012, 2018-2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates
Note: Labels not shown for values ≤1%



Household Trends

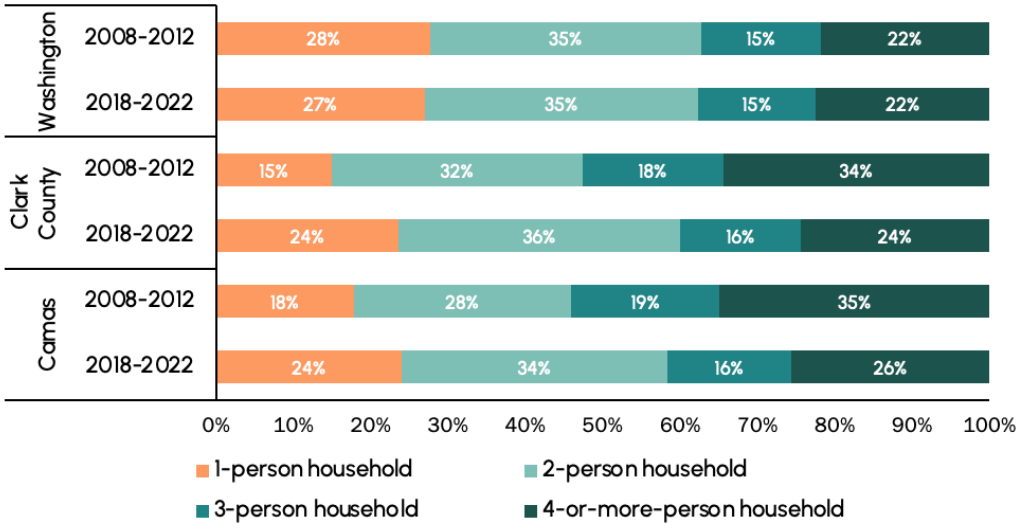
Change in number of households over time is helpful for understanding a number of trends alongside overall population growth, such as household formation. **Between 2000 and 2023, the City of Camas saw a higher annual rate of household growth compared to Clark County and Washington. Comparison cities of Battle Ground and Washougal saw similar or greater growth rates, increasing by 4.0 and 2.9 percent respectively per year since 2000.** Growth in smaller cities within Clark County and the region require intentional planning to make sure new housing needs are being met in the community.

Exhibit 8. Total Households, Camas, Clark County, Washington, and Comparison Geographies, 2000-2023
Source: OFM

JURISDICTION	2000	2010	2023	CHANGE 2000-2023	PERCENT CHANGE 2000-2023	AAGR (2000-2023)
City of Camas	4,736	5,952	9,833	5,097	108%	3.2%
Clark County	134,030	167,413	207,044	73,014	54%	1.9%
City of Battle Ground	3,209	5,952	7,945	4,736	148%	4.0%
City of Washougal	3,463	5,673	6,655	3,192	92%	2.9%
State of Washington	2,451,081	2,886,948	3,341,640	890,559	36%	1.4%

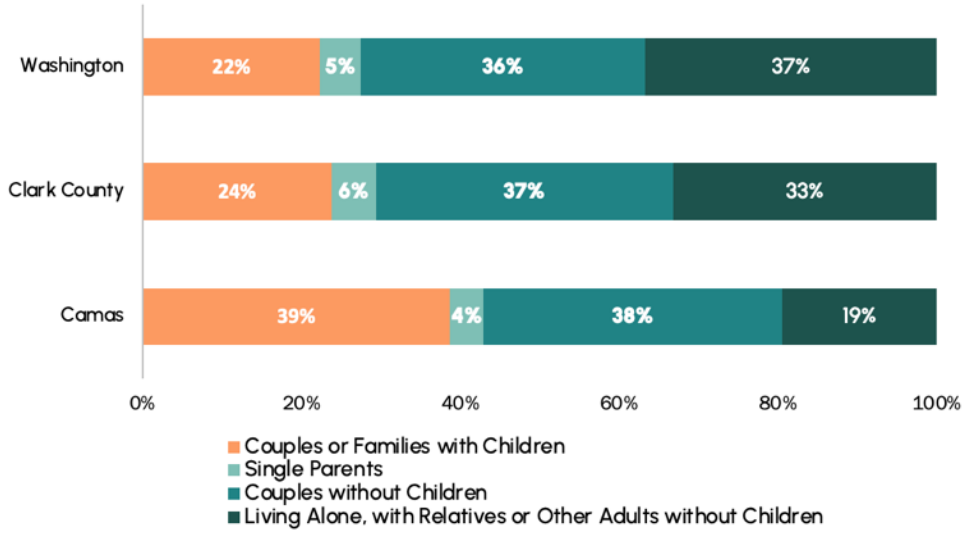
Changing household sizes and types have implications for the different types of housing units needed in a City. In Camas, the share of 1- and 2-person households grew between 2008-2012 and 2018-2022, while the share of 3- and 4-person households decreased. This could indicate a 'downsizing' trend where many older adults may seek out smaller units as adult children establish new households.

Exhibit 9. Household Size Distribution, Camas and Clark County, 2008-2012, 2018-2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates



Household types in Camas however indicate a larger share of couples or families with children in the City compared with Clark County or Washington overall, with a smaller share of residents living alone or with extended relatives. This may indicate a trend of **multigenerational households** in the city, where several generations of a family co-habitate.

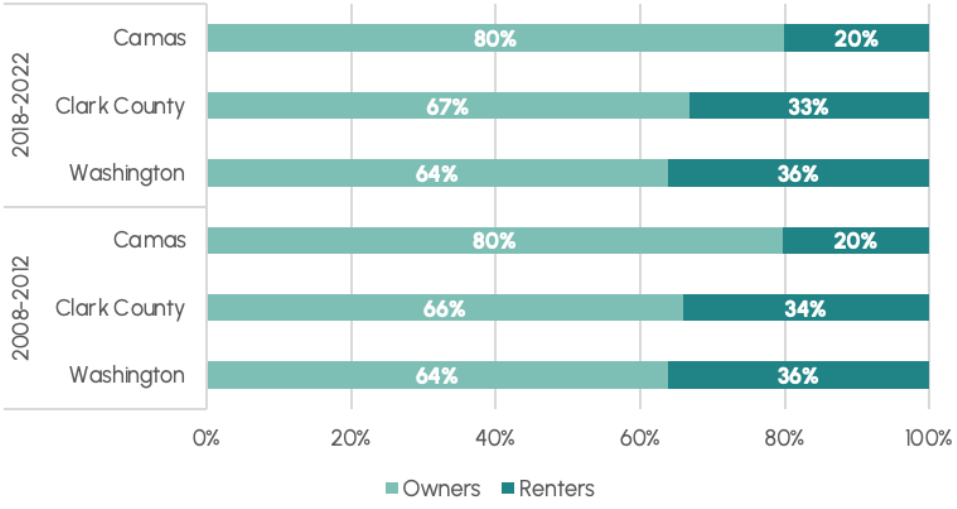
Exhibit 10. Household Type, Camas, Clark County, and Washington, 2018-2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates



Household Tenure

Household tenure refers to the ownership status of residents in their homes, either as owners or renters of their home. In 2018-2022, **80 percent of households in Camas owned their homes, at a higher rate than either Clark County or Washington.** The share of renter households stayed the same in Camas since 2008-2012, showing less than a 1 percent increase over this time period.

Exhibit 11. Household Tenure, Camas and Clark County, 2008-2012, 2018-2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates



Camas maintained a larger median household size than the County or the State in both 2008-2012 and 2018-2022, with little change in the City. In both periods owner-occupied households tended to be larger than renter households.

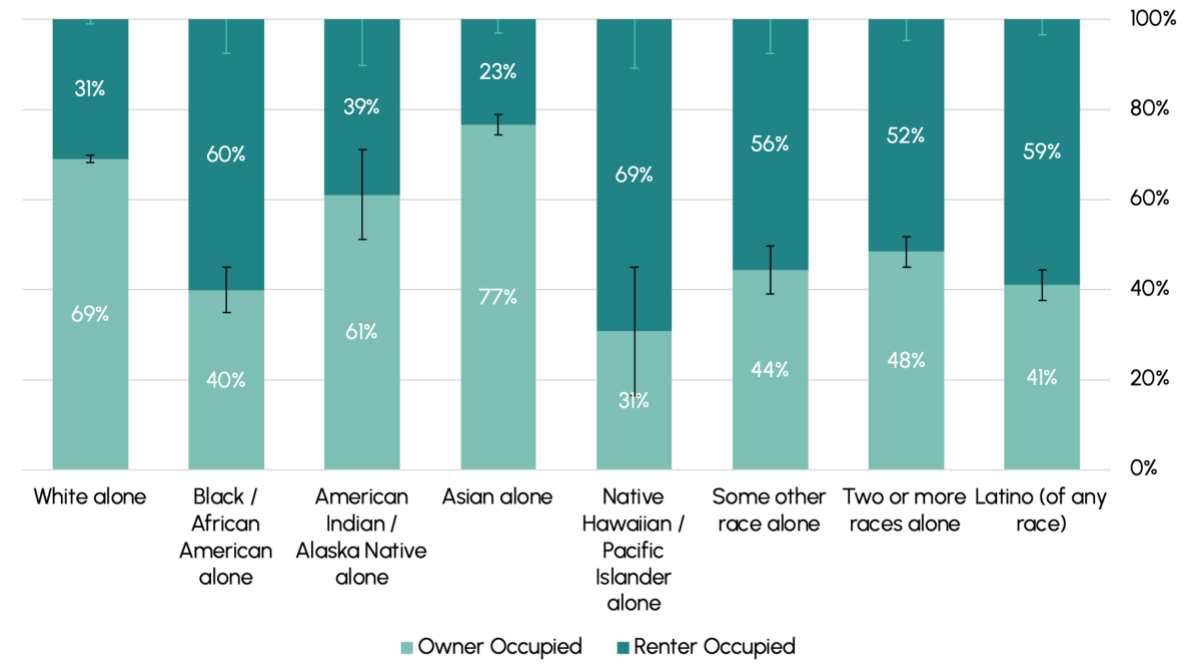
Exhibit 12. Average Household Size by Tenure, Camas, Clark County, and Washington, 2008-2012, 2018-2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates

	CAMAS	CLARK COUNTY	WASHINGTON
2008-2012			
Average household size	**2.96**	2.67	2.52
Owner-occupied units	**3.01**	2.75	2.61
Renter-occupied units	**2.74**	2.52	2.35
2018-2022			
Average household size	**2.95**	2.65	2.53
Owner-occupied units	**3.07**	2.72	2.66
Renter-occupied units	**2.48**	2.49	2.3
Change 2008-2012 to 2018-2022			
Average household size	**-0.01**	-0.02	0.01
Owner-occupied units	**0.06**	-0.03	0.05
Renter-occupied units	**-0.26**	-0.03	-0.05

Homeownership rates can often vary by race and ethnicity, as many people of color face historic and systemic barriers from a legacy of discriminatory practices in the United States. In Camas today, margins of error are too high to disaggregate homeownership by race and ethnicity.

However, **County-level trends indicate that disparities exist for some groups in Clark County, with households who are Black or African American, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, Hispanic or Latino (of any race), two or more races, or another race not listed had lower rates of homeownership. Native Hawaiian or Pacific Islander**, Black or African American, and Latino of any race had the lowest homeownership rates with over half renting their home. White and Asian households both had rates of homeownership above the County average overall (Exhibit 11) at 69 percent and 77 percent. Intentional policies to remove barriers to homeownership can help to reduce these disparities.

Exhibit 13. Homeownership by Race, Clark County, 2018-2022
Source: U.S. Census Bureau, 2018-2022 ACS 5-Year Estimates



Household Income Trends

Income is a critical factor for determining housing choices. A household's level of income influences both the type of housing they are able to afford (e.g., single-family detached homes, multifamily units) and their tenure (whether a household has the option to purchase a home or rent). **Median household income in Camas is higher than both Clark County and the state of Washington at $133,000 in 2018-2022. Adjusting for inflation, median income in the City still increased by 31 percent since 2008-2012. This increase is primarily due to growth in households earning over $100,000 per year (Exhibit 15).**

Exhibit 14. Median Household Income, Camas, Clark County, and Washington (2022$)
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates
Note: 2008-2012 values are adjusted for inflation

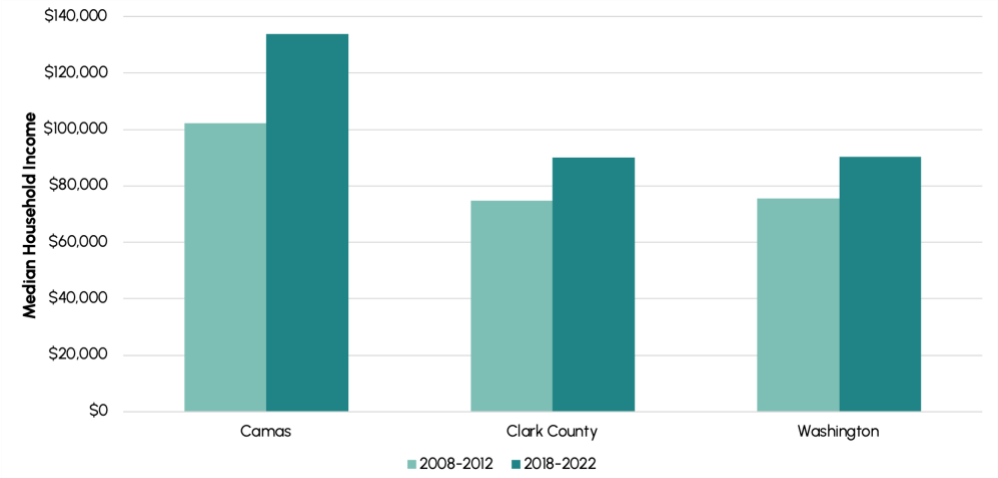
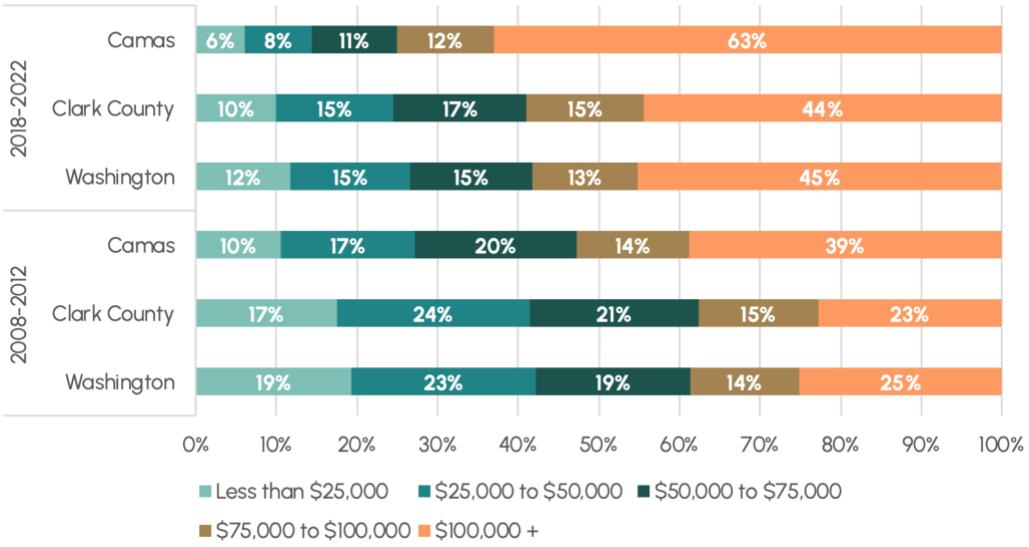


Exhibit 15. Change in Household Income Distribution, Camas and Clark County, 2008-2012, 2018-2022

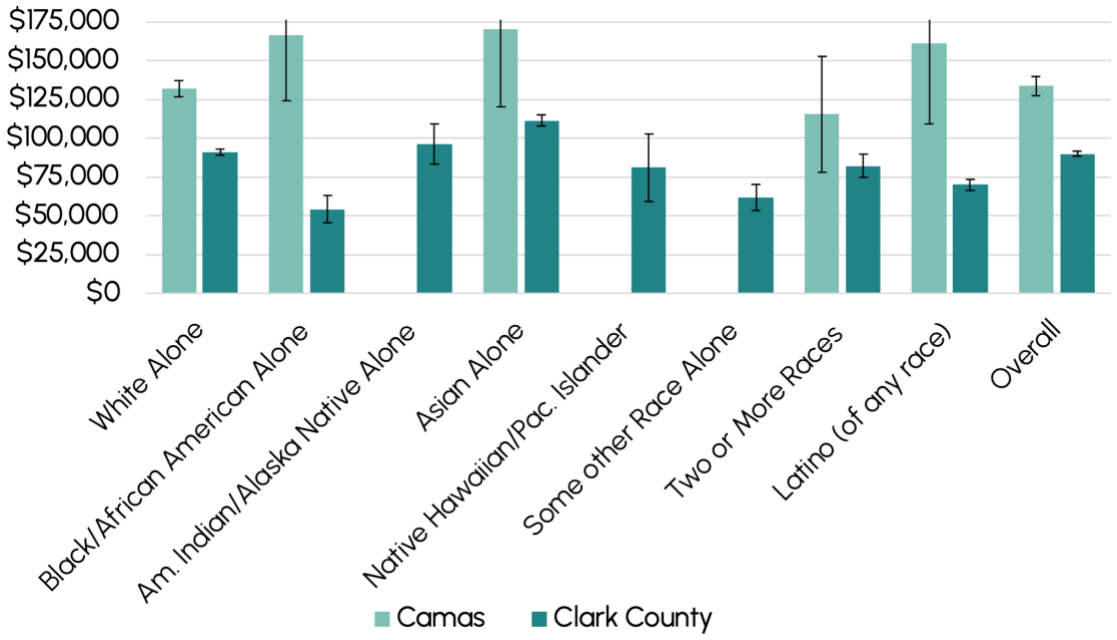
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates



Median household income is higher in Camas than in the County for all groups by race and ethnicity (where data was accurate enough to be interpreted). White residents in Camas had approximately the same median income as the City overall, while Black or African American, Asian, and Hispanic or Latino residents indicated higher median income. Household income for those who were two or more races was the only group estimated to be below average for the City. However, high margins of error for many groups in the City of Camas may lead to inaccuracies in this data.

At the County level, income for white households was generally in line with the overall median, while income was higher for American Indian or Alaska Native and Asian households. In Clark County, households who were Black or African American, Native Hawaiian or Pacific Islander, Hispanic or Latino, two or more races, or another race had lower median household incomes than the overall average. Considering the high margins of error for the data provided at the City level, it is possible that these disparities also exist for the same households of color in Camas.

Exhibit 16. Median Household Income by Race and Ethnicity, Camas and Clark County, 2018-2022
Source: U.S. Census Bureau, 2018-2022 ACS 5-Year Estimates
Note: Due to limited data, median income for some groups is not available at the City level.



Another aspect of analyzing household incomes is the Area Median Income (AMI). AMI is defined as the midpoint of a specific area's income distribution and is defined each year by the Department of Housing and Urban Development (HUD).[4] HUD includes Camas as part of the Clark County in the Portland-Vancouver-Hillsboro, OR-WA MSA. **In 2023, HUD determined the AMI to be $114,400 for a family of four in the area. This is lower than median income in Camas itself which was $133,000 in 2018-2022 (Exhibit 14) and has been consistently lower than the City over time.**

Exhibit 17. Median Family Income (MFI) for a Family of Four, Camas and Clark County (2023$)
Source: HUD

	EXTREMELY LOW (30%)	LOW (50%)	MODERATE (80%)	MEDIAN (100%)	HIGH (120%+)
2019	$26,350	$43,950	$70,300	**$87,900**	$105.500
2023	$33,850	$56,400	$90,200	**$114,400**	$137,300

[4] AMI/ Median Family Income (MFI) looks at how much each income level can afford in housing costs which is helpful for understanding housing affordability. Each year, the HUD uses data from the U.S. Census to define an area's MFI based on family size. The MFI benchmark helps determine eligibility for HUD housing programs (often including rent-restricted housing) and supports the tracking of different housing needs for a range of household incomes. If the term AMI is used in an unqualified manor, this reference is synonymous with HUD's MFI.

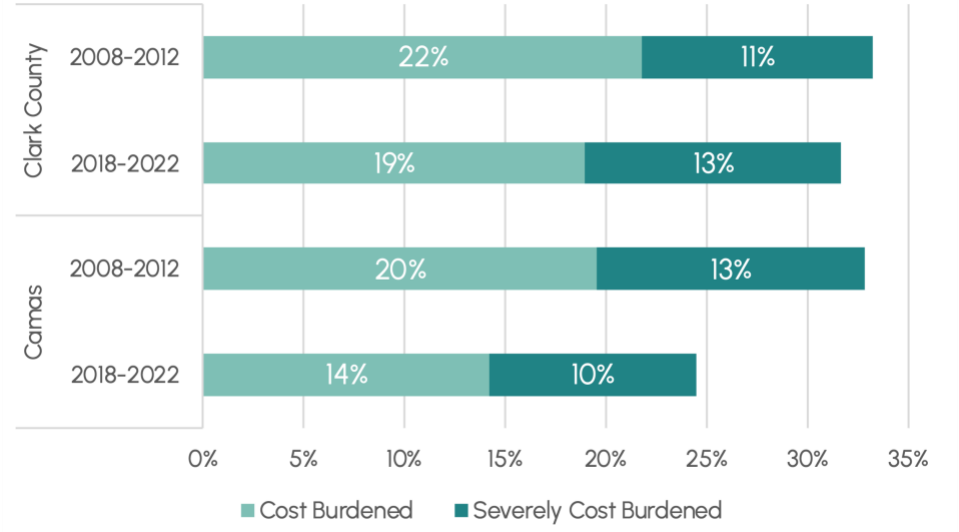
Cost Burden

Housing costs are typically the largest portion of a household budget, and typically include mortgage or rent payment, utilities, interest, and insurance. HUD guidelines indicate that households paying more than 30% of their income on housing experience "cost burden" and households paying more than 50% experience "severe cost burden." Using cost burden as an indicator is one method of determining how well a city is meeting its need to provide housing that is affordable to all households in a community.

Cost burdening for owner-occupied households is less common because mortgage lenders typically ensure that a household can pay its debt obligations before signing off on a loan. However, cost burdening can occur when a household secures a mortgage and then sees its income decline. In addition, retired persons subsisting on a fixed income can experience cost burden associated with increased property taxes rising above their financial limitations.

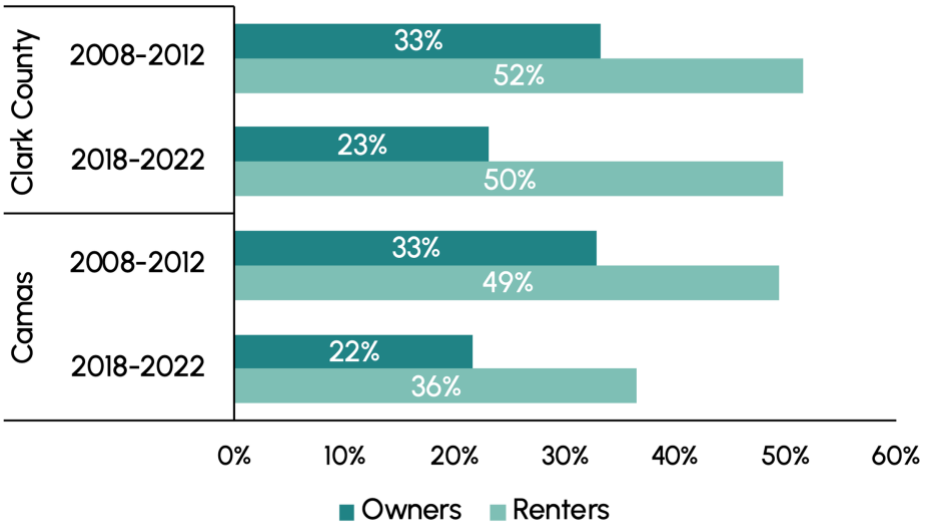
Total rates of cost burdened households decreased in Camas between 2008-2012 and 2018-2022, falling below Clark County's average. In 2018-2022, 24 percent of all households experienced cost burden, compared to 33 percent in the County overall.

Exhibit 18. Cost Burden for All Households, Camas and Clark County, 2008-2012, 2018-2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates



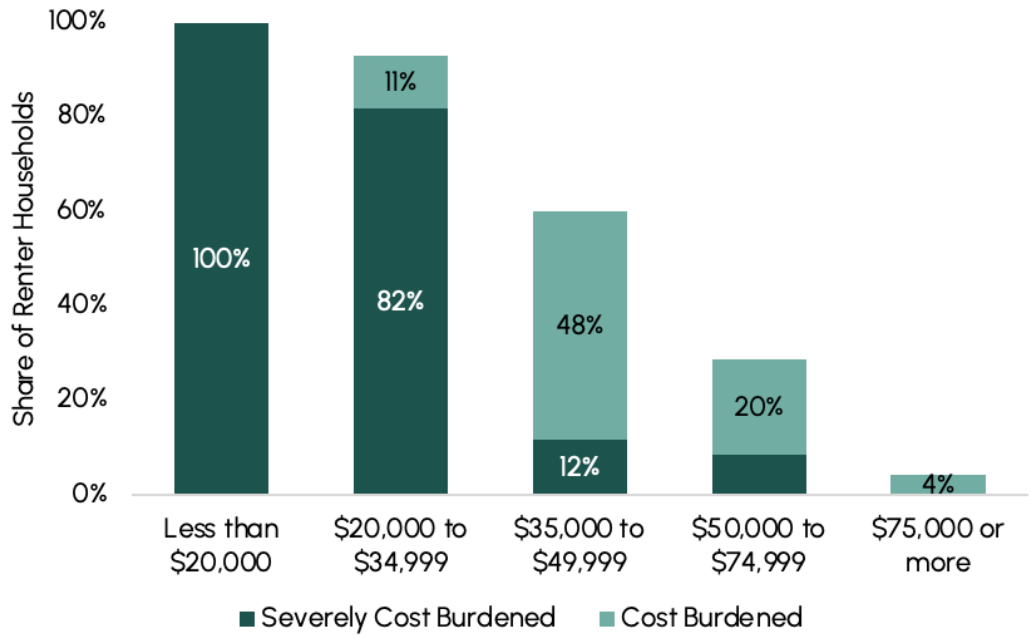
Different types of households may face varying levels of cost burden. Renters are often more vulnerable to increasing housing costs due to property owner decisions and changing demand trends. **In Camas, a higher share of renter households experienced cost burden in 2018-2022 compared to homeowners but saw a greater decrease since 2008-2012.**

Exhibit 19. Cost Burden by Tenure, Camas and Clark County
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates



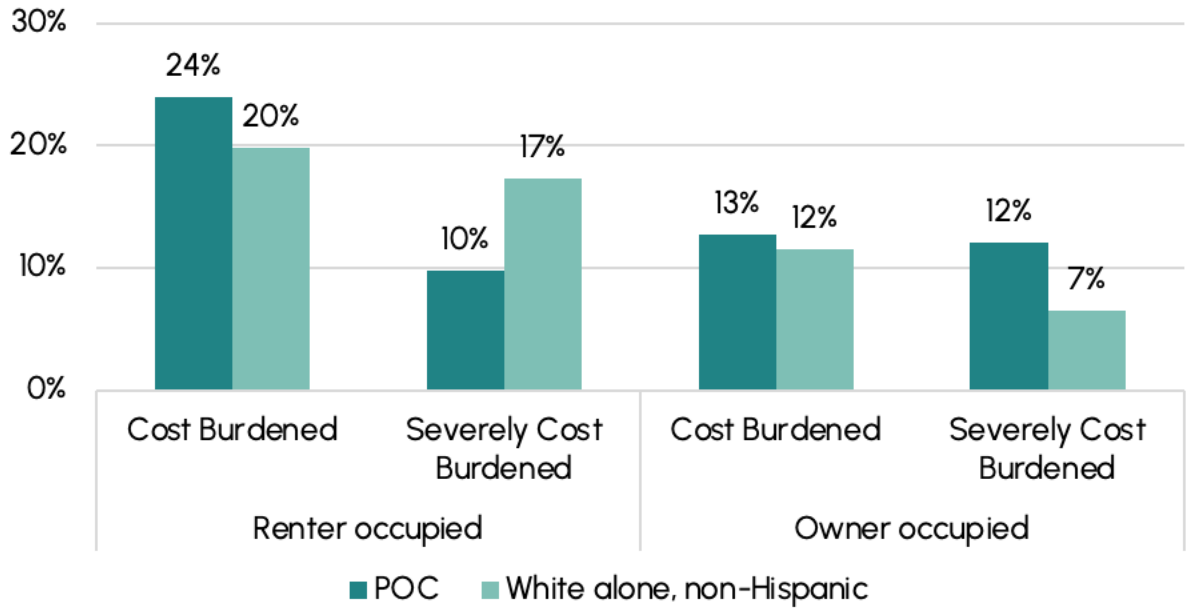
Cost burden is also higher in Camas for lower-income households, who are often less able to absorb changes to monthly housing costs. In 2018-2022, **100 percent of households earning less than $20,000 experienced severe cost burden (paying 50 percent or more of monthly income towards housing).** In comparison, 93 percent of those earning $20,000 to $34,999 per year were cost burdened or severely cost burdened. The rate of cost burden proportionately reduces for those earning higher incomes, with only four percent of those earning $75,000 or more per year experiencing any cost burden.

Exhibit 20. Cost Burden by Income, Camas, 2018-2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates



Cost burden for people of color in Camas is generally higher compared to White, Non-Hispanic households, particularly for homeowners of color. **In 2016-2020, 25 percent of homeowners of color were cost burdened, compared to 19 percent of White, Non-Hispanic homeowners.**

Exhibit 21. Cost Burden for People of Color (POC) and White Households by Tenure, Camas, 2016-2020
Source: 2016-2020 CHAS



Existing Housing Inventory

Understanding the City's existing housing supply and characteristics is critical for planning to meet future housing demand. This section provides information about homes in Camas today, including growth over time, vacancy rates, housing costs, and implications for housing affordability.

Housing Units

Similar to growth in population, Camas and Clark County have both seen growth in their number of housing units in the past two decades. Camas has seen a 108% change since 2000 (annually this equals 4.7% growth or 221 new homes), representing a greater proportionate increase than both the County and Washington State.

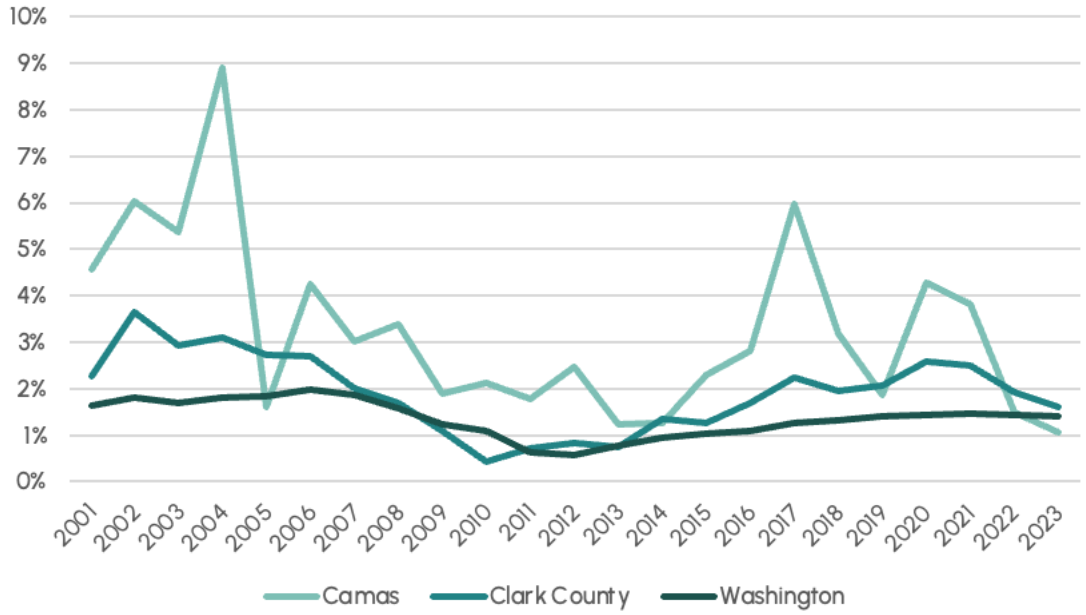
The City of Camas's growth in housing units was lower than its population change as shown above in

Exhibit 2 (120% or 5.3% AAGR), indicating that the City has not been keeping pace by adding to its supply to meet the rising demand. A sharp spike in housing production in 2017 and 2020 reflected population growth trends in the City (Exhibit 23).

Exhibit 22. Total Housing Units, Camas, Clark County, and Washington 2000-2022
Source: OFM

JURISDICTION	2000	2010	2023	CHANGE 2000-2023	PERCENT CHANGE 2000-2023	AAGR (2000-2023)
City of Camas	4,736	7,072	9,833	5,097	108%	4.7%
Clark County	134,030	167,413	207,044	73,014	54%	2.4%
State of Washington	2,451,081	2,886,948	3,341,640	890,559	36%	1.6%

Exhibit 23. Household Growth Change Year-over-Year (YOY), Camas, Clark County, and Washington 2000-2023
Source: WA Office of Financial Management (Intercensal and postcensal). Note: Some of the spikes in household growth were partially attributed to annexations to the City of Camas.



Vacancy Rate

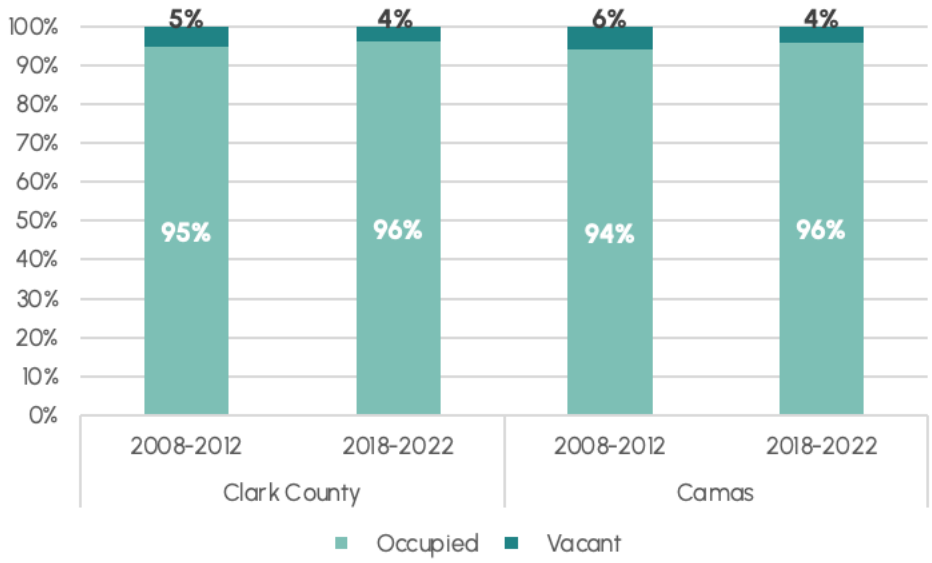
The Census defines vacancy as "unoccupied housing units considered vacant."[5] Vacancy status is determined by how the unit would likely be occupied (e.g., for rent, for sale, or for seasonal use only).

[5] US Census Bureau, "American Community Survey and Puerto Rico Community Survey 2022 Subject Definitions," https://www.census.gov/programs-surveys/acs/technical-documentation/code-lists.html, 45-46.

Vacancy rates are cyclical and represent the lag between demand and the market's response to demand for additional dwelling units. Vacancy rates for rental and multifamily units are typically higher than those for owner-occupied and single-family dwelling units.

Between 2008-2012 and 2018-2022, Camas and Clark County saw steadily low vacancy rates for all housing units in total. This level of vacancy is indicative of a healthy housing market with natural rates of turnover; extremely low vacancy rates can indicate a more constrained supply that is not meeting housing demand. However, the slight decrease in both the City and County could begin to indicate constrained supply of housing.

Exhibit 24. Vacancy Rate, All Housing Units, Camas and Clark County, 2008-2012, 2018-2023
Source: ACS 5-Year Estimates



Below, Exhibit 25 shows the 2-bedroom multifamily vacancy rate for Camas according to CoStar (a real estate market platform). Camas's vacancy rate in 2024 year-to-date was high at 18.4 percent, rising quickly since 2022. The City's sharp spike in the past two years aligns with new construction trends, which can temporarily raise vacancy rates for newly delivered units but do not indicate long-term vacancy. In 2023, the City saw over 200 new housing units delivered, likely accounting for the fluctuation in vacancies, as well as deliveries in 2017 and 2020 that correspond with high vacancies. Two-bedroom vacancies have been comparatively low in Clark County overall and stood at 7.4% in 2024 YTD. New deliveries have increased over the last decade, with the most annual deliveries in 2023 (1,306 units).

Exhibit 25. 2-Bedroom Multifamily Units Vacancy Rate, Camas and Clark County, 2014-2024 (YTD)
Source: CoStar

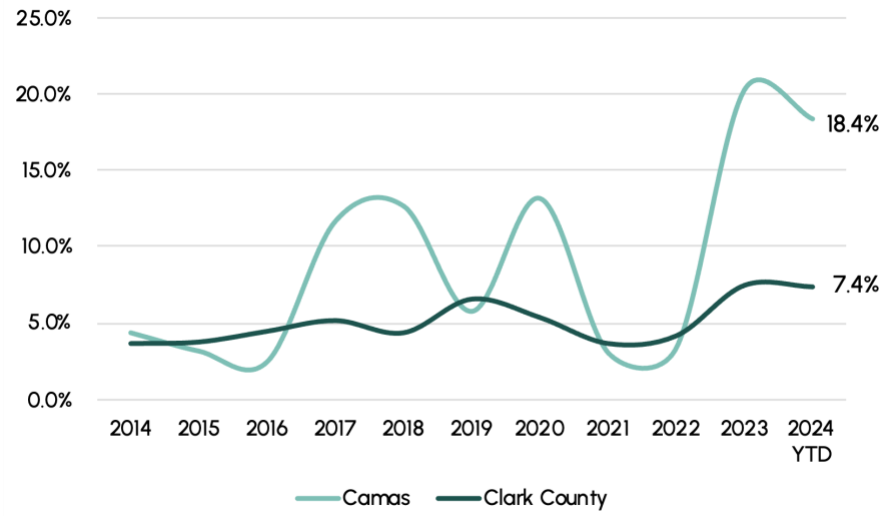
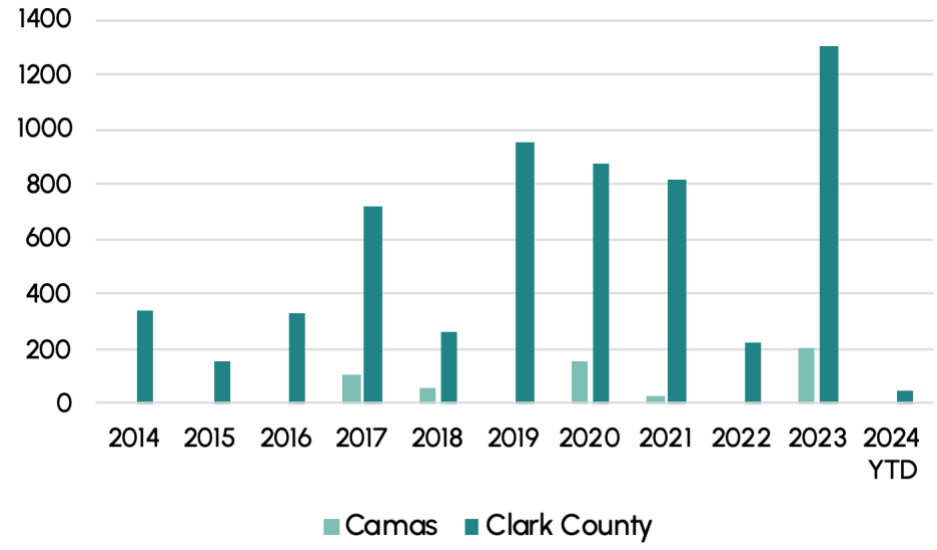


Exhibit 26. 2-Bedroom Multifamily Deliveries (Units), Camas and Clark County, 2014-2024 (YTD)
Source: CoStar



Housing Production

This analysis examined the City's building permit data from 2015 to 2023 to supplement housing development trends. Exhibit 27 below shows permitting trends for 2,763 new units by type, ranging from single-unit detached homes to units in larger multifamily developments.

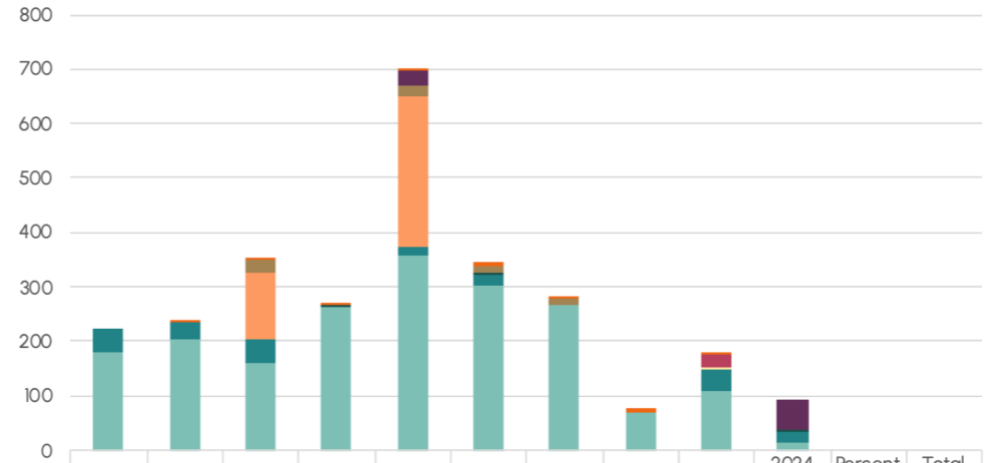
MIDDLE HOUSING POLICY IN WA

'Middle housing' refers to moderate-density housing types between single-family detached homes and larger multifamily housing. HB 1110 became effective in July 2023 and requires that designated Growth Management Act (GMA) planning cities in Washington must allow certain minimum densities for middle housing within 6 months after their periodic update due date.

Camas is counted as a Tier 2 city under this policy, which must allow for 2 dwelling units per lot or higher in predominantly residential zones, as well as 4 dwelling units per lot within a quarter mile of major transit stops and for affordable housing (ESHB 1110, Sec. 3(1)(c)).

Over the last decade from 2015 to 2024 (year to date), single-unit detached homes have accounted for the largest share (70%) of new permits in the City of Camas. The second most prevalent type of permitted housing was multi-unit housing (apartments, condos, and units in mixed-use buildings) encompassing 20% of new permits. Attached townhomes comprised 8% of the total and middle housing types like duplexes, triplexes, quadplexes, and accessory dwelling units (ADUs) were only 2% of all permits.

Exhibit 27. City of Camas Housing Permit Data, 2015-2024 (YTD)
Source: City of Camas. Note: This includes permits that were finalized.

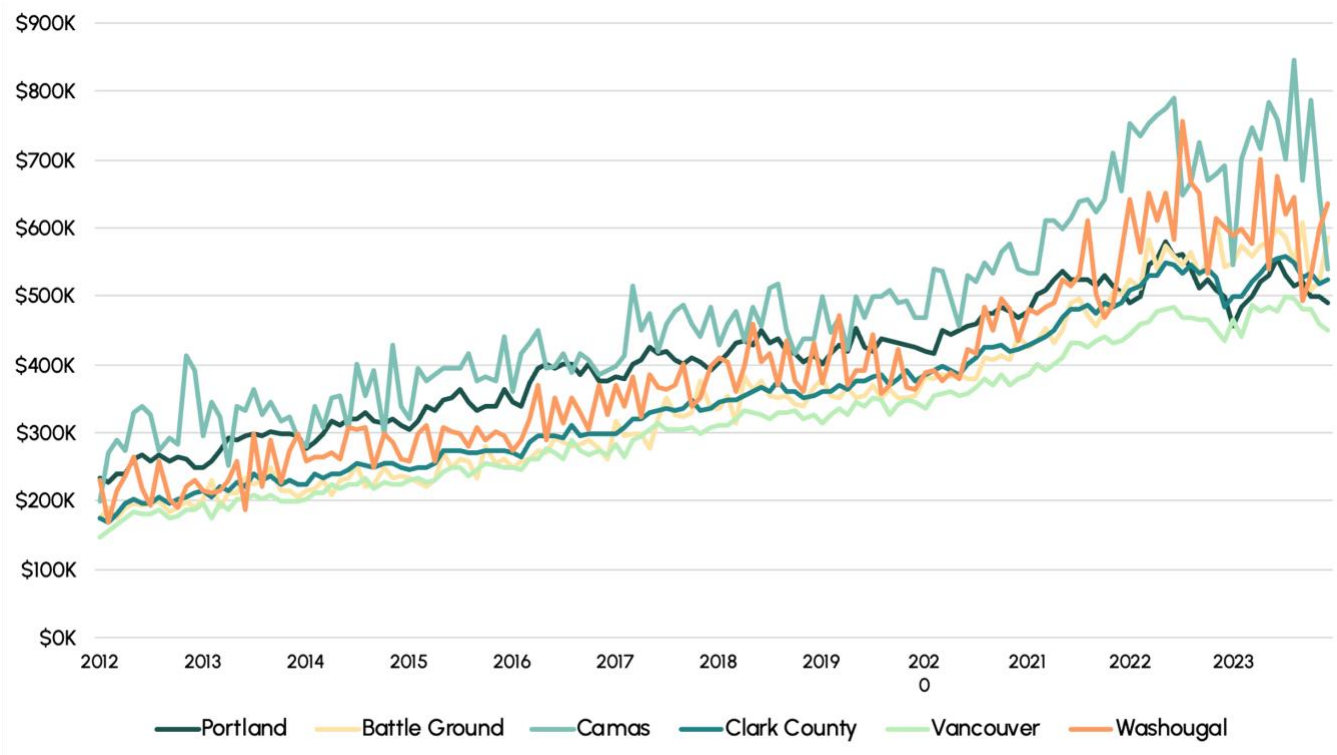


	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 YTD	Percent of Total	Total Number
Total	224	237	351	270	703	345	282	79	180	92	100%	2763
ADU	0	1	1	2	5	6	4	8	4	0	1%	31
Mixed Use	0	0	0	0	30	0	0	0	0	56	3%	86
Condos	0	0	25	2	18	14	10	0	0	0	2%	69
Apartments	0	0	120	0	276	0	0	0	0	0	14%	396
Quadplex	0	0	0	0	0	0	0	0	25	0	1%	25
Triplex	0	0	0	0	0	0	0	0	1	0	0%	1
Duplex	0	0	0	4	1	2	2	1	0	1	0%	11
Townhome	45	33	44	0	14	19	0	0	43	20	8%	218
Single Unit (Detached)	179	203	161	262	359	304	266	70	107	15	70%	1926

Housing Costs

Changes in housing costs relative to incomes and demographics trends have important implications for cities' supply of affordable and accessible housing. **Median home sale prices in Camas and Clark County have increased over the last ten years, with Camas's average prices generally remaining higher than the County or comparison cities of Battle Ground and Washougal.** In 2023, the average of monthly median home sale prices in the City was $704,000, increasing by 119 percent since 2013. In comparison with surrounding jurisdictions, the average home sale in Camas was more expensive than the average home in the City of Portland (by $196,000) or Clark County (by $173,000) in 2023. Other suburban cities like Battle Ground and Washougal were closer to prices in Camas but still remained lower

Exhibit 28. Change in Median Home Sale Price, Camas, 2013-2023
Source: Redfin

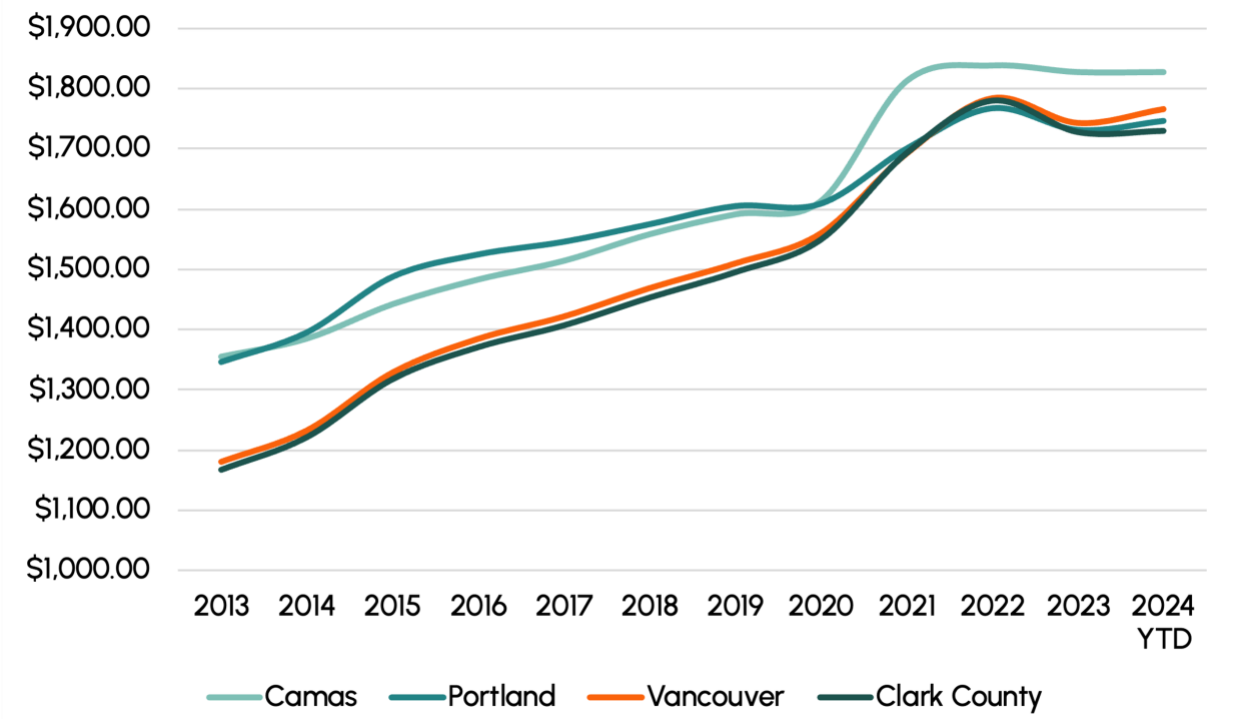


JURISDICTION	2013	2023	CHANGE 2013-2023	PERCENT CHANGE 2013-2023
City of Camas	$321,000	$704,000	$383,000	119%
Clark County	$225,000	$531,000	$306,000	136%
City of Battle Ground	$218,000	$566,000	$348,000	160%
City of Washougal	$244,000	$600,000	$356,000	146%
City of Vancouver	$199,000	$475,000	$276,000	139%
City of Portland	$309,000	$508,000	$199,000	64%

Prices are also increasing quickly in the City of Camas and Clark County for the average 2-bedroom multifamily rental unit. In 2024 year-to-date, the average 2-bedroom apartment rent was over $1,800 in the City and over $1,700 in Clark County (Exhibit 29). This indicates over a 35 percent increase change since 2010 in the City and County. Average 2-bedroom multifamily rents in Portland tracked closely with Camas during the 2010's, while rents in Vancouver remained lower (generally following countywide trends). Since 2020, rents in Camas have risen higher than both cities on average.

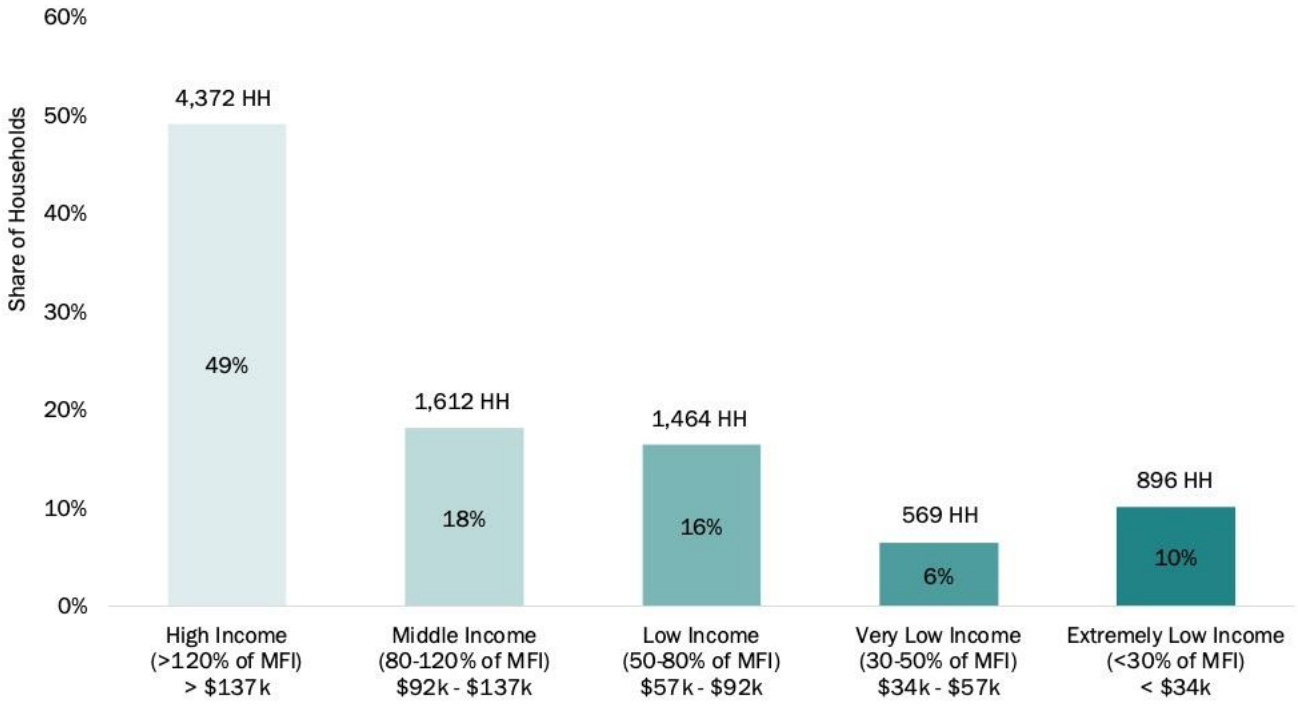
Exhibit 29. Asking Rent For 2-Bedroom Multifamily Units, 2010-2023, Camas, Portland, Vancouver, and Clark County, 2013-2024 YTD

Source: CoStar



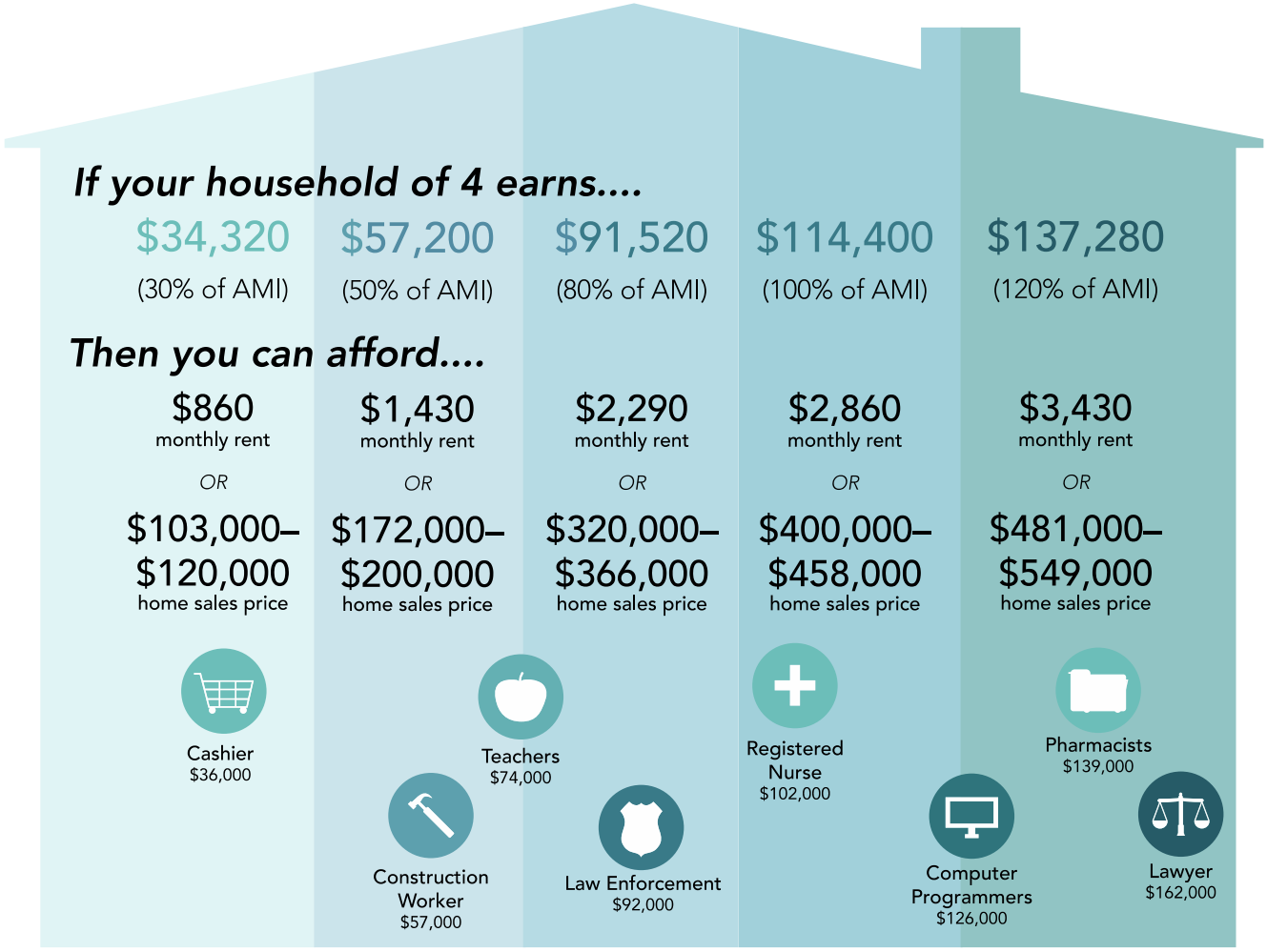
Rising housing costs also have implications for how many households are able to afford the average home. Based on HUD AMI levels in 2022, 49% of Camas households were high-income, at or above 120% of median income within the area, and an additional 18% were middle income (80-120% of AMI) (Exhibit 30). Over this period, 16% of households were considered low-income for the area (50-80% of AMI), 6% were very low income (30-50% of AMI), and 10% extremely low income (less than 30% of AMI).

Exhibit 30. Share of Households By AMI, Camas, 2022
Source: HUD, U.S. Census Bureau, 2018-2022 ACS Estimates



Compared with home sale price and rent increases in Camas, only households earning well 150% or more of AMI would be able to afford the average home in the City as of 2023. This income group generally equates with households with one or more high-earning job like pharmacists, lawyers, and computer programmers. Although rents are increasing, the average 2-bedroom apartment is still affordable to households between 50 and 80% of AMI in Camas.

Exhibit 31. Affordability by Area Median Income, 2023
Source: HUD, BLS



Projection of Future Housing Demand

Planning for future housing demand is critical to ensure that the City can meet demand driven by population growth. This section summarizes projected future housing demand for Camas to provide context for the City's housing policies.

County Comprehensive Plans and Countywide Planning Policies set population growth targets for jurisdictions within them, with current projections to 2044. Clark County is currently in the process of updating the Countywide Comprehensive Plan and growth targets. This analysis uses the County's interim population and housing allocation targets, which are anticipated to be adopted in April 2024.

Population Allocation

Exhibit 32 below demonstrates the City of Camas and Clark County's anticipated population forecast between 2023-2045. Since 2000, Camas has grown at a faster rate than the County overall with an AAGR of 5.2% in the City (including annexations), compared to the County's AAGR of 2.4% (

Exhibit 2). However, the County's estimates assume a slower growth scenario for the City in the next 22 years. With this assumption, new population growth in Camas is estimated to comprise 4.05% of growth in Clark County overall.

Exhibit 32. Population Growth Forecast, Camas and Clark County, 2023-2044
Source: Clark County Interim Population Allocations

JURISDICTION	2023 EST. POPULATION	VACANT BUILDABLE LAND MODEL CAPACITY %	2023-2045 GROWTH	2045 ESTIMATE	CHANGE (%)	AAGR
City of Camas	**29,352**	**4.26%**	**7,729** ***(4.05% of total growth)***	**37,080**	**26%**	**1.2%**
Clark County	527,400	100%	190,754 *(100% of total growth)*	718,154	36%	1.6%

Housing Allocation

The population growth forecast detailed above indicates that the City of Camas will make up 4.05 percent of new growth population in Clark County between 2023-2045 (Exhibit 32), with an AAGR of 1.2% in the City. The County's methodology also acknowledges Washington State Department of Commerce's HAPT estimates for current housing supply in Camas and allocates a number of net new units for the Urban Growth Area (UGA).

In May 2024, Clark County adopted housing allocations for jurisdictions located within county boundaries. In total, this shows an estimated **4,226 housing units** needed by 2045 in the City of Camas and its UGA.[6]

HOUSING ALLOCATIONS IN WA

In 2021, HB 1220 created a new way that communities in the state are required to plan for housing needs. This legislation requires that jurisdictions plan for sufficient land capacity for housing needs, including all economic segments of the population (moderate, low, very low and extremely low income, as well as emergency housing and permanent supportive housing).

- Since 2000, the City of Camas had an average annual growth rate of 221 new housing units per year.
- Comparatively, the City will need to add an average of 195 new housing units per year between 2024 and 2045 to reach its allocation of net new units.

[6] The Washington State Department of Commerce Housing for All Planning Tool (HAPT) provides two allocation methods for determining the share of a County's housing supply to be met by jurisdictions. Method A assumes all housing needs will be accommodated through new housing production. Method B assumes all jurisdictions will accommodate equivalent shares of the total countywide housing need at each income level, proportional to their size, in the projection year. Clark County elected to use a hybrid method of 75/25 for Camas.

The City would add about **311** new units to meet the new permanent supportive housing target and 1,766 units affordable to low-income households below 80% of AMI by 2045.

Camas currently has 143 units of housing affordable for households at or below 30% of AMI that are not Permanently Supportive Housing (PSH)[7] and 14 emergency units[8] according to the HAPT estimate. With this allocation, the City will need to accommodate 172 new units of temporary emergency housing by 2045.[9]

[7] Permanent Supportive Housing is defined as: "subsidized, leased housing with no limit on length of stay that prioritizes people who need comprehensive support services to retain tenancy and utilizes admissions practices designed to use lower barriers to entry than would be typical for other subsidized or unsubsidized rental housing, especially related to rental history, criminal history, and personal behaviors" Washington RCW 36.70A.030(31)

[8] Temporary emergency housing is defined as: "temporary indoor accommodations for individuals or families who are homeless or at imminent risk of becoming homeless that is intended to address the basic health, food, clothing, and personal hygiene needs of individuals or families. Emergency housing may or may not require occupants to enter into a lease or an occupancy agreement." – Washington RCW 36.70A.030(14)

[9] Clark County's interim allocations do not include designated temporary emergency housing units at the City level. Estimates in this section for the City of Camas are derived directly from the Department of Commerce HAPT tool.

Exhibit 33. Housing Unit Allocations by Income, Camas and Urban Growth Area, 2024-2045

Source: Washington State Department of Commerce HAPT, Clark County Interim Housing Allocations, City of Camas
Note: Current supply includes both the estimate from the HAPT with the addition of 599 additional units since its calibration in 2020.

	0-30% AMI		>30-50% AMI	>50-80% AMI	>80-100% AMI	>100-120% AMI	>120% AMI	TOTAL (PERM.)	EMERGENCY HOUSING BEDS
	Non-PSH	PSH							
2024: Current Housing Supply Estimate	143	0	458	1,874	1,182	1,965	4,201	**9,832**	14
2024-2045: New Housing Unit Allocation	564	331	811	955	516	249	799	**4,226**	172
2045: Total Target Supply	707	331	1,269	2,811	1,627	2,214	4,499	**13,459**	186

Housing for Special Needs

In addition to overall housing market trends, some populations require additional considerations to make sure that available housing meets their needs. This section covers specific housing types, including regulated affordable units, housing for older adults, and accessibility considerations.

Affordable Housing Inventory

To date, the City of Camas has 98 units of regulated affordable housing in 5 buildings as of 2020 according to data from Oregon Metro and the City of Camas. Approximately half of these units are affordable respectively for residents between 30-50% of AMI and 50-80% of AMI.

Exhibit 34. Affordable Housing Units, Camas, 2020
Source: Oregon Metro RLIS

	REGULATED AFFORDABLE UNITS				TOTAL UNITS
	<30% AMI	30-50% AMI	50-80% AMI	80-100% AMI	
City of Camas	0	45	53	0	98

About half of affordable housing units were built in the 1990's and will soon near the end of the 30-year affordability requirement for projects receiving Low-Income Housing Tax Credit (LIHTC) funding from the US Department of Housing and Urban Development. Although projects may remain affordable past this period, these older properties may be more vulnerable to increasing rents due to market pressures and redevelopment.

Exhibit 35. Affordable Housing by Property, Camas, 2020
Source: Oregon Metro RLIS

PROPERTY	REGULATED AFFORDABLE UNITS	YEAR BUILT
Clara Flats	6	2020
Camas Ridge Apartments	51	2011
Mountainview House	8	1996
940 NW 7th Ave	10	1995
1152 NE Adams St	4	1995
Crown Villa	19	1986

Housing for Older Adults

Addressing housing needs for those older adults (aged 60 and over) also requires additional considerations for housing choice. Within the group of older adults, housing needs also vary. Nationally,

the trend shows that "the 82-to-86-year-old cohort dominates the assisted living and more intensive care sector"[10] while new or near-retirees may prefer aging in place or active, age-targeted communities. Households for adults 65 years or older also typically have different financial situations than younger adults; low-income households with older adults may not have the financial resources to afford years in a nursing home and may instead choose to downsize to smaller, more affordable units. Others living nearby relatives may also choose to live in multigenerational households. Although the City of Camas has no regulated affordable housing units designated specifically for seniors, the City does have several long-term care residential facilities for older adults providing 135 units.

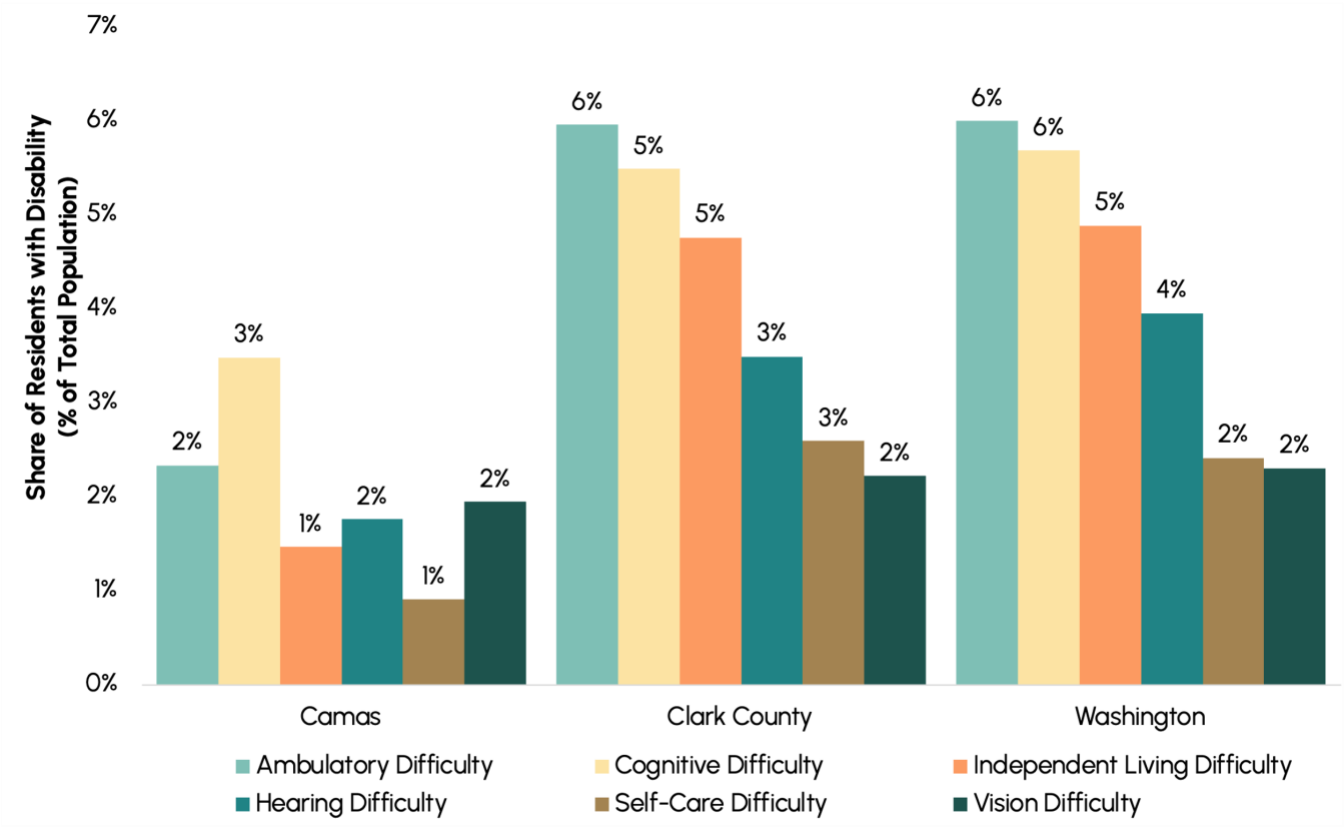
LONG TERM CARE RESIDENTIAL FACILITY	NUMBER OF FACILITIES	NUMBER OF UNITS (BEDS)
Nursing Home	1	83
Assisted Living	8	52
Total	9	135

Persons with Disabilities

Camas residents with disabilities may require additional housing features for accessibility to meet their needs. In 2018-2022, 8 percent of residents in Camas had at least one disability, as well as 13 percent in Clark County and 14 percent in Washington overall. The most common type of disability in the City was cognitive difficulties, followed by ambulatory and vision difficulties. These disabilities can require housing accommodations such as zero-step entryways, ramps, lifts, or other accessibility features.

[10] Urban Land Institute, 'Emerging Trends in Real Estate, United States and Canada,' 2018.

Exhibit 36. Share of Persons with Disability by Type, Camas, Clark County, and Washington 2018-2022
Source: U.S. Census Bureau ACS 5-Year Estimates
Note: Individual persons may experience more than one type of disability



Section 2. Existing Housing Element Goals and Policies

Vision

In the year 2035, residents of Camas continue to appreciate their safe, diverse, and welcoming community. Those raised in Camas will return for family-wage jobs and to ultimately retire here. Camas is a well-planned and connected city where residents enjoy pedestrian and bicycle paths between neighborhoods and to downtown. There is a wide variety and range of housing for all ages and income levels.

Goals and Policies

Housing goals and policies are established to ensure adequate housing is developed throughout the City to support residents of all ages and income levels. Goals and policies are presented for three housing categories:

- *Citywide – establishes a broad housing goal and sets policies to be considered throughout the City*
- *Affordable Housing – focuses on the development of affordable housing*
- *Special Needs and Senior Housing – establishes goals and policies to address the particular needs of residents with special needs and seniors*

Citywide Housing

Citywide Housing Goal

- ***H-1: Maintain the strength, vitality, and stability of all neighborhoods and promote the development of a variety of housing choices that meet the needs of all members of the community.***

Citywide Housing Policies

- *H-1.1: Provide a range of housing options to support all ages and income levels.*
- *H-1.2: Support residential development that minimizes both impervious areas and minimizes site grading to retain the natural contours of the land. Low impact development (LID) strategies include conserving native vegetation in tracts and considering narrower streets, stormwater gardens, and other landscape practices that store and filter runoff.*
- *H-1.3: Encourage use of the optional development codes (e.g., PRD, MXPD) in order to create a variety of housing types within new developments.*

- *H-1.4: Require a percentage of newly created lots to include one or more of the following unit types (to be designated on the face of the plat):*
  - *Single-story dwellings*
  - *Barrier-free dwellings (consistent with Americans with Disabilities Act [ADA] guidelines)*
  - *ADUs, to be constructed concurrent with primary dwellings*
- *H-1.5: Ensure that housing in mixed-use buildings (or developments) will complement the commercial and retail portion of the development and increase local family-wage jobs.*
- *H-1.6: Encourage in-fill development on vacant or underutilized sites, subject to design review guidelines, that have adequate urban services, and ensure that the development is compatible with the surrounding neighborhood.*
- *H-1.7: Require all new housing developments to provide a range of housing types and sizes that are evaluated through the land use approval process and stipulated on the final plat.*

Affordable Housing

Affordable Housing Goal

- ***H-2: Create a diversified housing stock that meets the needs of all economic segments of the community through new developments, preservation, and collaborative partnerships.***

Affordable Housing Policies

- *H-2.1: Support and encourage a wide variety of housing types throughout the City to provide choice, diversity, and affordability and promote homeownership.*
- *H-2.2: Provide incentives and bonuses to encourage the development of affordable housing.*
- *H-2.3: Any comprehensive plan designation change that increases residential capacity should require a quarter (25 percent) of the new units to be affordable to households earning 50 to 80 percent of Camas' MHI at the time of development.*
- *H-2.4: All affordable housing created in the City should remain affordable for the longest possible term, whether created with public funds, through development agreements, or by regulation.*
- *H-2.5: Participate in collaborative partnerships with various local and regional public and non-profit housing groups to ensure that affordable housing is provided throughout the City.*
- *H-2.6: Provide financial assistance through collaborative partnerships to qualifying low-income residents to maintain or repair the health and safety features of their homes.*
- *H-2.7: Conduct an affordable housing study in order to determine the number of existing affordable units and assess the need for additional units. Develop policies to implement recommendations of the affordable housing study.*

Senior and Special Needs Housing

Senior and Special Needs Housing Goal

- ***H-3: Encourage and support a variety of housing opportunities for those with special needs, particularly those with challenges relating to age, health, or disability.***

Senior and Special Needs Housing Policies

- *H-3.1: Encourage special needs and senior housing to be dispersed throughout the community and close to public transportation, shopping, medical clinics, and other essential services.*
- *H-3.2: Encourage and support social and health service organizations that offer programs and facilities to help persons with special needs remain in the community.*
- *H-3.3: Treat residential structures occupied by persons with disabilities the same as residential structures occupied by a family or by non-disabled unrelated individuals.*
- *H-3.4: Support and encourage the development of smaller (less than 1,000-square foot), single-story houses through the Multi-Family Cottage Overlay or other tools.*

Appendix

Key Clark Countywide Planning Policies

Clark County is currently in the process of updating its Comprehensive Plan and its Countywide Planning Policies. The existing 20-year growth plan spans 2015-2035 and includes a Housing Element with relevant policies for jurisdictions within the County.

Key Clark County Countywide Planning Policies

- **2.1.0** *Communities, urban and rural, should contain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within its boundaries and to ensure an adequate supply of affordable and attainable housing. Housing options available in the county include single family neighborhoods and mixed-use neighborhoods (e.g., housing above commercial storefronts, traditional grid single family neighborhoods, townhouses, multi-family developments, accessory units, boarding homes, cooperative housing and congregate housing).*
- **2.1.1** *Establish density targets with jurisdictions in the county for different types of communities, consistent with the definitions of Urban Growth Areas and Rural Centers.*
- **2.1.2** *Provide housing opportunities close to places of employment.*
- **2.1.3** *Establish maximum as well as minimum lot sizes and densities in urban areas.*
- **2.1.4** *All cities, towns and the county share the responsibility for achieving a rational and equitable distribution of affordable housing.*
- **2.1.5** *Coordinate with C-TRAN to identify and adopt appropriate densities for priority transit corridors. Ensure that the development standards for these areas are transit and pedestrian friendly. Transportation and housing strategies are to be coordinated to assure reasonable access to a variety of transportation systems and to encourage housing opportunities in locations that support development of cost effective and convenient public transportation for all segments of the population.*
- **2.1.6** *Encourage infill development that enhances the existing community character and provide a mix of housing types in all urban and rural centers. All cities and towns are to encourage infill housing as the first priority for meeting the housing needs of the community.*
- **2.1.7** *Encourage creative approaches to housing design to: accommodate higher densities attractively; increase housing affordability; ensure that infill development fits with the character of the existing neighborhood; and develop demonstration projects to assist the private sector to achieve infill goals.*
- **2.1.8** *Housing strategies are to be coordinated with availability of public facilities and services, including human services.*
- **2.1.9** *All cities, towns and the county are to provide for a variety of housing types and designs to meet the needs of people with special needs (for example those with physical, emotional, or mental disabilities), recognizing that not all housing will become accessible to special needs populations.*
- **2.1.10** *Establish a mechanism for identifying and mitigating adverse impacts on housing production and housing cost which result from adoption of new development regulations or fees.*
- **2.1.11** *Encourage and permit development of inter-generational housing, assisted living options and accessory units in order to allow people with special needs and senior citizens to live independently as possible and to reduce the need for (and cost of) social services.*
- **2.1.12** *All cities, towns and the county are to provide increased flexibility in the use of new and existing housing development to increase the potential for re-use, preservation of existing affordable housing, shared living quarters, use of accessory structures as housing, etc.*
- **2.1.13** *Housing strategies are to be coordinated with the financial community and are to be consistent with public and private financing mechanisms.*

ECOnorthwest

DATE:	August 12, 2026
TO:	Alan Peters, City of Camas
FROM:	Tyler Bump and Josie Rademacher, ECOnorthwest
SUBJECT:	Housing Needs and Land Capacity Analysis

Housing Needs and Land Capacity Analysis

Background

In 2021, the Washington State Legislature adopted House Bill 1220 (HB 1220), which amended the Growth Management Act (GMA) to strengthen requirements for how communities plan for housing. HB 1220 revised the GMA housing goal to require jurisdictions to "plan for and accommodate" housing affordable to all income levels, strengthening the previous goal of encouraging affordable housing. HB 1220 also established new requirements for how jurisdictions address housing needs through the housing elements of their comprehensive plans.

Under these requirements, jurisdictions must plan for housing affordable to all income levels, including moderate-, low-, very low-, and extremely low-income households, and demonstrate sufficient land capacity to accommodate those needs. This includes planning for a range of housing types and densities necessary to meet identified housing needs.

This memorandum documents ECOnorthwest's analysis of housing need and residential land capacity for the City of Camas and evaluates the City's ability to accommodate its identified housing needs consistent with GMA requirements.

Housing Needs and Capacity Analysis

Clark County's Housing Allocations for Camas

As part of its 2025 Comprehensive Plan Periodic Update, Clark County allocated population and housing growth to cities and urban growth areas (UGAs) through 2045. Clark County anticipates countywide population growth of 190,754 people between 2023 and 2045. Camas and its UGA were allocated 7,729 additional residents, resulting in a total projected population of 37,080 residents by 2045. The County's population allocation methodology is based in part on each jurisdiction's share of vacant and buildable housing capacity identified through the County's Vacant Buildable Lands Model (VBLM).

To accommodate projected growth and meet the requirements of HB 1220, Clark County also allocated housing need among jurisdictions. The County used the Washington State Department of Commerce's Housing for All Planning Tool (HAPT) to establish countywide housing need by income level and then allocated that need among jurisdictions using the County's housing allocation methodology. Clark County allocated a total need of 4,226 net new housing units to Camas and its UGA through 2045.

Exhibit 1. Clark County Countywide Housing Allocation by Income Level (% of Area Median Income or AMI)

Population Target=718,154		Permanent Housing Needs by Income Level (% of Area Median Income)						Emergency Housing
	Total	<80%		80 - 120%		>120%		
Camas	4,226	2,661	63%	765	18%	799	19%	172
Battle Ground	6,979	3,426	49%	1,423	20%	2,129	31%	237
La Center	2,123	1,050	49%	405	19%	667	31%	66
Ridgefield	5,815	4,136	71%	1,213	21%	466	8%	219
Vancouver	36,527	13,833	38%	6,340	17%	16,355	45%	1,405
Washougal	3,735	1,962	53%	741	20%	1,032	28%	143
Woodland	105	47	45%	22	21%	35	34%	3
Yacolt	150	23	15%	38	25%	90	60%	7
County	44,036	26,550	60%	6,857	16%	10,629	24%	1,734
Total	103,695	5,3687	52%	17,805	17%	32,202	31%	3,986

Source: Clark County, City of Camas

For purposes of the Camas Comprehensive Plan Update, the City refined the distribution of its 4,226-unit allocation by income level using HAPT, updated housing supply information, and the County's housing allocation. This refinement maintains the County-allocated total of 4,226 net new units while adjusting the distribution among income categories to reflect updated conditions in Camas. Exhibit 2 shows the housing allocation by income level used for this analysis.

Exhibit 2. Housing Unit Allocations by Income, Camas (including UGA), 2024-2045



4,226 new homes will be needed over the next 20 years in the City of Camas

In addition, there will also need to be:
172 Emergency housing beds (temporary housing)

	0-30% AMI		>30-50% AMI	>50-80% AMI	>80-100% AMI	>100-120% AMI	>120% AMI	TOTAL	EMERGENCY HOUSING BEDS
	Non-PSH	PSH							
2024: Current Housing Supply Estimate	*143*	*0*	*458*	*1,874*	*1,182*	*1,965*	*4,201*	***9,832***	*14*
2024-2045: New Housing Unit Needed for the Allocation	**564**	**331**	**811**	**955**	**516**	**249**	**799**	**4,226**	**172**
2045: Total Target Supply	*707*	*331*	*1,269*	*2,811*	*1,627*	*2,214*	*4,499*	***13,459***	*186*

Source: City of Camas

Housing Need

As described above, Clark County allocated a total need of 4,226 net new housing units to Camas and its UGA through 2045. For purposes of the Comprehensive Plan Update, the City refined the distribution of this housing need by income level using the Washington State Department of Commerce's Housing for All Planning Tool (HAPT), updated housing supply

information, and the County's housing allocation. The resulting distribution maintains the County-allocated total of 4,226 net new housing units while reflecting the housing needs identified in the City's proposed Housing Element.

Camas's housing need by income level as follows:

- 331 Permanent Supportive Housing (PSH) units
- 564 non-PSH units for households below 30% AMI (extremely low income)
- 811 units between 30 to 50% AMI (low income)
- 955 housing units between 50 and 80% AMI (low to moderate income)
- 516 units between 80 to 100% AMI (moderate income)
- 249 housing units between 100 to 120% AMI (moderate to high income)
- 799 housing units over 120% AMI (high income)

In addition to permanent housing needs, HAPT identifies a need for emergency housing. The City's proposed Housing Element identifies an existing supply of 14 emergency housing beds and a need for 172 additional emergency housing beds through 2045. These needs are addressed separately in the *Considerations for Emergency Housing* section of this memorandum.

Land Capacity by Zone

Exhibit 3 summarizes land capacity by zoning designation for the 2045 Comprehensive Plan Update Preferred Alternative 1. This summary includes total land area, developable land, assumed achieved densities, gross residential capacity, existing housing on developable land, and net residential capacity. This table summarizes total net residential capacity for all zoning designations.

Exhibit 3. Development Capacity by Zoning Designation, Preferred Land Use Alternative

Development Capacity by Zone						
Zoning Designation	Total Land Area (acres)	Developable Land (acres)	Assumed Achieved Density (units/acre)	Gross Residential Capacity	Existing Units	Net Residential Capacity (units)
Residential Zones						
North Shore Higher Density Residential (HD-NS)	139.1	60.6	14	849	1	848
North Shore Lower Density Residential (LD-NS)	122.0	45.5	4.9	223	20	203
Residential - 6,000 (R-6)	107.6	38.8	7.2	280	11	269
Residential - 7,500 (R-7.5)	201.8	66.7	5.8	387	77	310
Residential - 10,000 (R-10)	271.9	95.9	4.3	412	49	363
Residential - 12 (R-12)	26.9	8.2	3.6	30	0	30
Residential - 15,000 (R-15)	441.8	68.9	2.9	200	161	39
Downtown Residential (DR)	1.2	1.2	32	39	0	39
Multifamily Residential - 10 (MF-10)	93.4	63.2	8	506	3	503
Multifamily Residential - 18 (MF-18)	160.7	85.4	12	1,025	10	1015
Multifamily Residential - 24 (MF-24)	33.0	16.6	17	282	0	282
Mixed Use Zones						
Downtown Mixed-Use Low-Rise (DT MU-Low)	0.9	0.6	40	23	0	23
Downtown Mixed-Use Mid-Rise (DT MU-Mid)	16.1	11.3	50	566	0	566
Downtown Historic Main Street Core (HSMC)	1.1	0.8	30	24	0	24
Mixed Use (MX)	132.5	94.3	12.5	1,179	0	1179
North Shore Mixed-Use (MX-NS)	93.4	63.2	12.5	790	0	790

Source: City of Camas, Clark County Assessor, WSP, ECOnorthwest

Exhibit 4 indicates that there are 9,541 lots in Camas that are eligible for ADU development. While recent changes to the City's development regulations allow up to two ADUs on an eligible lot, the number of ADUs that is reasonably expected to be developed through 2045 is likely to be much lower than this theoretical capacity.

To estimate a more realistic level of ADU development, the project team reviewed recent ADU production trends in Camas and assumed that future production would continue at a similar rate, with an adjustment to account for the new allowance of up to two ADUs per eligible lot. Based on discussions with City staff, approximately 10 to 15 ADUs have been developed annually in recent years. Given this historical range and the expanded ADU allowances, the analysis assumes an average production rate of 15 ADUs per year through 2045. This approach recognizes that, while regulatory changes increase the potential for

ADU development, only a small share of eligible lots is likely to develop ADUs during the planning period.

Exhibit 4. ADU Development Capacity, Preferred Land Use Alternative

ADU Capacity					
ADU-Eligble Lots	Assumed ADU Production per Year	Assumed Long-Term Housing Percentage	ADU Production Long-Term Housing	ADU Production Greater than Eligible Lots?	Total ADU Capacity
9,541	15	95%	285	No	19,082

Source: City of Camas, ECOnorthwest

Affordability Levels by Zoning Designation

To estimate the affordability levels associated with housing types allowed within each zoning designation, ECOnorthwest analyzed recent market pricing and development feasibility. Rent and sales price assumptions were based on market data collected for the pro forma analyses conducted as part of the Downtown Subarea Plan and Comprehensive Plan Update. These assumptions were used to estimate the income levels, expressed as a percentage of area median income (AMI), that could afford different housing types under current market conditions. In the case of housing units in income categories below 80% AMI, there is sufficient zoned capacity in the Comprehensive Plan Update to support units at these income levels, but further subsidy will be required to reach deeper affordability levels.

Exhibit 5 summarizes the housing types allowed within each zoning designation and the estimated affordability levels associated with those housing types. While zoning establishes where different housing types may be developed, it does not guarantee that those housing types will be built or that they will be affordable at the levels shown. In particular, housing serving lower-income households may require financial subsidies or other affordability incentives in addition to sufficient zoning and land capacity.

Exhibit 5. Affordability Level and Housing Type by Zoning Designation

Zoning Designation	Typical Housing Types Allowed	Assumed Affordability Level of Capacity Analysis
Residential Zones		
North Shore Higher Density Residential (HD-NS)	Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, and Cottage Courts, Small-Scale Apartments (Wood Frame), Garden-Style Apartments, and Apartments (Podium)	High Income (100% AMI - >120% AMI)
North Shore Lower Density Residential (LD-NS)	Single-family (attached/detached), Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, and Cottage Courts	High Income (100% AMI - >120% AMI)
Residential - 6,000 (R-6)	Single-family (attached/detached), Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, and Cottage Courts	High Income (100% AMI - >120% AMI)
Residential - 7,500 (R-7.5)	Single-family (attached/detached), Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, and Cottage Courts	High Income (100% AMI - >120% AMI)
Residential - 10,000 (R-10)	Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, Cottage Courts, and Small-Scale Apartments (Wood Frame)	High Income (100% AMI - >120% AMI)
Residential - 12 (R-12)	Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, Cottage Courts, and Small-Scale Apartments (Wood Frame)	High Income (100% AMI - >120% AMI)
Residential - 15,000 (R-15)	Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, Cottage Courts, and Small-Scale Apartments (Wood Frame)	High Income (100% AMI - >120% AMI)
Downtown Residential (DR)	Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, Cottage Courts, and Small-Scale Apartments (Wood Frame)	Moderate Income (>80-120% AMI)
Multifamily Residential - 18 (MF-18)	Duplexes, Triplexes, Quadplexes, 5-6 unit buildings. Townhouses, Cottage Courts, and Small-Scale Apartments (Wood Frame), Garden-Style Apartments	Low to Moderate Income (<50% AMI-80% AMI)
Multifamily Residential - 24 (MF-24)	Garden-Style Apartments, and Apartments (Podium)	Low to Moderate Income (<50% AMI-80% AMI)
ADUs (All Zone Categories)	Accessory Dwelling Units (ADUs) on Developed Residential Lots	Low to Moderate Income (<50% AMI-80% AMI)
Mixed-Use Zones		
Downtown Mixed-Use Low-Rise (DT MU-Low)	Mixed-Use (Wood Frame)	Moderate Income (>80% AMI-120% AMI)
Downtown Mixed-Use Mid-Rise (DT MU-Mid)	Mixed-Use (Podium)	Moderate Income (>80% AMI-120% AMI)
Downtown Historic Main Street Core (HSMC)	Mixed-Use (Podium)	Moderate Income (>80% AMI-120% AMI)
Mixed Use (MX)	Mixed-Use (Wood Frame), Mixed Use (Podium)	Moderate Income (>80% AMI-120% AMI)
North Shore Mixed-Use (MX-NS)	Mixed-Use (Podium)	High Income (100->120% AMI)

Source: City of Camas, ECOnorthwest

Considerations for Emergency Housing

Emergency housing, emergency shelters, and transitional housing are allowed uses by right in all zones across Camas that allow residential and lodging uses. Changes to the zoning map and new designations create allowances for these housing types across the applicable zones that allow residential and lodging uses across Camas. Clark County identified the need for approximately 172 emergency shelter beds in Camas. The table below summarizes the total unit capacity by zone where emergency housing, emergency shelters, and transitional housing are allowed.

Exhibit 6. Zoned Capacity for Emergency Housing and Shelters by Zoning Designation

Zoning Designation	Unit Capacity
Residential Zones	
HD-NS	848
LD-NS	203
R-6	269
R-7.5	310
R-10	363
R-12	30
R-15	39
DR	39
MF-10	503
MF-18	1,015
MF-24	282
Mixed-Use Zones	
DT-MU-Low	23
DT-MU-Mid	566
HSMC	24
MX	1,179
MX-NS	790
Total Housing Unit Capacity	**6,480**

Source: ECOnorthwest

Reconciling Housing Needs and Capacity by Income Level

Exhibit 7 summarizes the reconciliation of housing needs and housing capacity by income level and zoning designation. This analysis indicates the Preferred Alternative results in a net capacity surplus of 2,254 units across Camas. Additionally, the Preferred Alternative results in capacity surpluses for all income levels.

Exhibit 7. Housing Needs and Capacity by Income Level

Income Level (% AMI) and Special Housing Needs	Allocated Housing Need	Zoning Designations Serving These Needs	Aggregated Housing Need	Total Capacity	Capacity Surplus
0-30% AMI (PSH)	331	MF-10, MF-18, and MF-24	2,661	3,402	741
0-30% AMI (Other)	564				
>30-50% AMI	811				
>50-80% AMI	955				
>80-100% AMI	516	HD-NS, R-6, DR, DT-MU-Low, DT-MU-Mid, HSMC, and MX	765	2134	1,369
>100-120% AMI	249				
>120% AMI	799	HD-NS, LD-NS, R-6, R-7.5, R-10, R-12, R-15, and MX-NS	799	944	145
Total	**4,226**	-	**4,226**	**6,480**	**2,254**

Source: City of Camas, WSP, ECOnorthwest

City of Camas

TRANSPORTATION SYSTEM PLAN

VOLUME 1

DRAFT JULY 2024

ACKNOWLEDGMENTS

TECHNICAL ADVISORY COMMITTEE (TAC)

MAYOR AND CITY COUNCIL

Mayor Steve Hogan

Councilor Marilyn Boerke

Councilor Bonnie Carter

Councilor Tim Hein

Councilor Leslie Lewallen

Councilor John Nohr

Councilor Jennifer Senescu

Councilor John Svilarich

PLANNING COMMISSION

Commissioner Troy Hull, Chair

Commissioner Geoerl Niles, Vice-Chair

Commissioner Marlo Maroon

Commissioner Joe Walsh

Commissioner Shawn High

Commissioner Mahsa Eshghi

Commissioner Paul Anderson

PROJECT MANAGEMENT TEAM (PMT)

CITY OF CAMAS

James E Carothers, PE, Engineering Manager/City Engineer, City of Camas

Steve Wall, PE, Public Works Director, City of Camas

DKS ASSOCIATES

Reah Flisakowski, PE, Project Manager

Kevin Chewuk, PTP, Senior Transportation Planner

Dock Rosenthal, PE, Transportation Engineering

FCS GROUP

Todd Chase, LEED^{AP}, Project Manager

VOLUME 1 CONTENTS

CHAPTER 1. CONTEXT FOR THE PLAN 1

CAMAS AT A GLANCE 2
PLANNING AREA 2
NORTH SHORE SUBAREA 4
PURPOSE OF THE TSP 4

CHAPTER 2. HOW THE PLAN WAS DEVELOPED 5

SETTING DIRECTION FOR THE PLAN 6
Vision for the Plan 7
GOALS AND POLICIES FOR THE PLAN 7
PERFORMANCE BASED PLANNING PROCESS 12
DECISION MAKING STRUCTURE 12
TECHNICAL DEVELOPMENT 13

CHAPTER 3. CAMAS TRANSPORTATION SYSTEM TODAY & TOMORROW 14

FACTORS IMPACTING TRAVEL DECISIONS 15
Land Use and Key Destinations 15
Quality and Availability of Facilities 15
Demographics 16
Population and Employment Growth 16
TRAVEL DEMANDS AND CHARACTERISTICS 17
Commuter Trips 18
TRANSPORTATION DEMAND BY MODE 18
TRANSPORTATION SYSTEM FACTS 19
WALKING NETWORK 19
Pedestrian Facility Gaps 21
Qualitative Pedestrian Assessment 21
BIKING NETWORK 23
Bicycle Facility Gaps 25
Qualitative Bicycle Assessment 25
TRANSIT 27
STREET NETWORK 29
Street network Performance Assessment 29

CHAPTER 4. FACILITY AND PERFORMANCE STANDARDS 32

STREET JURISDICTION 33
NETWORK CLASSIFICATIONS AND AREA DESIGNATIONS 33
Street functional Classifications 34
Area Designations 35
Street Functional Classification and Area Designation Map 36

Multimodal Network Design 38
TYPICAL STREET CROSS-SECTIONS 40
CONSTRAINED STREET CROSS-SECTIONS 44
SIDEWALKS 45
BICYCLE FACILITIES 46
SEPARATED PEDESTRIAN AND BICYCLE FACILITIES 46
Pedestrian Trail 46
Accessway Path 47
Shared Use Path 47
PERFORMANCE STANDARDS 48
Vehicle Congestion Thresholds 48
MULTIMODAL CONNECTIVITY 49
STREET CROSSINGS 51
VOLUME AND SPEED MANAGEMENT TOOLS 53

CHAPTER 5. PROJECTS AND PRIORITIES 56

PROCESS FOR DEVELOPING PROJECTS 57
PROJECT FUNDING 57
PLANNED TRANSPORTATION PROJECTS 57

CHAPTER 6. FUTURE STRATEGIES AND CONSIDERATIONS 72

PREPARING FOR EMERGING FORMS OF MOBILITY 73
Connected, Automated, Shared, and Electric Vehicles 73
Electric Scooter and Bike Share 74

VOLUME 2

Volume 2 of the Camas Transportation System Plan includes all background memoranda, and technical data that were the basis for its development. The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.

LIST OF FIGURES

FIGURE 1: STUDY AREA AND KEY DESTINATIONS 3
FIGURE 2: DIRECTION FOR THE PLAN 6
FIGURE 3: PERFORMANCE BASED PLANNING PROCESS 12
FIGURE 4: CAMAS TSP ROLES AND RESPONSIBILITIES 13
FIGURE 5: CAMAS TSP DEVELOPMENT TECHNICAL TASKS 13
FIGURE 6: KEY DEMOGRAPHICS 16
FIGURE 7. CAMAS PLANNING AREA HOUSEHOLD AND JOB GROWTH TRENDS 17
FIGURE 8: CAMAS PLANNING AREA COMMUTER MODE SHARE 18
FIGURE 9: PEDESTRIAN FACILITIES 20
FIGURE 10: STREET MILES WITH SIDEWALKS WITHIN CAMAS 21
FIGURE 11: PEDESTRIAN NETWORK ASSESSMENT 22
FIGURE 12: BICYCLE FACILITIES 24
FIGURE 13: STREET MILES WITH BIKE FACILITIES WITHIN CAMAS 25
FIGURE 14: BICYCLE NETWORK ASSESSMENT 26
FIGURE 15: TRANSIT SYSTEM 28
FIGURE 16: STREET NETWORK CONGESTION AND SAFETY 31
FIGURE 17: NETWORK CLASSIFICATIONS AND ROUTE DESIGNATIONS 34
FIGURE 18: STREET FUNCTIONAL CLASSIFICATIONS AND AREA DESIGNATIONS 37
FIGURE 19: TYPICAL CROSS-SECTION FOR MIXED-USE ARTERIAL STREET 40
FIGURE 20: TYPICAL CROSS-SECTION FOR RESIDENTIAL ARTERIAL STREET 40
FIGURE 21: TYPICAL CROSS-SECTION FOR COMMERCIAL OR INDUSTRIAL ARTERIAL STREET 41
FIGURE 22: TYPICAL CROSS-SECTION FOR MIXED-USE COLLECTOR STREET 41
FIGURE 23: TYPICAL CROSS-SECTION FOR RESIDENTIAL COLLECTOR STREET 42
FIGURE 24: TYPICAL CROSS-SECTION FOR COMMERCIAL OR INDUSTRIAL COLLECTOR STREET 42
FIGURE 25: TYPICAL CROSS-SECTION FOR MIXED-USE LOCAL STREET 43
FIGURE 26: TYPICAL CROSS-SECTION FOR RESIDENTIAL LOCAL STREET 43
FIGURE 27: TYPICAL CROSS-SECTION FOR COMMERCIAL OR INDUSTRIAL LOCAL STREET 43
FIGURE 28: SIDEWALK ZONES 45
FIGURE 29: TYPICAL DESIGN FOR REGIONAL SHARED-USE PATHS 47
FIGURE 30: TYPICAL DESIGN FOR LOCAL SHARED-USE PATHS 48
FIGURE 31: PLANNED ROADWAY AND INTERSECTION PROJECTS 69
FIGURE 32: PLANNED PEDESTRIAN PROJECTS 70
FIGURE 33: PLANNED BICYCLE PROJECTS 71
FIGURE 34: MICROMOBILITY TRANSPORTATION OPTIONS 75

LIST OF TABLES

TABLE 1: CAMAS AGE DEMOGRAPHICS 16
TABLE 2: TYPICAL STREET CROSS-SECTION REQUIREMENTS 39
TABLE 3: CONSTRAINED ACCEPTABLE STREET CROSS-SECTION 44
TABLE 4: TRANSPORTATION FACILITY AND ACCESS SPACING STANDARDS 50
TABLE 5: CROSSING TREATMENTS FOR PEDESTRIANS AND BICYCLISTS 52
TABLE 6: VOLUME AND SPEED MANAGEMENT TOOLS 54
TABLE 7: PLANNED TRANSPORTATION PROJECTS 58

CHAPTER 1.

Context for the Plan

This chapter introduces the City of Camas and describes the purpose of a Transportation System Plan (TSP).

CAMAS AT A GLANCE

The City of Camas, incorporated in 1906, is located along the Columbia River in the hills of eastern Clark County. Camas is home to approximately 28,000 people and is a part of the Portland-Vancouver Metropolitan Area with a total population of approximately 2.4 million people.

Located just east of Vancouver and on the doorstep of the Columbia River Gorge, Camas is a short 30 to 40-minute drive from downtown Portland. This unique location offers diverse housing, employment and recreation opportunities. The city is home to several large, hi-tech manufacturing industries, a vibrant downtown, and many new and established neighborhoods.

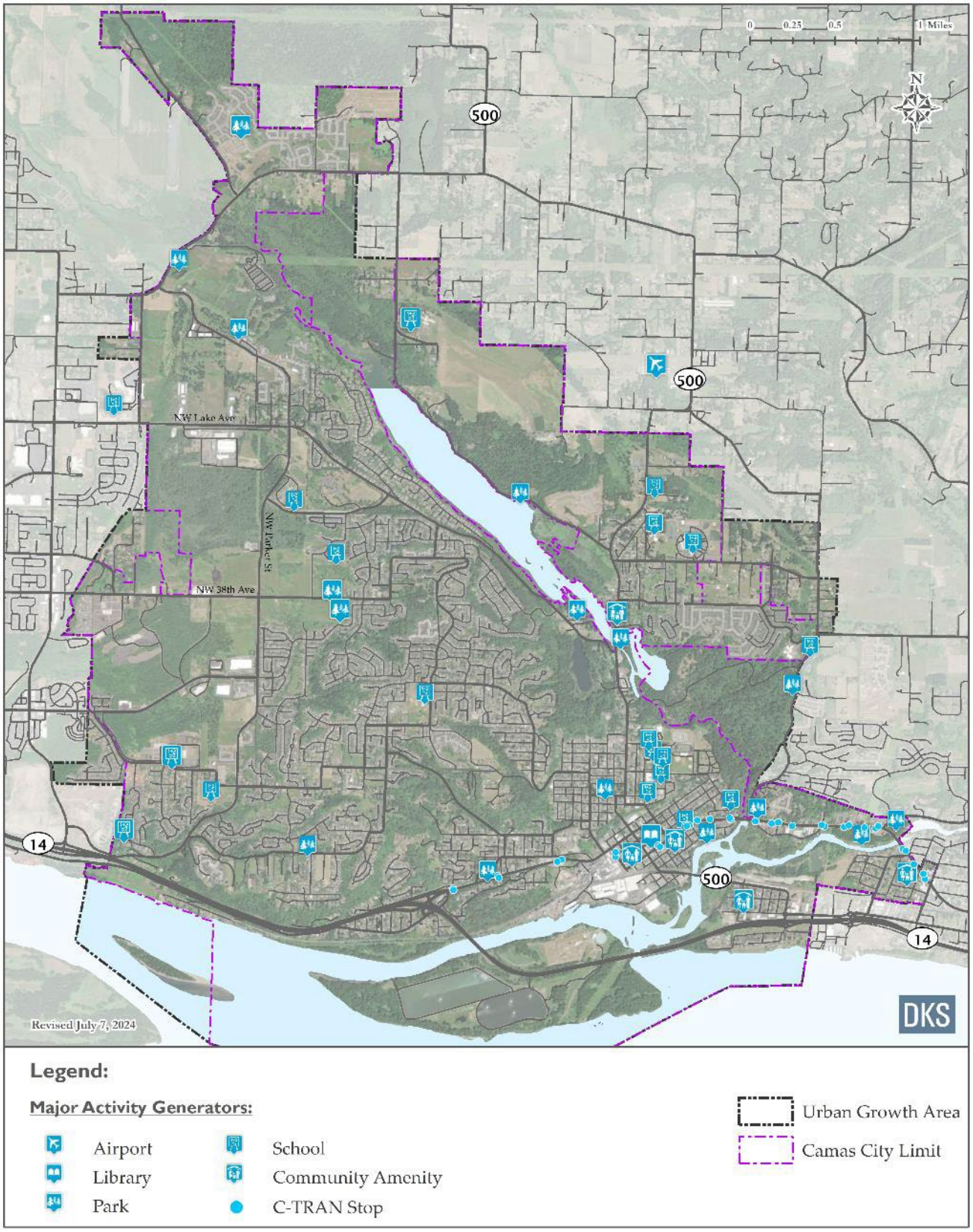
PLANNING AREA

The current City limits, shown in Figure 1, generally extends from north of NE Ingle Road and portions of NE 28th Street, to north of Lacamas Lake and NE 43rd Avenue-SE 15th Street to the Columbia River and from portions of NE Friberg-Strunk Street and east of SE 192nd Avenue to portions of SE Crown Road and Lechner Street. Beyond the current City limits, is the Urban Growth Area (UGA), also shown in Figure 1. The UGA is a land use planning tool designed to control urban expansion and promote the efficient use of land, public facilities, and services. Land inside the UGA is intended for urban development that is supported by urban services such as roads, water and sewer systems, parks, schools and fire and police protection. This boundary also supports 20-years' worth of population and employment growth, of which cities must plan for urban services within their designated UGA.

Camas is responsible for planning transportation infrastructure for all modes within its designated UGA, hereby referred to as "planning area", with the TSP being the City's tool for this effort. The City's planning area generally follows the current City limits, extending beyond that in a few locations, such as south of NE 28th Street and along portions of NW 38th Avenue, SE Payne Road, SE 15th Street and SE Crown Road (see Figure 1).

The City's planning area includes four distinct areas: 1) developed incorporated areas (i.e., in the existing City limits); 2) developed unincorporated areas; 3) undeveloped incorporated areas, such as the Northshore Subarea, which is planned for future urban development; and 4) undeveloped unincorporated areas. The TSP focuses on how to improve the existing transportation system for areas 1 and 2 noted above, and how to create a new system to serve future development in areas 3 and 4.

FIGURE 1: STUDY AREA AND KEY DESTINATIONS



NORTH SHORE SUBAREA

Camas led a concept planning effort in 2021-2022 for the North Shore area, which consisted of approximately 990 acres of land north of Lacamas Lake and generally extending to the City's planning area to the north, east near SE Everett Street (SR 500), and west near NE 232nd Avenue.

Originally annexed into the current City limits in 2007, much of the North Shore consists of agricultural land and single-family residences. Since annexing the area, the city has purchased over 160 acres in the North Shore along Lacamas Lake, referred to as the Legacy Lands, which total approximately 240 acres and will be preserved for open space and recreational use.

The purpose of the North Shore subarea plan is to guide future development consistent with the community's values, and to strike a balance between preserving open space and accommodating the anticipated future urban development and the additional land necessary for homes, businesses, and public facilities. Most of the subarea is in private ownership and the area is anticipated to experience substantial growth over the next 20 years (i.e., through the TSP future horizon year of 2040). The North Shore subarea plan establishes future land uses and ultimately provided the land use assumptions that were used to develop the TSP. The conceptual alignments of transportation facilities identified in this TSP are based on the North Shore subarea plan.

PURPOSE OF THE TSP

The Camas TSP is a long-range plan to guide transportation investments within the City's planning area through the future horizon year of 2040. As the transportation element of the City's Comprehensive Plan, these transportation system improvements address current deficiencies and serve future local and regional needs, and align with the community's goals, objectives, and vision for the future. This TSP was developed through community and stakeholder input and is based on the City's transportation system needs, opportunities, and anticipated available funding. The State of Washington Growth Management Act (GMA) requires the TSP to include:

- An inventory of transportation facilities and services.
- A summary of land-use assumptions used in estimating travel forecasts.
- A summary of roadway Level of Service (LOS) standards.
- A summary of actions to address existing deficiencies (facilities not meeting level of service standards).
- A traffic demand forecast for at least ten years (in this case, twenty years based on the adopted regional land-use plan).
- A list of transportation system needs to meet current and forecasted demand.
- A finance plan that serves as the basis for the six-year transportation improvement program (TIP).

In compliance with requirements summarized above, the City of Camas created the TSP. This TSP will be used by the City to make strategic decisions about transportation system investments and will be instrumental in supporting grant applications to fund future projects, and ensuring projects are built in coordination with land use actions and future development.

CHAPTER 2.

How the Plan Was Developed

This chapter describes how the TSP was developed. The process involved a formal decision-making structure, community engagement, and a structured technical analysis.

SETTING DIRECTION FOR THE PLAN

A transportation vision, and set of goals, objectives, and performance measures (see Figure 2) were used to guide the project team in the development, evaluation, and prioritization of solutions that best fit the community and provided the basis for policies to support Plan implementation. They were established with guidance from the Project Advisory Committee (PAC).

Collectively, the transportation-related goals, policies, and evaluation criteria describe what the community wants the transportation system to do in the future, as summarized by a **vision statement**. A vision statement generally consists of an imaginative description of the desired condition in the future. It is important that the vision statement for transportation align with the community's core values.

Goals and objectives create manageable steppingstones through which the broad vision statement can be achieved. **Goals** are the first step down from the broader vision. They are broad statements that should focus on outcomes, describing a desired end state. Goals should be challenging, but not unreasonable.

Each goal is supported by more finite **policies**. In contrast to goals, policies should be specific and measurable. Where feasible, providing a targeted time period helps with objective prioritization and achievement. When developing policies, it is helpful to identify key issues or concerns that are related to the attainment of the goal.

The solutions recommended through the TSP must be consistent with the goals and policies. To accomplish this, **evaluation criteria** were developed based on the goals and policies. For the Camas TSP, they were used to inform the selection and prioritization of projects and policies for the plan by describing how well they support goal areas. The methodology for calculating the scores for each criterion can be found in Technical Memorandum #1b: Goals, Policies and Evaluation Criteria, included in the Appendix.

FIGURE 2: DIRECTION FOR THE PLAN



VISION FOR THE PLAN

The overall vision statement for the TSP is described below.

> IN 2040, RESIDENTS OF CAMAS CONTINUE TO APPRECIATE THEIR SAFE, DIVERSE, AND WELCOMING COMMUNITY AS A LIVABLE PLACE FOR PEOPLE OF ALL AGES. QUALITY PUBLIC FACILITIES, SERVICES, AND UTILITIES CONTRIBUTE TO THEIR HIGH QUALITY OF LIFE.

GOALS AND POLICIES FOR THE PLAN

The Camas TSP goals and policies are documented below (not in order of priority).

GOAL

STREETS

STREETS WILL FUNCTION FOR ALL USERS INCLUDING BICYCLISTS, PEDESTRIANS, TRANSIT USERS, AND MOTORISTS

Policy a.	Maintain the livability of Camas through proper location and design of transportation facilities, consistent with the Camas Transportation Plan, Parks, Recreation and Open Space Plan and 6-year street plan.
Policy b.	Support the need for regular street maintenance, safety and efficiency improvements, and access management measures.
Policy c.	Construct streets that are interconnected and avoid long cul-de-sacs or dead ends. Block lengths should be less than 1,000 feet.
Policy d.	Maintain the transportation system at a level that preserves user safety, facility aesthetics, and the overall integrity of the system.
Policy e.	Provide attractive streetscapes through design standards that encourage appropriate traffic volumes, speeds, and multi-modal safety.
Policy f.	Minimize access to new development and redevelopment along the City's arterials, and consolidate access points when spacing is insufficient.
Policy g.	Include enhanced roadway features such as roundabouts, decorative lighting, and landscaping for gateways.

GOAL

WALKING, BICYCLING, AND ADA MOBILITY

THE NEEDS OF BICYCLISTS, PEDESTRIANS, TRANSIT USERS, AND ACCESSIBILITY (ADA-COMPLIANT) WILL BE CONSIDERED IN ALL STREET IMPROVEMENTS AND WILL

Policy a. Enhance travel choices and provide pedestrian and bicycle routes designed especially for them, not simply along routes designed for cars. Route planning should seek shortcuts and other opportunities that give walking or biking advantages over the automobile.

Policy b. Support opportunities to increase participation of school-age children in walking or biking to school to improve their health and reduce traffic congestion.

Policy c. Include pedestrian and bicycle linkages in the construction of cul-de-sacs and other forms of dead-end streets. Existing dead-end streets should be retrofitted to provide bicycle and pedestrian linkages as practicable.

Policy d. Recognize and support Complete Street implementation in all new and retrofit

Policy e. Coordinate with schools and the community to designate safe pedestrian and bicycle routes between residential areas, schools, and public facilities.

Policy f. Increase wayfinding signage for outdoor destinations throughout the City.

Policy g. Support enhanced pedestrian improvements in the downtown and other economic development areas.

GOAL

LOCAL AND REGIONAL TRANSIT

REGIONAL TRANSIT WILL PROVIDE SAFE, EFFICIENT, AND DEPENDABLE SERVICE TO OUR COMMUNITY.

Policy a. Coordinate with local municipalities, the Washington State Department of Transportation, adjacent counties, and C-TRAN to ensure that minimum roadway and multi-modal design standards are consistent.

Policy b. Continue to advocate for quality regional transit services and an increase to service availability.

GOAL

DESIGN AND LOW-IMPACT DEVELOPMENT

THE TRANSPORTATION SYSTEM WILL BE DESIGNED TO SUPPORT COMMUNITY CHARACTER AND ENVIRONMENTAL POLICIES.

Policy a. Provide attractive streetscapes through design standards that encourage appropriate traffic volumes, speeds, robust landscaping, and safety for pedestrians and bicyclists

Policy b. Minimize cut and fill in roadway design and minimize restructuring the natural contours of the land.

Policy c. Encourage the inclusion of LID design features (e.g., rain gardens, grass pavers, pervious pavement) in the design of private driveways, parking lots, and other road surfaces.

Policy d. Continue implementing new strategies such as LED lights as a standard for new development and replacing existing inventory.

GOAL

SAFETY AND TRAFFIC CALMING

DESIGN AND CONSTRUCT SAFE TRANSPORTATION FACILITIES THAT MEET APPLICABLE REQUIREMENTS.

Policy a. Encourage traffic safety through education, enforcement, and engineering.

Policy b. Ensure that adequate access for emergency services vehicles is provided throughout the City.

Policy c. Provide design standards that encourage appropriate traffic volumes, speeds, and pedestrian safety.

Policy d. Incorporate safe pedestrian and bicycle routes between residential areas, schools, and public facilities in development.

Policy e. Require new developments to implement design standards using the Neighborhood Traffic Management Plan.

Policy f. Identify high accident areas, and implement specific measures to reduce their occurrence.

GOAL

TRANSPORTATION DEMAND MANAGEMENT

TRANSPORTATION PLANNING WILL ACHIEVE THE EFFICIENT USE OF TRANSPORTATION INFRASTRUCTURE, INCREASE ITS PERSON CARRYING CAPACITY, AND ACCOMMODATE AND FACILITATE FUTURE GROWTH CONSISTENT WITH LAND USE OBJECTIVES.

Policy a. Require large employers to implement a commute trip reduction program for employees, as mandated by the state's Commute Trip Reduction law.

Policy b. Develop Complete Street design that is supportive of the use of alternative modes of travel and adopt engineering design standards consistent with these goals.

Policy c. Support intergovernmental development review.

Policy d. Support RTC with funding and staff participation to the extent possible.

GOAL

CONCURRENCY AND LEVEL OF SERVICE

THE CITY WILL MAINTAIN THE ADOPTED LOS STANDARDS FOR ALL ARTERIALS, TRANSIT ROUTES, AND HIGHWAYS.

Policy a. Encourage growth in areas with existing or planned infrastructure capacity.

Policy b. Require new development to demonstrate that adequate person trips are available, or that multi-modal improvements to the transportation system are made to accommodate the impacts concurrent with the development.

Policy c. Utilize traffic impact fee studies, development traffic impact analyses, and corridor studies to identify deficiencies and plan improvements to maintain or improve level-of-service standards.

Policy d. Take the following actions (not in priority order) if probable funding falls short of meeting identified needs: 1) Delay development until programs, facilities, or services can be funded; 2) Obtain needed revenue or revise the transportation plan to reflect known financial resources; 3) As a last choice, change the transportation LOS standard.

GOAL

TRANSPORTATION REVENUE

MAXIMIZE THE USE OF STATE AND FEDERAL FUNDS FOR TRANSPORTATION CAPITAL, OPERATING, SERVICE, AND DEMAND IMPROVEMENTS.

Policy a. Maintain a capital improvement plan that identifies construction and improvement priorities and funding.

Policy b. Ensure that the transportation impact fee program responds to land use changes, so that connectivity occurs and new development pays its proportionate share of needed capacity.

Policy c. Support the Pavement Management System and other maintenance needs to ensure cost-effective maintenance of transportation facilities and efficient use of public funds.

Policy d. Develop equitable transportation impact fees by which land developers are assessed fair-share contributions for any transportation improvements.

Policy e. Direct transportation funding primarily toward multi-modal improvements that will enhance safety and circulation within and between infill areas, schools, and employment centers within City limits.

Policy f. Focus transportation projects in economic development areas to act as catalysts for job growth.

PERFORMANCE BASED PLANNING PROCESS

The TSP utilizes a performance-based planning process. The community vision is distilled into measurable goals and supporting policies. These goals and policies were used to identify evaluation criteria to help evaluate potential projects to enhance transportation system performance, and to measure long-term alignment between Camas's transportation system and the community's vision, goals, and policies. The plan process is illustrated below in Figure 3, along with the key questions that were considered during three development stages of the TSP.

FIGURE 3: PERFORMANCE BASED PLANNING PROCESS



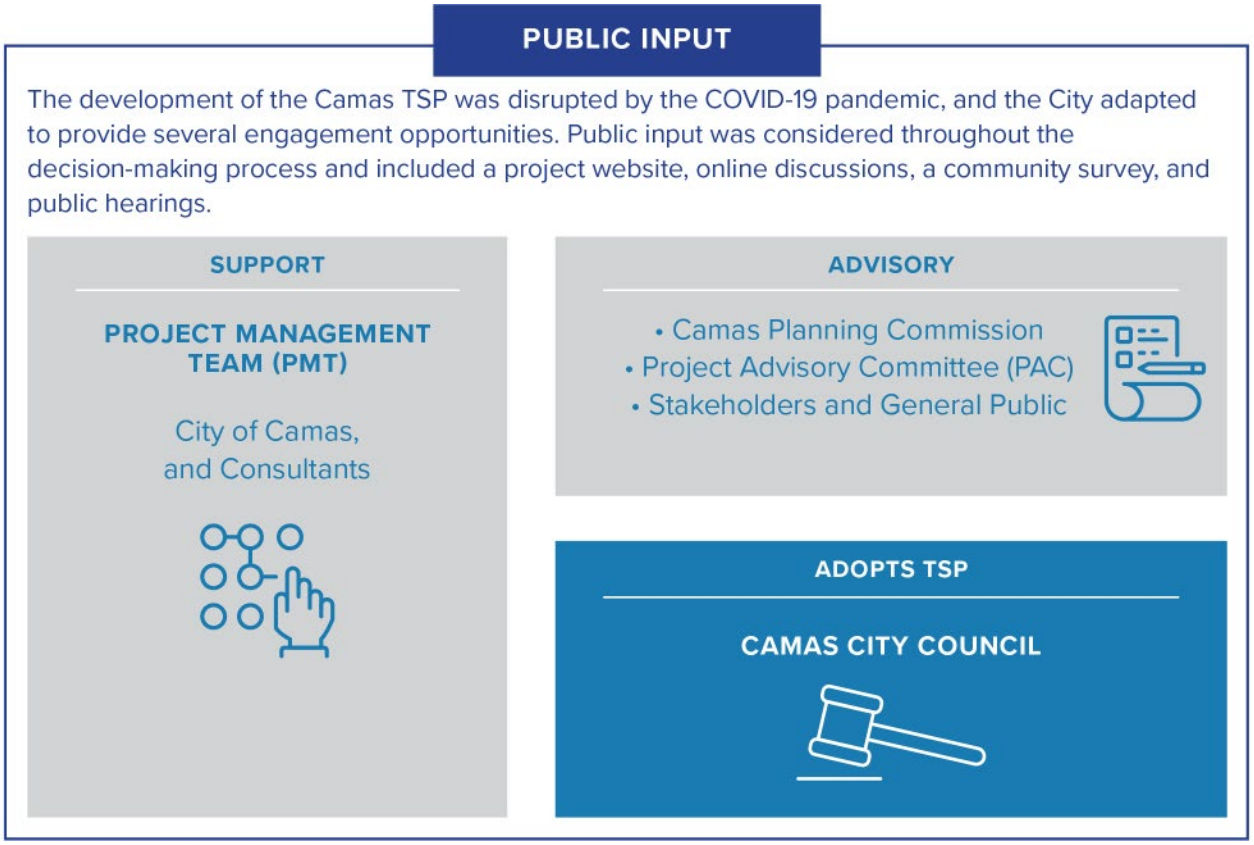
DECISION MAKING STRUCTURE

The decision-making structure for this TSP was developed to establish clear roles and responsibilities throughout the project. The decision-making structure (Figure 4) established a framework for broad-based community engagement for the project.

The development of the Camas TSP was disrupted by the COVID-19 pandemic, and the project team adapted to provide several engagement opportunities. As the TSP was developed, the Project Management Team (PMT) worked with a Project Advisory Committee (PAC) that included local business representatives, emergency service and transit providers, and agency staff members from the City of Camas, City of Vancouver, City of Washougal, Clark County, C-Tran, Southwest Washington Regional Transportation Council (RTC) and the Washington State Department of Transportation (WSDOT). The PAC was formed to provide community-based recommendations, and informed and guided the plan by reviewing draft deliverables, providing insight into community perspectives, commenting on technical and regulatory issues, and providing recommendations for the TSP.

The City Council and Planning Commission for Camas were briefed during the development of this plan throughout the process. The PMT made recommendations to the City Council based on technical analysis and community input. The City Council made all final decisions pertaining to this TSP.

FIGURE 4: CAMAS TSP ROLES AND RESPONSIBILITIES



TECHNICAL DEVELOPMENT

Figure 5 illustrates the technical tasks involved in creating the TSP. These are categorized in three major stages: the first to understand system needs and constraints, the second to develop solutions, and the third to prepare and adopt the plan. Community input guided the TSP development through all stages.

FIGURE 5: CAMAS TSP DEVELOPMENT TECHNICAL TASKS



CHAPTER 3.

Camas Transportation System Today & Tomorrow

This chapter describes the transportation system as it exists and operates today and in the future. The assessment is used to identify community transportation needs and determine where the transportation system can be improved to better accommodate them. Needs were determined based on a comprehensive multimodal existing conditions analysis and projecting future conditions through the planning horizon (2040) based on assumed growth in households and employment, and the transportation standards from Chapter 4.

FACTORS IMPACTING TRAVEL DECISIONS

Travelers often weigh a variety of factors when deciding how to commute to or from their destination. Whether the trip will be via motor vehicle, walking, bicycle, public transportation, scooter, or other mode, the choice is often a balance between ease and convenience of travel, travel cost, and travel time.

LAND USE AND KEY DESTINATIONS

Land use is a key component of transportation system planning. Where people live and where they go to work, shop, or access services and the distance between these key destinations has a big impact on how they get around and the demands they place on the transportation system.

Many trips also occur between community amenities within the City's planning area, including parks, civic (e.g., schools, libraries, community centers), essential retail and services (e.g., grocery stores, pharmacies), and medical uses. These amenities are shown earlier in Figure 1. Most homes are located to the south of Lacamas Lake, with larger employment areas Downtown (central), and at the west end of the city. Schools are located throughout the city and most civic buildings are near Downtown. The city owns and maintains 16 parks; the majority — in number and in acreage— are located in the southern half of the city. Shopping and entertainment opportunities are generally found in the Downtown, and the southeastern part of the city. Future community amenities will also likely be built as development occurs in the North Shore subarea.

Those destined for a park or school generally have a higher likelihood to walk or bicycle than those going to work or shopping. The distance of that destination also plays a role in mode choice. Trips that are shorter generally present a better opportunity to walk or bicycle, and longer distance trips more often are conducive to transit or motor vehicle modes. Residents in the City's planning area who work outside of it (as well as people who work in the City's planning area but live elsewhere) are likely to commute by motor vehicle due to travel distance, commute time, and/or lack of adequate facilities. However, some commuters may choose bicycling or transit if the regional transportation system offers convenient and comfortable biking facilities or transit services between destinations.

QUALITY AND AVAILABILITY OF FACILITIES

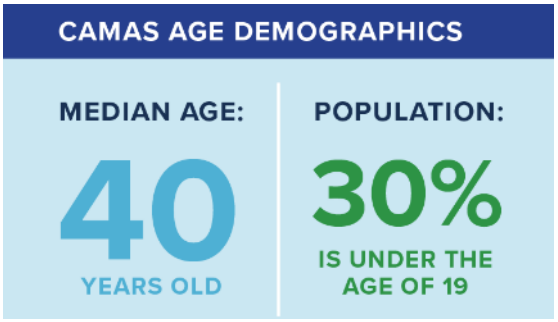
The availability of sidewalks, shared-use paths, curb ramps to provide wheelchair access, crosswalks, and bicycle facilities increases the comfort and access of those walking and biking. The lack of or poor quality of these facilities, particularly along or across higher volume or higher speed roadways, discourages people from utilizing non-motorized vehicle modes of transportation.

For transit, the distance to bus stops, frequency of service, route coverage, connections to other transportation modes, and amenities at stops are some of the factors that play a role in a user's decision to utilize it.

DEMOGRAPHICS

As shown in Table 1 and Figure 6, residents of Camas have a median age of 40, with about 30 percent of all residents within the school age range (i.e., under the age of 19) and about 13 percent of the population over the age of 65. Both age demographics are slightly different than those of the region and state, with the city accounting for 4 to 5 percent more school aged residents and 3 percent fewer residents aged over 65.

FIGURE 6: KEY DEMOGRAPHICS



As growth continues in the city, particularly in the North Shore subarea, it will likely continue to attract a high share of younger families. Overall, the city will continue to see people of all ages and abilities walking, biking, and using transit. It will also continue to see a higher share of school related trips when compared to other cities in the region given the significant share of younger families.

TABLE 1: CAMAS AGE DEMOGRAPHICS

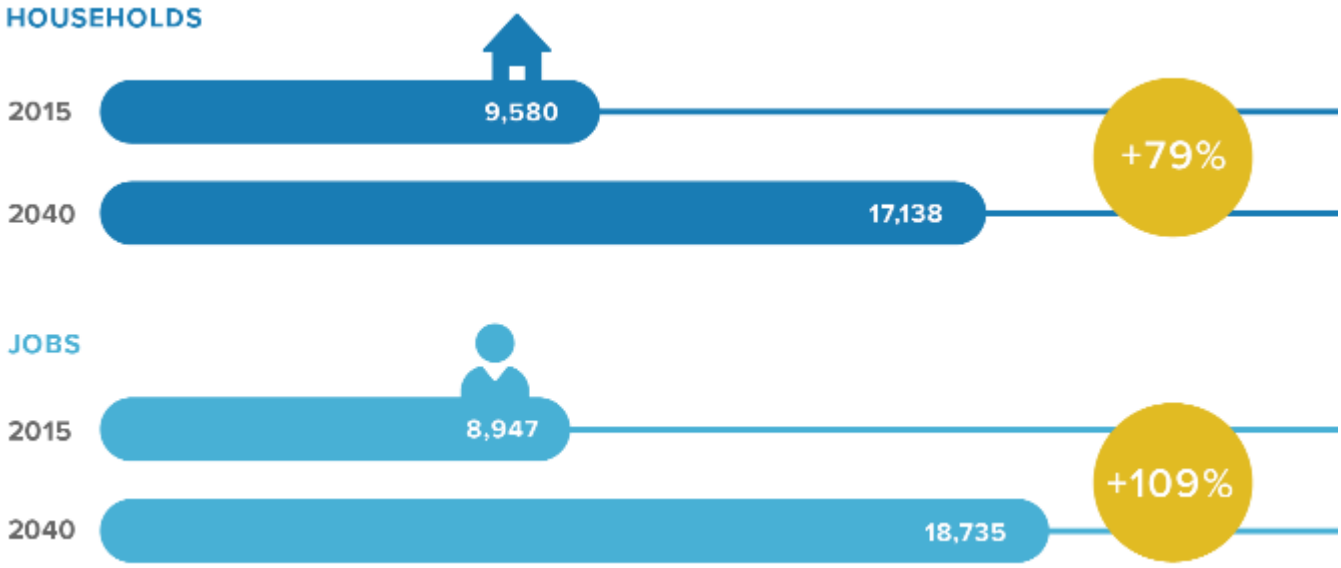
AGE	CAMAS	CLARK COUNTY	WASHINGTON
UNDER 19 YEARS	30%	25%	24%
20-34 YEARS	14%	20%	22%
35-49 YEARS	22%	20%	20%
50-64 YEARS	21%	19%	18%
65 YEARS AND OLDER	13%	16%	16%
MEDIAN AGE	**40.3**	**38.8**	**38.0**

POPULATION AND EMPLOYMENT GROWTH

As growth occurs to the year 2040, the demands on the City's transportation system will be influenced by changes in population, housing, and employment. These changes in travel demands will require better ways to manage the system, more choices for getting around, and targeted improvements to make the system safer and more efficient.

The Camas planning area is growing, and it is estimated that about 7,558 more households will live here by 2040, for a total of 17,138 (see Figure 7)[1]. There are currently about 8,947 jobs in Camas's planning area, and that total is estimated to increase to 18,735, with 9,788 more people working in the City's planning area by 2040 (see Figure 7)[2].

FIGURE 7. CAMAS PLANNING AREA HOUSEHOLD AND JOB GROWTH TRENDS



Source: RTC 2015 and 2040 Travel Demand Models; based on the Camas planning area.

TRAVEL DEMANDS AND CHARACTERISTICS

The number of people who choose to walk, bike, ride transit, or drive along with the distances they travel is important for assessing how well existing transportation facilities serve the needs of users. Available data on travel demand, travel mode choice, and trip length are used to better understand travel behavior in the community and inform the needs analysis for the transportation system. This data is largely derived from the US Census Bureau on employment-based trips; however, no other travel data is available from this source.

The following sections provide a summary of travel demands and characteristics in the City's planning area.

[1] These locations are based on boundaries approximated by the model TAZ boundaries and may not match current and future city limits; This includes the adopted changes from the Northshore Subarea Plan (i.e., 4,150 households and 1,968 jobs).

[2] Ibid

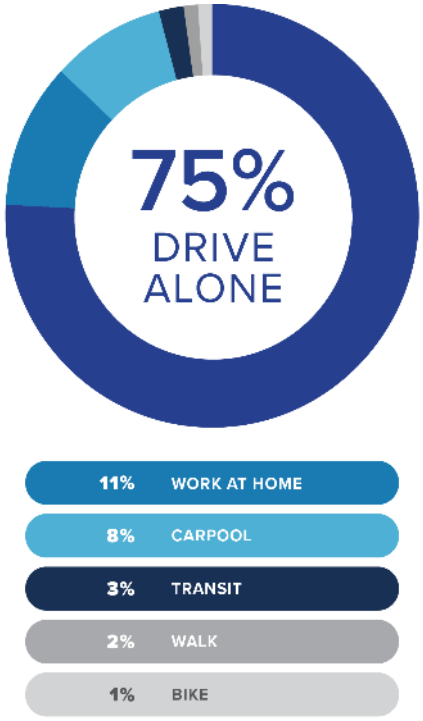
COMMUTER TRIPS

Much of the traffic in the Camas planning area, especially during the more congested weekday peak periods, is related to employment. Residents in the Camas planning area who are employed overwhelmingly commute to work outside of the planning area (87 percent), while jobs in the planning area are overwhelmingly filled by people who live outside of the planning area (83 percent)[3].

On average, almost 75 percent of employed residents in the Camas planning area commute to work using single-occupant motor vehicles. About 8 percent of residents carpool to work and the remaining 17 percent work from home, walk, bike, take transit, or use some other means of travel (see Figure 8).

About 11 percent of employed residents in the Camas planning area worked from home pre-COVID, and that figure likely increased due to COVID-19. It seems likely that a higher percentage of workers will continue teleworking, at least part time. Any increase in the remote work share will change the demand on streets, including when and how they travel.

FIGURE 8: CAMAS PLANNING AREA COMMUTER MODE SHARE



Source: US Census Bureau, 2012-2016 American Community Survey

TRANSPORTATION DEMAND BY MODE

Pedestrian, bicycle, and motor vehicle traffic counts were conducted at key intersections throughout Camas on typical weekdays[4]. This information indicates where and when travel demand is highest for each mode of travel. It also provides a basis for assessing how well existing transportation facilities are able to meet the needs of users during peak demand periods.

- Pedestrian volumes during the PM peak hour are generally highest near downtown Camas, including along NE 3rd Avenue and NE Adams Street (the traffic count summary is included in the appendix). The highest hourly pedestrian activity during the evening peak occurred at the NW Sierra Drive intersection with NW 28th Avenue, with 30 pedestrian crossings in the one-hour period. Other study intersections with more than 15 pedestrian crossings during the one-hour period included NE 6th Avenue at NE Adams Street, NE 3rd Avenue at NE Dallas Street, NE 3rd Avenue at NE 4th Street, and Weir Road at NE 3rd Avenue.
- Bicycle volumes indicate limited biking, with the highest volumes along NW Lake Road, and NW Sierra Street (the traffic count summary is included in the appendix). During the evening peak hour, 20 of the 50 study intersections had no observed bicyclists during the

[3] US Census Bureau, OnTheMap. Home/Work Distance/Direction Analysis, 2015.

[4] Based on counts conducted in April of 2018.

one-hour period. The NE Lake Road at SR 500, NW Lake Road at NW Sierra Street, NW Lake Road at NW Leadbetter Drive, NW Sierra Street at NW 45th Avenue, and NE 6th Avenue at NE Garfield Street intersections had the highest observed bicycle volumes, with 4 or more bicyclists counted during the single hour at each of the intersections.

- Motor vehicle volumes on the roadways in Camas (the traffic count summary is included in the appendix) most commonly peak during weekday evenings between 4:50 p.m. and 5:50 p.m. The highest hourly motor vehicle volumes during the evening peak occurred along the NW 6th Avenue corridor between the SR 14 ramps and NE Adams Street, with more than 1,300 trips during the one-hour period. The NE Lake Road at NE Everett Street, and NW 6th Avenue at SR 14 Ramps intersections had the highest observed volumes, with more than 1,800 entering vehicle trips during the single hour at each of the intersections.

TRANSPORTATION SYSTEM FACTS

To address changing transportation needs within the City's planning area though 2040, the existing and future travel conditions must be considered. The transportation system review documented the existing pedestrian, bicycle, transit, and motor vehicle infrastructure. It also identified shortfalls and limitations regarding how people can travel within the city (such as lack of bike lanes or sidewalks). Solutions are identified in Chapter 5 for transportation infrastructure that is determined to not maintain acceptable service levels for residents.

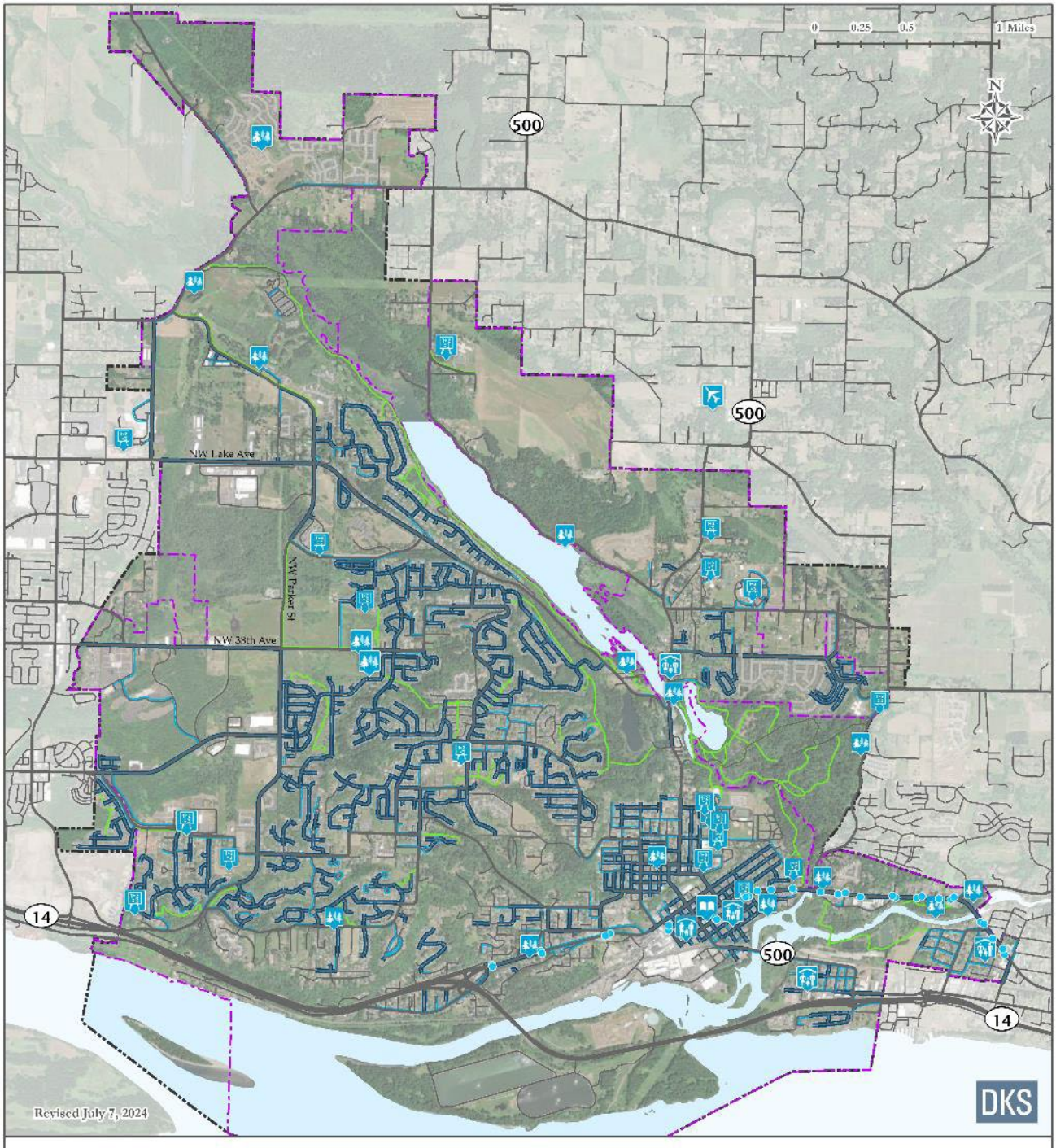
WALKING NETWORK

Walking supports healthy lifestyles, is an easy and economical way to travel, and is well suited for people of all ages and abilities. In this plan, "walking" and "pedestrian" are terms that include people who walk independently or use canes, wheelchairs, other walking aids, or strollers. Approximately two percent of commuters in the city walk to work, with three percent utilizing public transportation, which often includes walking at the beginning or end of the trip[5]. In addition to the work commute trips, walking trips are made to and from recreational areas, shopping areas, schools, and other key destinations in the City's planning area. Continuous and direct sidewalk connections to all key destinations and along all streets, in addition to safe crossing opportunities along major roadways, are essential to encourage walking and transit use.

The pedestrian network in the City's planning area, shown in Figure 9, is composed of sidewalks, shared-use paths and pedestrian trails and accessways, and is fairly well developed. The walking network in Camas is fairly well developed. A large part of downtown Camas was developed prior to 1950, a time in which sidewalks were incorporated into the design of neighborhoods and streets. Although most areas incorporated into Camas over the following decades have sidewalk coverage, a few areas do not have complete sidewalks on one side of the street, or even on both sides. These gaps are most significant in southwest, southeast, and northeast Camas, and on roadway segments outside the city limits.

[5] US Census Bureau, 2012-2016 American Community Survey

FIGURE 9: PEDESTRIAN FACILITIES



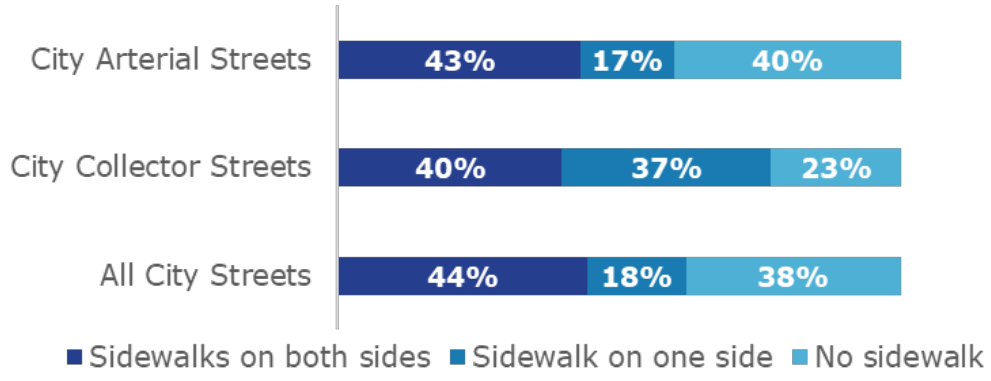
Paved shared-use paths exist along portions of NW Parker Street, NW 18th Avenue, Lacamas Lake, Washougal River, and scattered throughout the residential neighborhoods. Unpaved pedestrian only trails are located throughout the City.

Many intersections in older parts of the city lack ADA-compliant ramps, which provide important connections between sidewalks, making it easier to cross streets and handle the vertical drop at curbs. However, the city has been recently installing new curb ramps in many of these locations. The presence of curb ramps is fairly consistent along streets in downtown Camas, and in the newer neighborhoods in the city.

PEDESTRIAN FACILITY GAPS

About 38 percent of street miles (including City arterial, collector and local streets) lack sidewalk coverage along one or both sides (see Figure 10). These gaps are more common along arterial streets than collector streets, at 40 and 23 percent of the street miles with no sidewalk on either side, respectively. These numbers do not incorporate off-street shared-use paths that may run alongside some roadways. Any future streets constructed in association with development projects will be required to construct sidewalks, increasing the overall sidewalk supply.

FIGURE 10: STREET MILES WITH SIDEWALKS WITHIN CAMAS

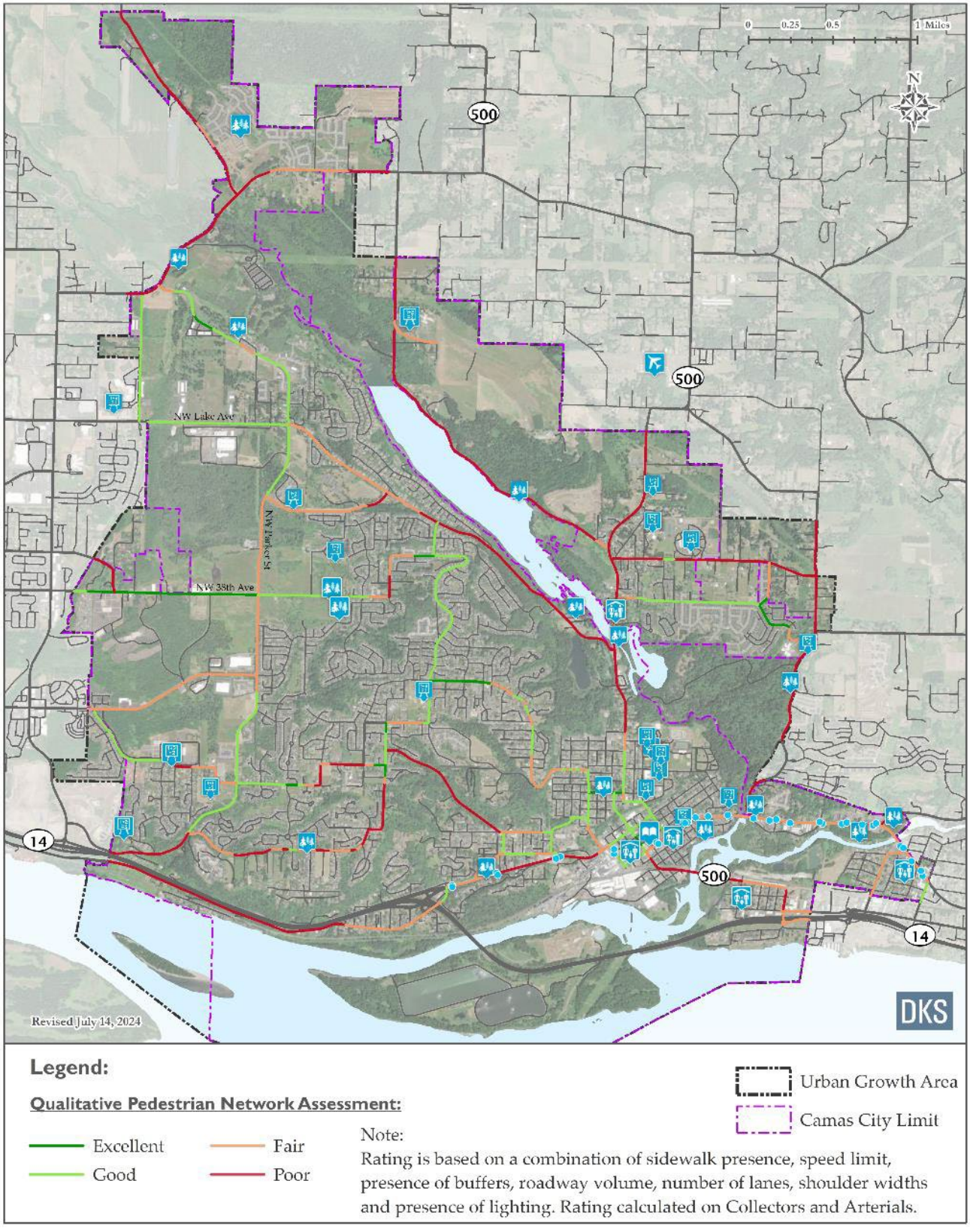


QUALITATIVE PEDESTRIAN ASSESSMENT

A qualitative pedestrian network assessment of streets in Camas is shown in Figure 11. This assessment shows the extent to which the walking network on collector and arterial streets provides a level of comfort and safety for users (see Technical Memorandum #2: Existing Conditions Analysis and Technical Memorandum #3: Future Baseline Conditions Analysis in the Appendix for more information).

About 30 percent of the collector and arterial street miles' in Camas rate "good" or "excellent" for pedestrians. However, over 35 percent of the collector and arterial street miles' rate poorly. Most of the street miles rated "poor" are located in high growth areas (i.e., household or employment growth). The pedestrian network in these areas is largely unimproved due to the rural nature of the surrounding land use but will likely be improved as future development occurs. Overall, the pedestrian network rates relatively high near downtown, and poor towards the edges of the city.

FIGURE 11: PEDESTRIAN NETWORK ASSESSMENT



BIKING NETWORK

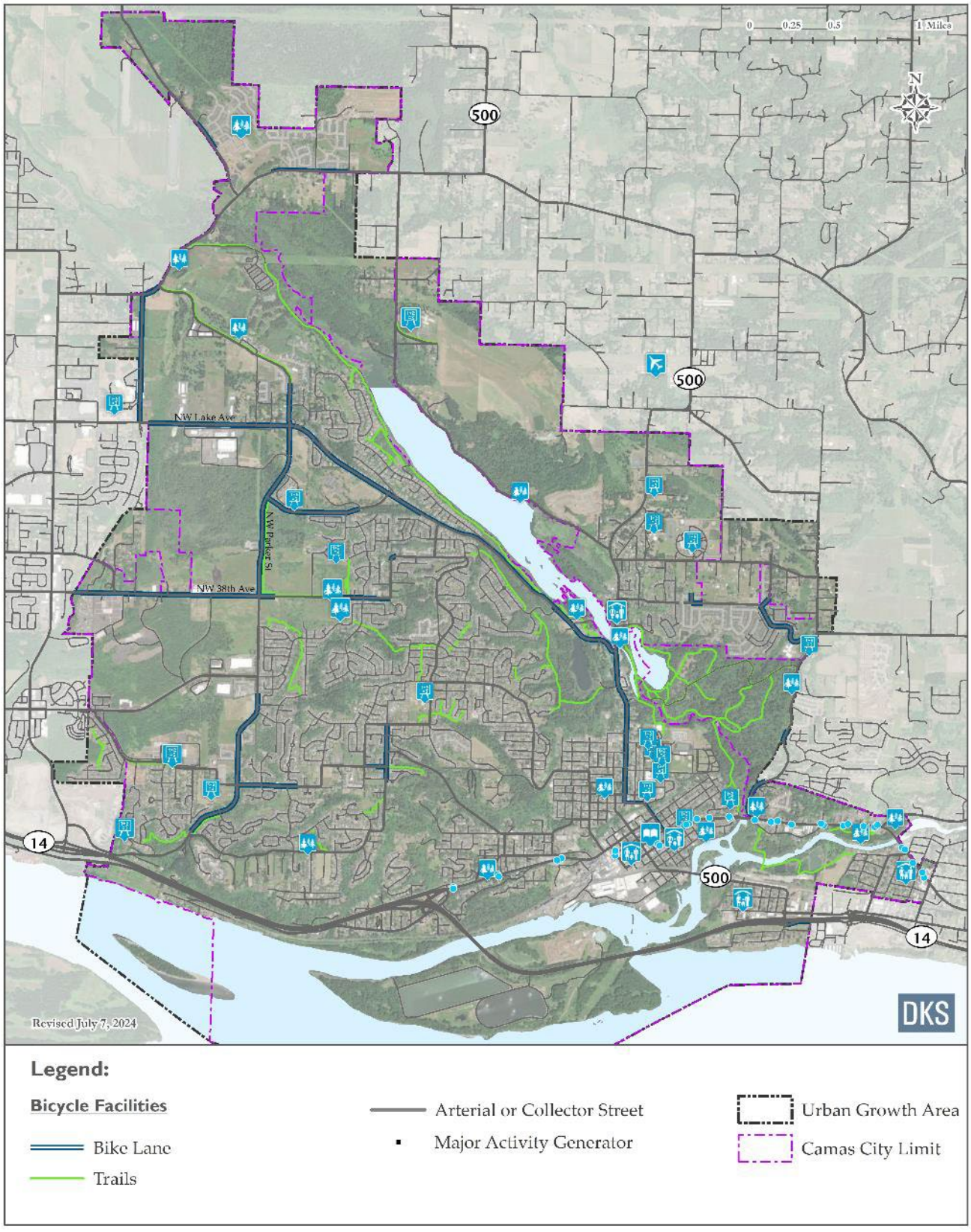
Bicycling is important for both transportation and recreation in the Camas planning area. This includes people who bike to work and school, recreation, or running errands. Approximately one percent of commuters in the city bicycle to work[6]. Riding bicycles also plays a key role in the transportation system's ability to support healthy and active lifestyles and provide a viable alternative to the automobile. While walking tends to be a competitive choice for trips under half a mile, bicycling tends to be suited for longer trips of three miles or longer. Continuous bicycle connections between all activity generators and arterial/collector roadways are desirable to allow for safe and attractive non-motorized travel options.

The bicycle network in the City's planning area, shown in Figure 20, is composed of bike lanes, roadway shoulders, shared roadways, and shared-use paths.

- **Bike lanes** are portions of the roadway designated specifically for bicycle travel via a striped lane and pavement stencils. Standard width for a bicycle lane is six feet. The minimum width of a bicycle lane against a curb or adjacent to a parking lane is five feet. A bicycle lane may be as narrow as four feet, but only in very constrained situations. Bike lanes are most appropriate on arterials and collectors, where high traffic volumes and speeds warrant greater separation of the travel modes. Significant segments of continuous bicycle lanes exist along portions of NW Lake Road, NW 38th Avenue, NW Parker Street, NW Friberg-Strunk Street, and SR 500.
- **Shoulder bikeways** are paved with striped shoulders wide enough for bicycle travel. A six-foot paved shoulder is desired to adequately provide for bicyclists, with a four-foot minimum width in constrained areas. Roadways with shoulders less than four feet are considered shared roadways. Some shoulder bikeways are signed to alert motorists to expect bicycle travel along the roadway.
- **Shared roadways** include those on which bicyclists and motorists share the same travel lane. The most suitable roadways for shared bicycle use are those with low speeds (25 mph or less) and low traffic volumes (3,000 vehicles of fewer per day). Shared roadways, often signed as bicycle routes, serve to provide continuity to other bicycle facilities (e.g., bicycle lanes) or can be designated as a preferred route through the community. Common practice is to sign a route with standard Manual on Uniform Traffic Control Devices (MUTCD) green bicycle route signs with directional arrows and/or pavement markings. Shared roadways can have signs that highlight a special route or provide directional information in bicycling minutes or distance. Most local roadways in the city are considered shared roadways, but do not have signs or pavement markings, although some are planned to be improved in this TSP.
- **Shared-use paths** provide off-street travel for bicyclists and pedestrians, and are wider than an average sidewalk (e.g., 10 – 14 feet). Shared-use paths are typically paved (asphalt or concrete) but may also consist of an unpaved smooth surface as long as it meets Americans with Disabilities Act (ADA) standards. Paved shared-use paths exist along portions of NW Parker Street, NW 18th Avenue, Lacamas Lake, Washougal River, and scattered throughout the residential neighborhoods.

[6] US Census Bureau, 2012-2016 American Community Survey

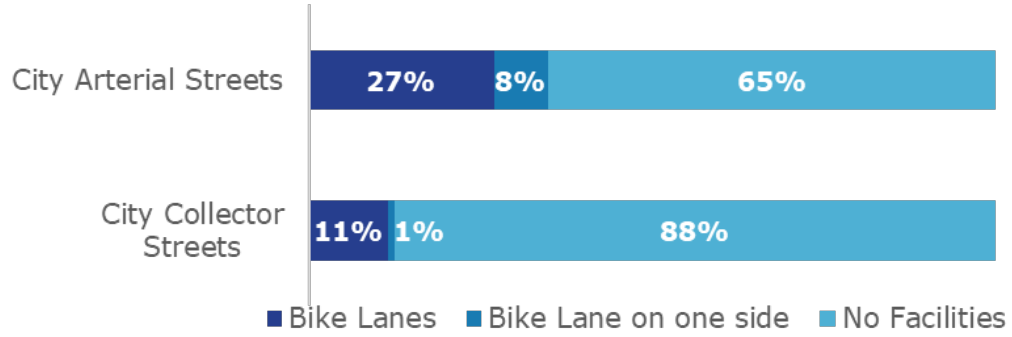
FIGURE 12: BICYCLE FACILITIES



BICYCLE FACILITY GAPS

Figure 13 shows that about 65 percent of City arterial street miles and 88 percent of City collector street miles lack bicycle facilities (bike lanes or shoulder bikeways). These gaps are more common along collector streets than arterial streets, at 89 and 73 percent of the street miles with no facilities on one or both sides, respectively. These numbers do not incorporate off-street shared-use paths that may run alongside some roadways.

FIGURE 13: STREET MILES WITH BIKE FACILITIES WITHIN CAMAS

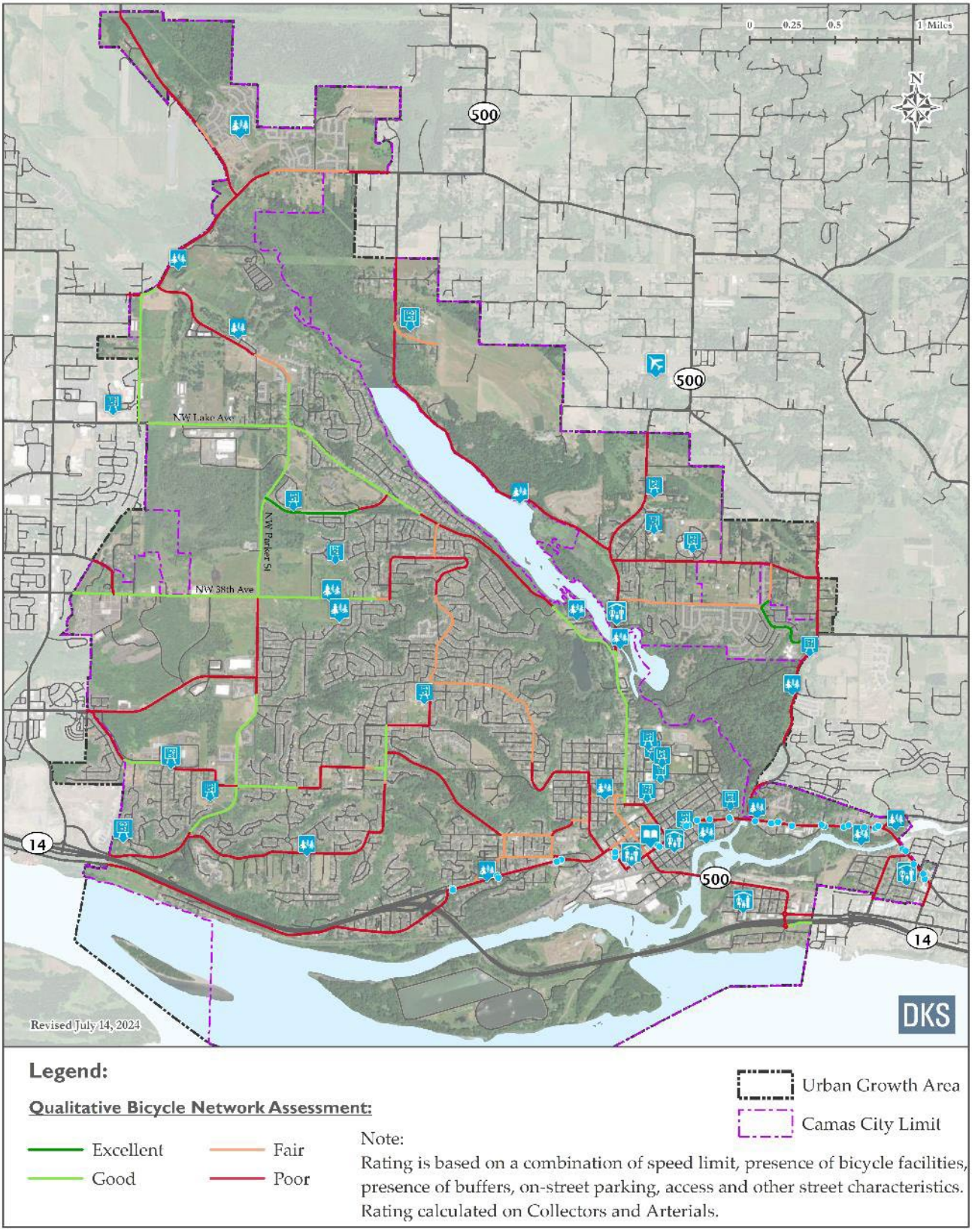


QUALITATIVE BICYCLE ASSESSMENT

A qualitative bicycle network assessment of streets in Camas is shown in Figure 14. This assessment shows the extent to which the bicycle network on collector and arterial streets provides a level of comfort and safety for users (see Technical Memorandum #2: Existing Conditions Analysis and Technical Memorandum #3: Future Baseline Conditions Analysis in the Appendix for more information).

About 20 percent of the collector and arterial street miles' in Camas rate "good" or "excellent" for bicyclists. However, about 65 percent of the collector and arterial street miles' rate poorly for bicyclists. Overall, the bicycle network rates relatively high on the northwest side of the City and poor on the south and east side. The streets with the lowest ratings are the streets important for local and regional through travel (i.e., portions of NW 6th Avenue, NE 3rd Avenue, and SR 500), where most businesses and services are located. These streets rate low due to the relatively high motor vehicle traffic volumes and speeds and lack of separated bicycle facilities.

FIGURE 14: BICYCLE NETWORK ASSESSMENT



TRANSIT

C-TRAN provides transit service in Camas via one fixed bus route connecting the City with Vancouver and Washougal. Transit riders can transfer to other C-TRAN routes at the Fisher's Landing Transit Center in Vancouver. Figure 15 shows the route in Camas.

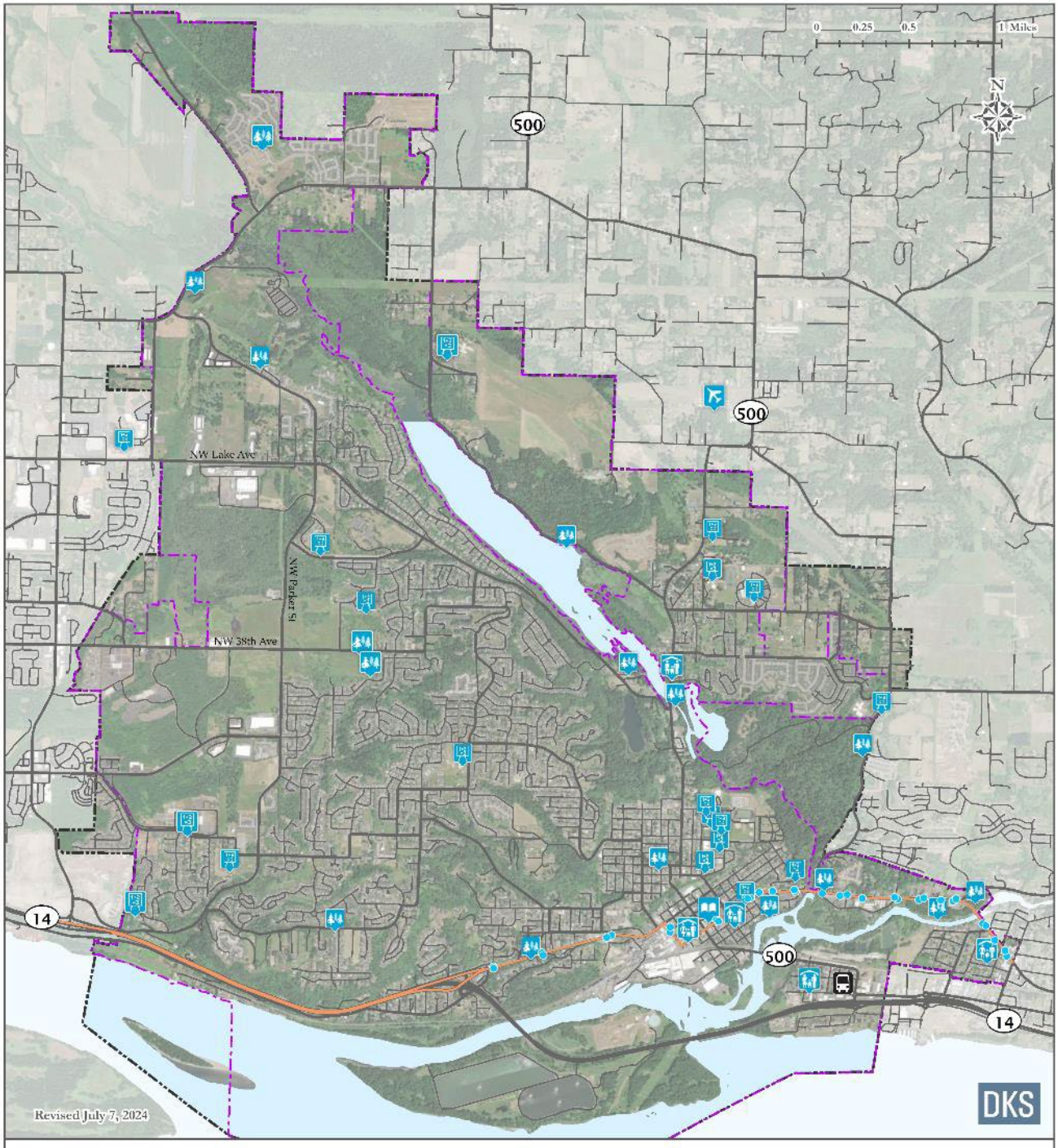
Bus stops in Camas are located along NW 6th Avenue near the SR 14 Ramps, NW Ivy Street, and NW Drake Street intersections, at the NE Adams Street / NE 5th Avenue, and along NE 3rd Avenue near the NE Franklin Street, NE Joy Street, NE 3rd Place, E. 1st Avenue, SE Crown Road, NE Summer Street, NE 3rd Loop, NE Shepherd Road, NE 2nd Avenue, NE Weir Street and NE Lechner Street intersections.

Each of the bus-stops are signed and the eastbound stop along NW 6th Avenue near the SR 14 Ramps provides a bus pull-out. The bus stop along NE 3rd Avenue at NE Franklin Street (near Camas City Hall) provides a bench and shelter. All remaining bus stops have no amenities. Most transit users in the city are more than a half-mile from a bus stop. A park-and-ride facility is located along SE Tampa Street, near the SE 8th Avenue / SE Union Street intersection. However, the park-and-ride is currently served by only the Connector service and not a fixed route.

The Camas/Washougal C-TRAN route travels through Camas eastbound and westbound approximately every half-hour to hour between 6:00 AM and 9:30 PM on weekdays. Service on weekends is provided approximatively every hour between 8:00 AM and 9:30 PM.

Key destinations along this route include Forest Home Park, Georgia Pacific, downtown Camas, Camas Municipal Center, Safeway, Louis Bloch Park, Washougal River Greenway, Camas Police Department, and the Lacamas Center. C-TRAN buses are equipped with a lift to allow for wheelchair access and include bicycle racks.

FIGURE 15: TRANSIT SYSTEM



STREET NETWORK

Camas streets are well connected and generally follow a grid pattern in the downtown area and nearby neighborhoods. However, the streets in the newer neighborhoods outside of these areas are more disconnected, limited at times by the topography. The major transportation routes through Camas include SR 14, SR 500, as well as a few key City roadways. SR 14 runs east-west through Camas parallel to the Columbia River. SR 14 connects Camas to Vancouver, Interstate 5 and Interstate 205 to the west, and Camas to Washougal to the east. SR 500 runs north-south through the city connecting SR 14 south of downtown with NE Fourth Plain Boulevard north of the City. In the downtown area, it runs along portions of SE 6th Avenue, NE Dallas Street, NE 3rd Avenue and NE Garfield Street.

A few key city roadways that provide north-south access are NW Brady Road, NW Parker Street, Division Street, NW Fargo Street, NW Astor Street, NW Sierra Drive, and SE Crown Road. NW Brady Road and NW Parker Street provide a connection on the west side of Camas, Division Street, NW Fargo Street, NW Astor Street and NW Sierra Drive provide connections through the central neighborhoods of Camas, and SE Crown Road provides a connection on the east side of Camas. Key east-west city roadways include NW 6th Avenue, NE 3rd Avenue, NW Pacific Rim Boulevard, NW 38th Avenue, NW Lake Road, and NE Goodwin Road, with NW 6th Avenue and NE 3rd Avenue towards the south end of the city, NW Pacific Rim Boulevard and NW 38th Avenue centered in the middle, and NW Lake Road and NE Goodwin Road in the north end of the city.

STREET NETWORK PERFORMANCE ASSESSMENT

Congestion and safety for all modes was reviewed at intersections and streets in the City's planning area. This assessment shows how safe and efficient the street system is and provides information to identify needed improvements for the TSP.

Street Network Congestion

This assessment identified locations on the roadway network that operate above thresholds for congestion under current and future conditions. These are locations where motorists experience significant delay. These thresholds, identified in Chapter 4, provide a metric for assessing the impacts of new development on the transportation system and for identifying where capacity improvements may be needed. They are the basis for requiring improvements needed to sustain the transportation system as growth and development occur.

Figure 16 displays the results of the congestion analysis. The displayed conditions assume only transportation improvements to the current street network with secured funding through 2040. As shown, several intersections are expected to be congested by 2040 during the weekday p.m. peak hour. This includes several intersections along NW-NE 6th Avenue, which is expected to see a high amount of growth through 2040 as a primary connection between Downtown Camas and SR 14, and several intersections along NE 28th Street and NW Lake Road at the north end of the planning area where high growth is also expected through 2040.

Street Network Safety

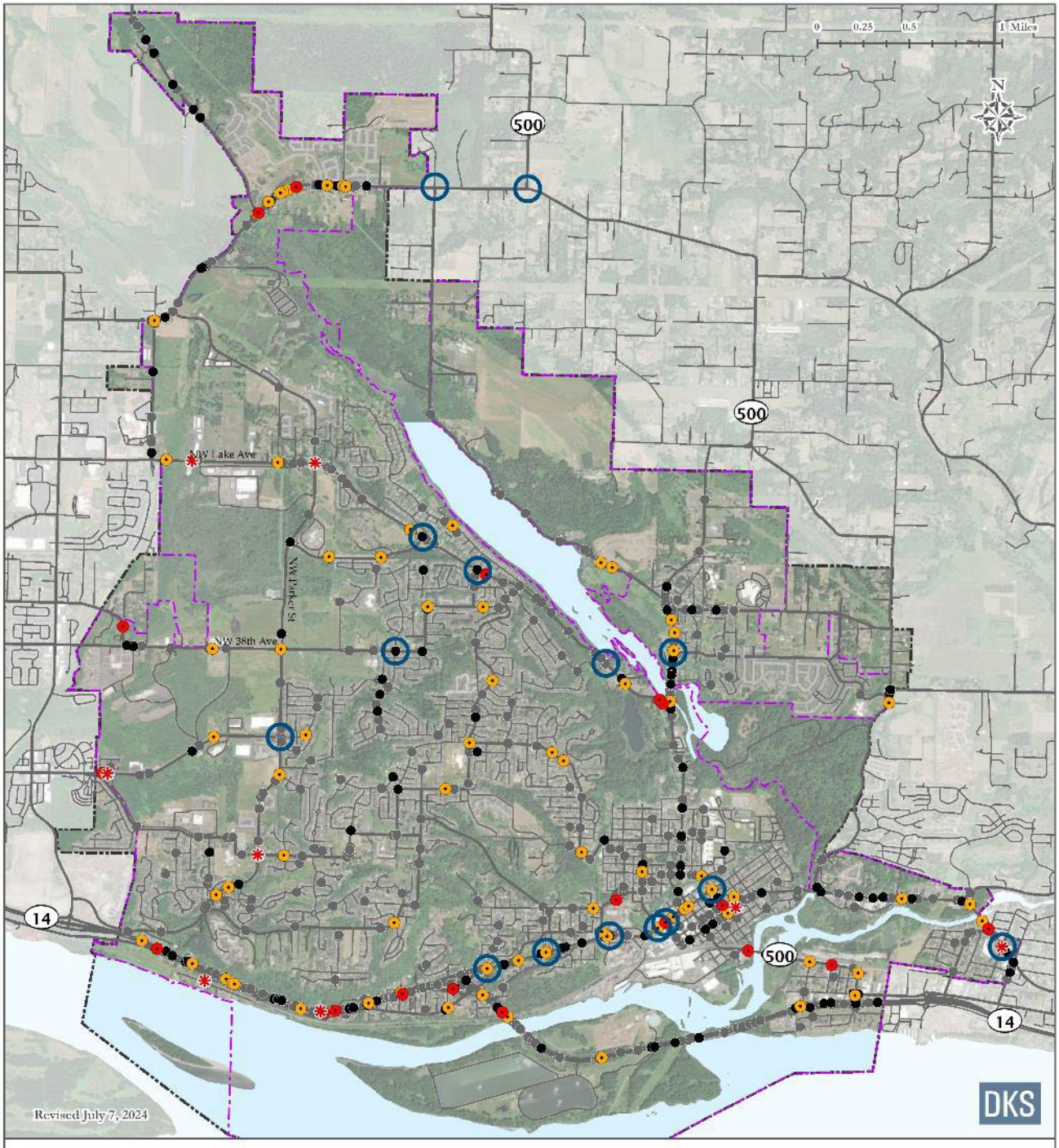
This assessment monitors the safety of travel in the planning area. It was used to track collision data over a 5-year period to provide trends related to total vehicle, pedestrian, and bicyclist collisions, fatal and severe injury collisions and total fatalities and severe injuries. Figure 16 shows data for the 5-year period between 2013 and 2018, with 880 collisions occurring in the City's planning area. Of these collisions, 14 involved a pedestrian and 12 involved a bicyclist.

The pedestrian collisions occurred most frequently downtown (five crashes involving a pedestrian), and along NE 3rd Avenue between NE 4th Street and NE Weir Street (two crashes involving a pedestrian). Pedestrians sustained severe injuries in three crashes, one of which resulted in a death: at the NE 3rd Avenue / NE 4th Street, NE 3rd Avenue / NE Weir Street, and the SR 500 / NE 4th Avenue intersections. Moderate injuries to pedestrians were sustained in six of the crashes.

The majority of bicycle collisions occurred at intersections, with one at a traffic signal and six at stop-controlled locations. A cyclist sustained moderate injuries in six of the crashes. The bicycle-involved collisions occurred most often along NE 3rd Avenue between NE Sumner Court and NE Weir Street (three collisions involving a bicycle) and along SR 500 (NE Everett Street) between NE 38th Avenue and NW Lake Road (two collisions involving a bicycle).

In addition, a safety analysis was evaluated for streets in the planning area. This included an analysis of collision rates at intersections. This analysis identified the NE Ingle Road intersection with NE 28th Street as having a high collision rate, although this intersection has since been improved to include a traffic signal.

FIGURE 16: STREET NETWORK CONGESTION AND SAFETY



CHAPTER 4.

Facility and Performance Standards

Camas applies transportation standards and regulations to the construction of new transportation facilities and to the operation of all facilities to ensure they are designed appropriately, and the system functions as intended. These standards enable consistent future actions that reflect the goals and policies of the City.

STREET JURISDICTION

Roadway ownership and maintenance responsibilities depend on the roadway authority. In addition, required design and operation standards for each street and intersection vary by agency.

WSDOT, the Federal Government, and RTC also classify roadways in Camas. Within Camas, SR 14 is classified by WSDOT as a Highway of Statewide Significance (HSS)[7], and SR 500 is classified as a non-HSS facility.

The federal government also has a functional classification system that is used to determine federal aid funding eligibility. Roadways federally designated as a major collector, minor arterial, principal arterial, or interstate are eligible for federal aid. Camas' functional classification system uses the similar designations as the federal government (e.g., a city designated arterial is intended to be the same as a federally designated minor arterial and a city designated collector is intended to be the same as a federally designated major collector). Future updates to the federal functional classification system should incorporate the designations reflected in the Transportation Plan along City roadways.

RTC has identified several streets in Camas as part of the regional transportation system in the Regional Transportation Plan for Clark County, including SR 14, SR 500, Lake Road - SE 1st Street, Parker Street, Pacific Rim Boulevard - 34th Street, NW 38th Avenue – SE 20th Street, NW 6th Avenue, and NE 3rd Avenue.

NETWORK CLASSIFICATIONS AND AREA DESIGNATIONS

All streets in the TSP planning area include classifications and area designations to help support the movement of all people and help to ensure the transportation system is comfortable, convenient, safe and well connected for all users. These include functional classifications for vehicle travel and designations for mixed-use, residential, commercial, and industrial areas. The classifications and area designations combine to determine the minimum acceptable facility type and design requirements of different elements for each mode.

[7] Highways of Statewide Significance, WSDOT, http://www.wsdot.wa.gov/planning/HSS/

FIGURE 17: NETWORK CLASSIFICATIONS AND ROUTE DESIGNATIONS



STREET FUNCTIONAL CLASSIFICATIONS

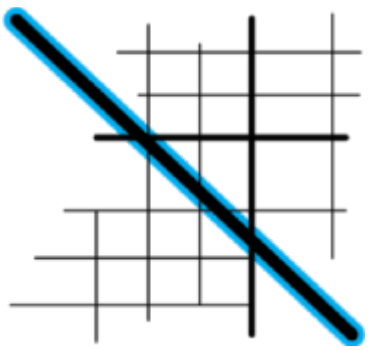
Functional classification for streets helps support the movement of vehicles and bicycles and is an important tool for managing the roadway network. The street functional classification system recognizes that individual streets do not act independently of one another but instead form a network that serves travel needs on a regional, citywide, neighborhood, and local level. By designating the management and design requirements for each roadway classification, this hierarchal system supports a network of streets that perform as desired.

The street functional classification system for roadways in the City's planning area is described below. From highest to lowest intended use, the classifications are Freeway, Arterial, Collector, Neighborhood Route, and Local Streets. For a street cross-section, the functional classification determines the minimum number of vehicle travel way lanes, bike facility, and on-street parking requirements.

Freeway

Freeways serve as the main travel routes through the City and serve the highest volume of motor vehicle traffic. Freeways are generally for longer motor vehicle trips with limited local access. SR 14 is the only freeway in Camas.

Arterial Street

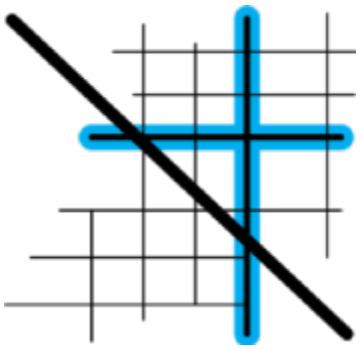


Arterial Streets are primarily intended to serve regional and citywide traffic movement. Arterials provide the primary connection to other Arterial Streets or Collector Streets. They are typically spaced about one mile apart to assure accessibility and reduce the occurrence of through traffic using collectors or local streets in lieu of a well-placed arterial street. Where an Arterial Street intersects with a Local Street,

access management and/or turn restrictions may be employed to reduce traffic delay, while not adversely impacting safety and convenience for other modes. They often serve high volumes of traffic (>10,000 daily vehicles) over long distances and minimize direct access to adjacent land to support the safe and efficient movement of people and goods.

Collector Street

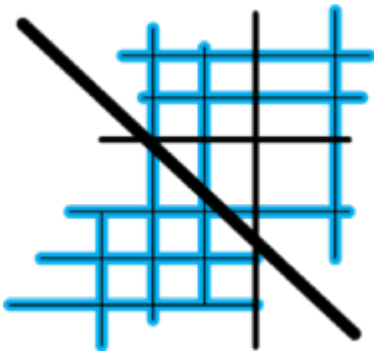
Collector Streets are intended to distribute traffic from Arterials Streets to streets of the same or lower classification. They provide both access and circulation within and between residential and non-residential areas. Collectors differ from arterials in that they provide more of a citywide circulation function, do not require as much access control compared to arterials, and they serve residential neighborhoods, distributing trips from the neighborhood and local street system.



Collectors generally support traffic volumes typically ranging up to 10,000 daily vehicles and speeds often managed between 25 mph and 35 mph.

Local Street

All streets not classified as Arterial or Collector are classified as Local streets. Local streets prioritize providing immediate access to adjacent land and often function as through routes for pedestrians and bicyclists. These streets should be designed to enhance the livability of neighborhoods and can generally accommodate up to 1,500 vehicles per day. A well-connected grid system of relatively short blocks can minimize excessive volumes of motor vehicles, limit out-of-direction travel, and encourage walking and biking. They should be provided at a maximum spacing of 600 feet in most cases. Speeds are not normally posted, with a statutory 25 mph speed limit in effect. Local streets are not intended to support long distance vehicular travel and are often designed to discourage through traffic without an origin or destination in the immediate area.



AREA DESIGNATIONS

To complement the street functional classifications, area designations for mixed-use, residential, commercial, and industrial areas are identified. The designations are used to determine how users of a roadway interact with the surrounding land use. Since the type and intensity of adjacent land uses and zoning directly influence the level of use by pedestrians, bicyclists and transit riders, the design of a street (including its intersections, sidewalks, and transit stops) should reflect its surroundings. The area designations balance street functional classification, adjacent land use, zoning designation and the competing travel needs by prioritizing various design elements.

Mixed-Use Area

Mixed-use areas typically have a higher amount of pedestrian activity and are often on a transit route. These streets emphasize a variety of travel choices such as pedestrian, bicycle and transit use to complement the development along the street. Since mixed-use streets typically serve pedestrian oriented land uses, walking should receive the highest priority of all the travel modes. They should be designed with features such as wider sidewalks, pedestrian amenities, transit amenities, attractive landscaping, on-street parking, pedestrian crossing enhancements and bicycle lanes.

Residential Area

Residential areas consist mostly of households, although various small shops may be embedded within the neighborhood. These are areas that often connect to local parks, schools, and mixed-use areas. They should be designed to emphasize walking, while still accommodating the needs of bicyclists and motor vehicles. A high priority should be given to design elements such as traffic calming, landscape buffers, walkways/pathways/trails, on-street parking, and pedestrian safety enhancements.

Commercial Area

Commercial areas are primarily lined with retail and large employment complexes. These uses serve customers throughout the City and region and may not have a direct relationship with nearby residential neighborhoods. These areas are somewhat more auto oriented but should still accommodate pedestrians and bicyclists safely and comfortably. Design features should include landscaped medians or a two-way left turn lane, sidewalks and bike lanes, pedestrian crossing enhancements and a buffer between the roadway and the sidewalk. On-street parking should be discouraged.

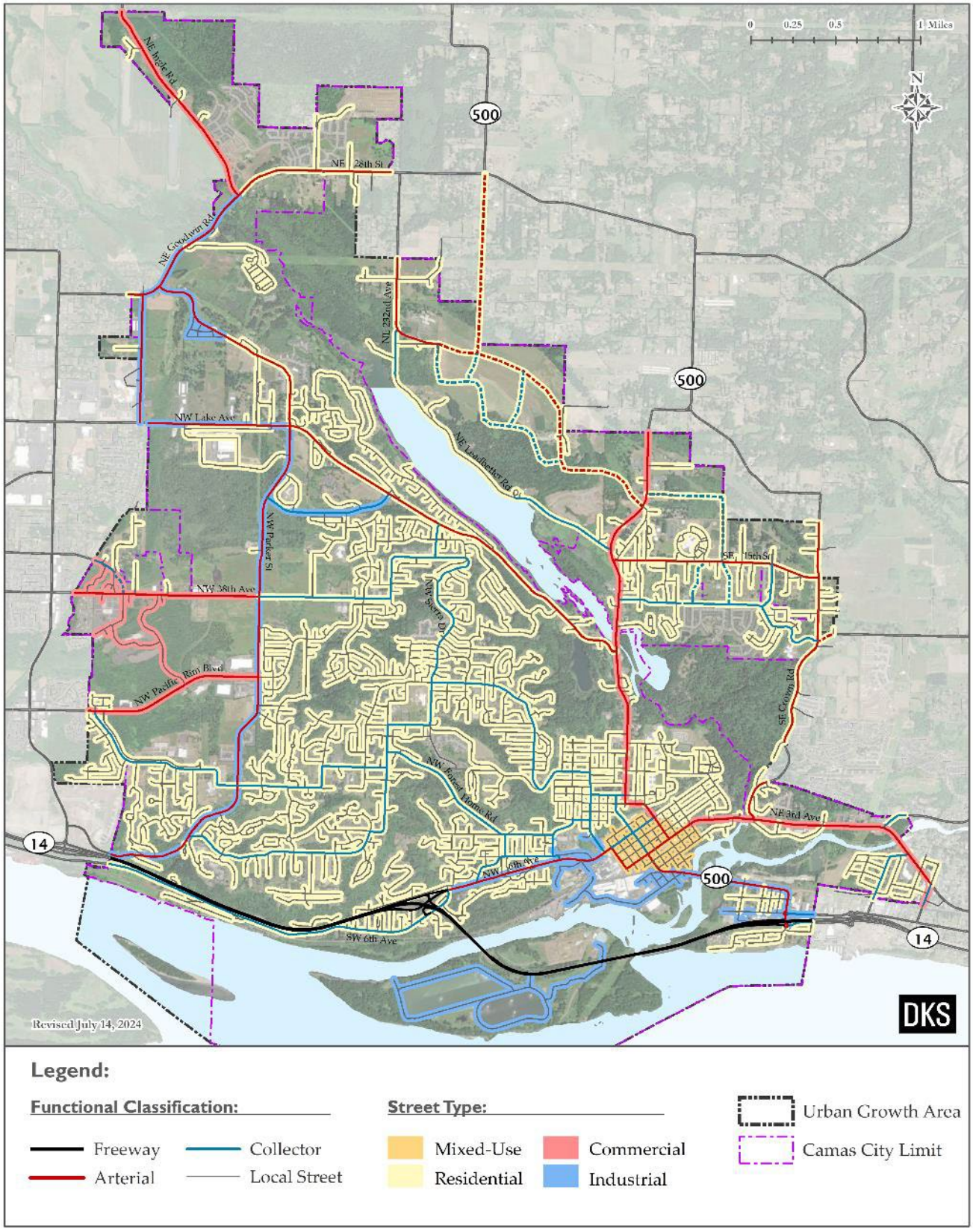
Industrial Area

Industrial areas accommodate a high volume of large vehicles such as trucks, trailers and other delivery vehicles. Pedestrians and bicyclists may be less frequent in these areas but should still be accommodated safely and comfortably. Roadway widths are typically wider to accommodate larger vehicles. On-street parking should be discouraged.

STREET FUNCTIONAL CLASSIFICATION AND AREA DESIGNATION MAP

The functional classification and area designation map (Figure 18) shows the designated classification and area type for all roadways in the City's planning area, including new street extensions proposed as part of this plan (see Chapter 5). The functional classifications are determined based on the intended function they serve for motor vehicles within the planning area, and the area designations reflect how users of a roadway interact with the surrounding land use consistent with the definitions presented earlier in this chapter.

FIGURE 18: STREET FUNCTIONAL CLASSIFICATIONS AND AREA DESIGNATIONS



MULTIMODAL NETWORK DESIGN

The design of the streets in the City's planning area is based on the network classifications and area designation. All streets in the planning area are multimodal and include travel lanes and on-street parking for vehicles, sidewalks for pedestrians, and on-street or separated facilities for bicyclists. Accommodating these modes varies by the functional classification and area designations. For a typical street cross-section, the functional classification determines the minimum design requirements for the number of vehicle travel way lanes and on-street parking, and the minimum acceptable bike facility, and the area designation is used to determine the minimum acceptable design for pedestrian facilities, and the minimum travel lane and median/turn lane width. Together, these cross-section standards identify the design characteristics needed to meet the function and demand for each facility type for streets in the City's planning area. Since the actual design of a roadway can vary from segment to segment due to adjacent land uses and demands, this system allows standardization of key characteristics to provide consistency.

The following method shall be used to determine the design of new streets and the reconstruction or improvement of existing streets.

Use the following steps to determine the typical standards that apply to a roadway:

1. Confirm the functional classification and area designation that apply using Figure 18.
2. Use Table 2 to determine the typical cross-section requirements, based on the functional classification and area designation.
3. Combine the elements to determine the typical cross-section. Examples are provided in Figure 19 through Figure 30.

TABLE 2: TYPICAL STREET CROSS-SECTION REQUIREMENTS

		AREA DESIGNATION			
		MIXED-USE	**RESIDENTIAL**	**COMMERCIAL**	**INDUSTRIAL**
SIDEWALK WIDTH (ALL STREETS) *		14 ft.	12 ft.	11 ft.	11 ft.
PEDESTRIAN THROUGHWAY ZONE		*8 ft.*	*6 ft.*	*6 ft.*	*6 ft.*
FURNISHINGS/ LANDSCAPE ZONE		*4.5 ft.*	*4.5 ft.*	*4.5 ft.*	*4.5 ft.*
EDGE (CURB AND CLEARANCE)		*1.5 ft.*	*1.5 ft.*	*0.5 ft.*	*0.5 ft.*
BIKE FACILITY	Arterial Street	7 ft. Buffered Bike Lanes (includes 2 ft. buffer) **			
	Collector Street	6 ft. Bike Lanes **			
	Local Street	Shared with Travel Lane			
ON-STREET PARKING WIDTH (ALL STREETS)		8 ft	8 ft	None	None
TYPICAL THROUGH LANES (ALL STREETS)		2	2	2 to 4 **	2 to 4 **
TRAVEL LANE WIDTH	Arterial Street	11 ft.	11 ft.	12 ft.	12 ft.
	Collector Street	11 ft.	11 ft.	11 ft.	11 ft.
	Local Street	10 ft.	10 ft.	11 ft.	11 ft.
MEDIAN/ TURN LANE WIDTH	Arterial Street	11 ft. left turn lane at intersections	11 ft. left turn lane at intersections	14 ft. median/ center turn lane	14 ft. center turn lane
	Collector Street	None	None	12 ft. left turn lane at intersections	12 ft. center turn lane
	Local Street	None	None	None	None
TYPICAL STREET WIDTH	Arterial Street	52 ft	52 ft	52 to 76 ft	52 to 76 ft
	Collector Street	50 ft	50 ft	46 ft	46 ft
	Local Street	36 ft	36 ft	22 ft	22 ft
TYPICAL RIGHT OF WAY	Arterial Street	80 ft.	76 ft.	74 to 98 ft.	74 to 98 ft.
	Collector Street	78 ft.	74 ft.	68 ft.	68 ft.
	Local Street	64 ft.	60 ft.	44 ft.	44 ft.

Notes: Flexibility in street sections may be allowed for development when deemed to provide overall additional public enhancements, as determined by the City Engineer or City Engineer's designee.

* Sidewalk may meander and include varying materials and/or color, and the landscape zone may need to be increased based on the types of trees that are to be installed.

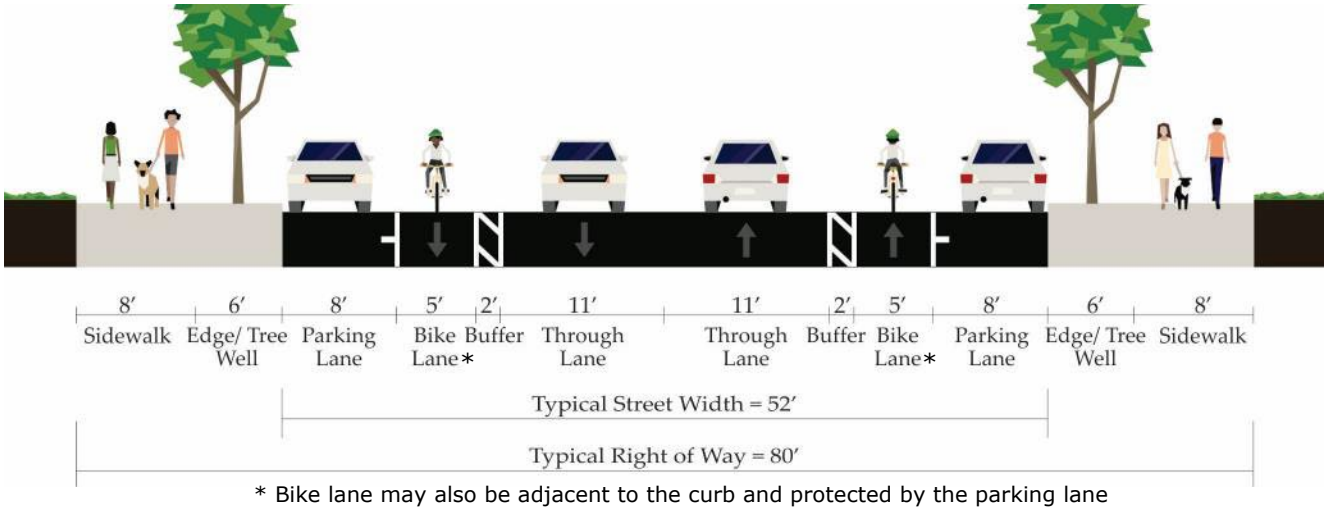
.** Bike lane may also be adjacent to the curb and protected by the parking lane

*** Up to four lanes on arterial streets only in commercial and industrial areas.

TYPICAL STREET CROSS-SECTIONS

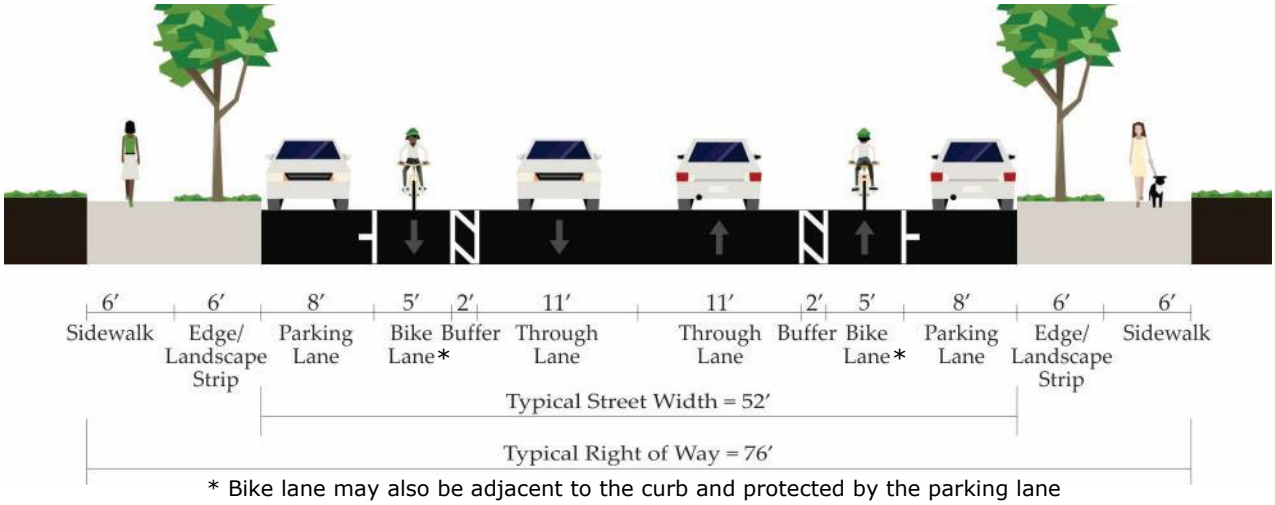
As detailed earlier in this chapter, the functional classification determines the minimum design requirements for the number of vehicle travel way lanes and on-street parking, and the minimum acceptable bike facility, and the area designation is used to determine the minimum acceptable design for pedestrian facilities, and the minimum travel lane and median/turn lane width. Together, these standards determine the typical cross-section for streets in the City's planning area. Several typical cross-sections examples have been highlighted below in Figure 19 through Figure 28.

FIGURE 19: TYPICAL CROSS-SECTION FOR MIXED-USE ARTERIAL STREET



* Bike lane may also be adjacent to the curb and protected by the parking lane

FIGURE 20: TYPICAL CROSS-SECTION FOR RESIDENTIAL ARTERIAL STREET



* Bike lane may also be adjacent to the curb and protected by the parking lane

FIGURE 21: TYPICAL CROSS-SECTION FOR COMMERCIAL OR INDUSTRIAL ARTERIAL STREET

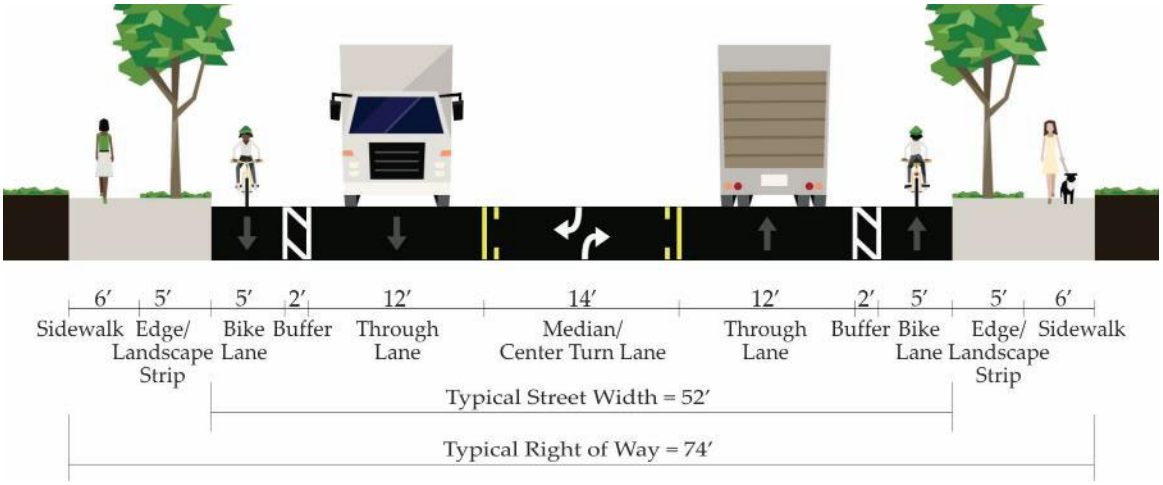
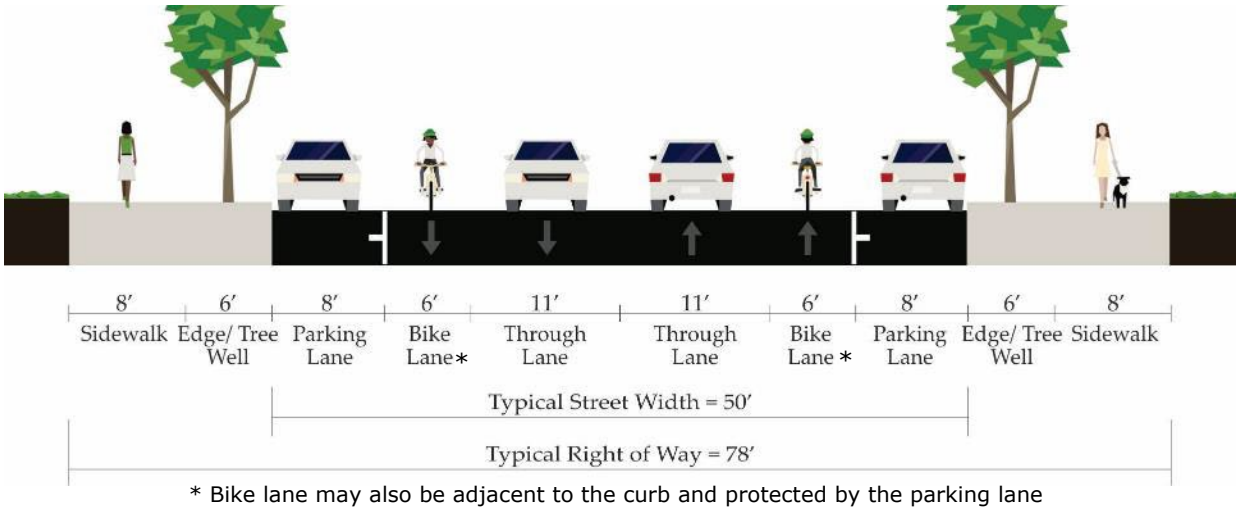
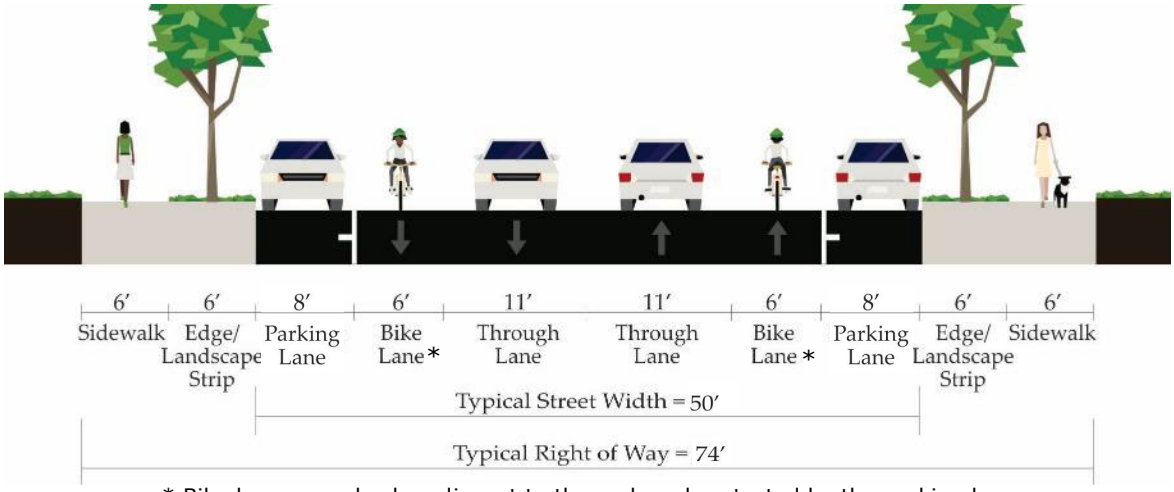


FIGURE 22: TYPICAL CROSS-SECTION FOR MIXED-USE COLLECTOR STREET



* Bike lane may also be adjacent to the curb and protected by the parking lane

FIGURE 23: TYPICAL CROSS-SECTION FOR RESIDENTIAL COLLECTOR STREET



* Bike lane may also be adjacent to the curb and protected by the parking lane

FIGURE 24: TYPICAL CROSS-SECTION FOR COMMERCIAL OR INDUSTRIAL COLLECTOR STREET

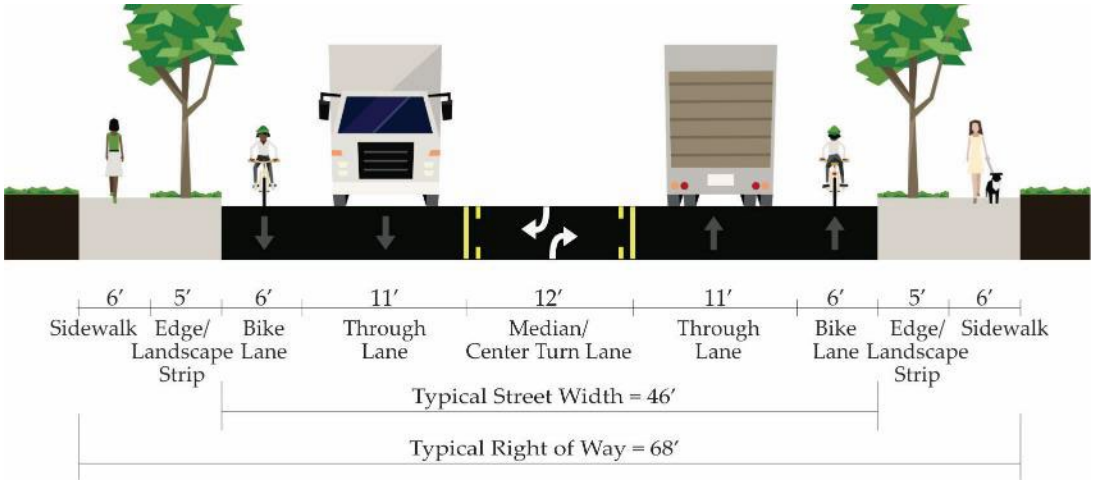


FIGURE 25: TYPICAL CROSS-SECTION FOR MIXED-USE LOCAL STREET

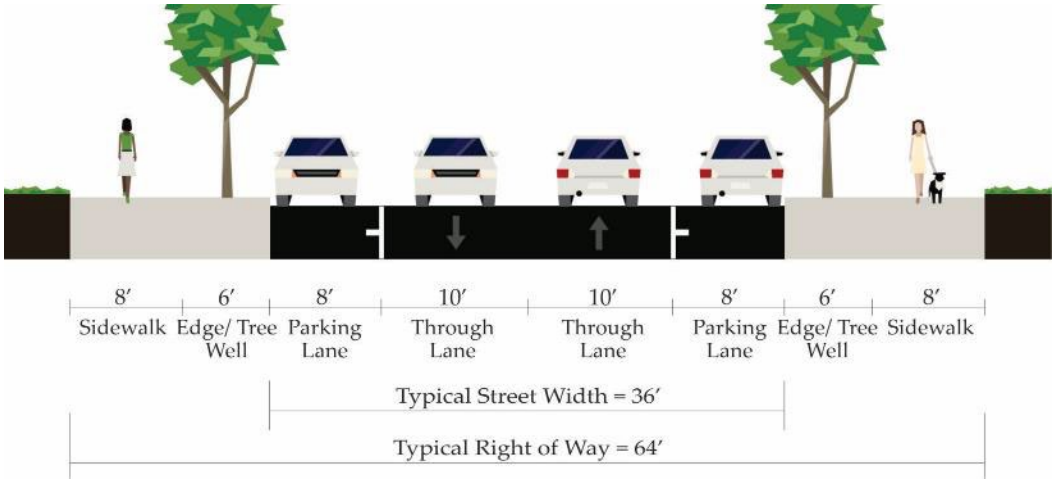


FIGURE 26: TYPICAL CROSS-SECTION FOR RESIDENTIAL LOCAL STREET

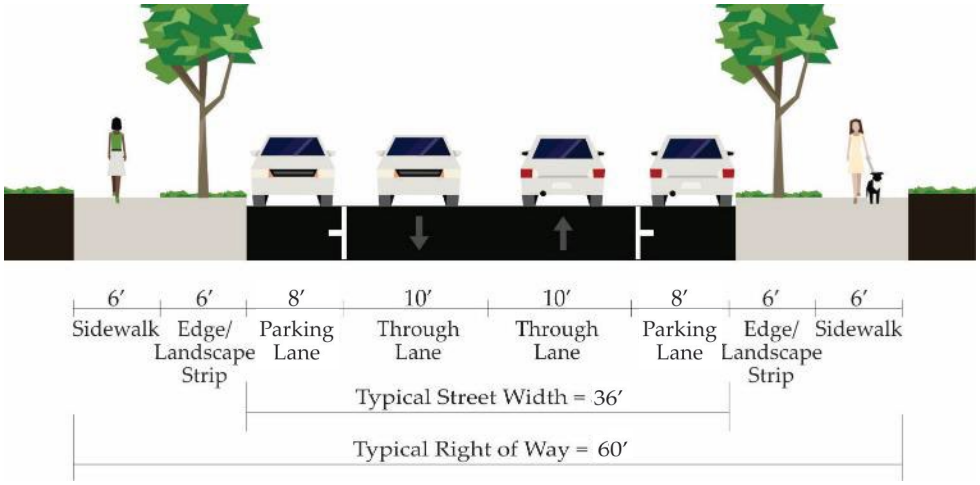
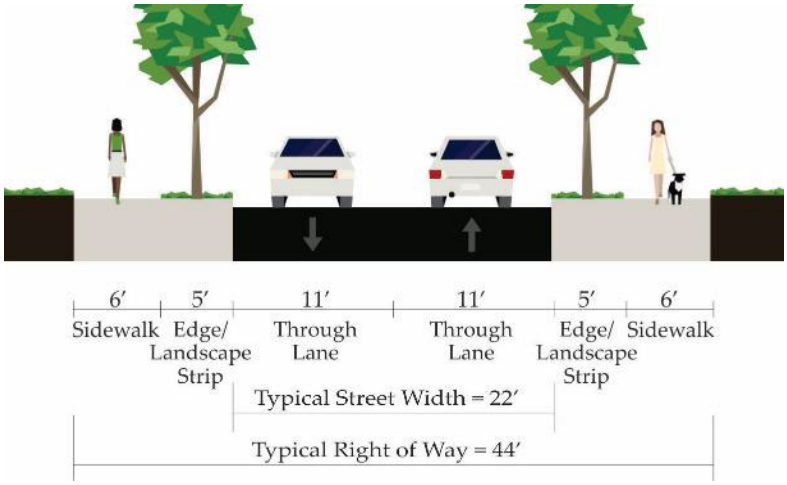


FIGURE 27: TYPICAL CROSS-SECTION FOR COMMERCIAL OR INDUSTRIAL LOCAL STREET



CONSTRAINED STREET CROSS-SECTIONS

The typical designs are intended to be implemented in newly developing or redeveloping areas of the City's planning area, where constrained conditions do not limit the ability to construct the typical cross-section. A variety of physical and natural constraints may prevent adherence to the multimodal network design requirements in this chapter. Typical design constraints include:

- Infill sites
- Innovative designs (e.g., roundabouts)
- Reallocation of right-of-way between modes (e.g., narrow travel lanes to accommodate wider bike lanes)
- Severe constraints presented by topography, environmental, or other resources present
- Existing developments and/or buildings that make it extremely difficult or impossible to meet the standards

A deviation to the street standards may be requested from the City Engineer or City Engineer's designee with justification of constraints to consider a constrained cross-section or other adjustments. The minimum acceptable cross-section configuration is shown in Table 3.

TABLE 3: CONSTRAINED ACCEPTABLE STREET CROSS-SECTION

	ARTERIAL STREET	COLLECTOR STREET	LOCAL STREET
SIDEWALK WIDTH (ALL AREA DESIGNATIONS)	10.5 ft.	9.5 ft.	9.5 ft.
PEDESTRIAN THROUGHWAY ZONE	*6 ft.*	*5 ft.*	*5 ft.*
FURNISHINGS/ LANDSCAPE ZONE	*4 ft.*	*4 ft.*	*4 ft.*
EDGE (CURB AND CLEARANCE)	*0.5 ft.*	*0.5 ft.*	*0.5 ft.*
BIKE FACILITY (ALL AREA DESIGNATIONS)	6 ft. Bike Lanes	5 ft. Bike Lanes; or Bikeway on Adjacent Corridor	Shared with Travel Lane
ON-STREET PARKING WIDTH (ALL AREA DESIGNATIONS)	None	None	None
TYPICAL THROUGH LANES (ALL AREA DESIGNATIONS)	2	2	2
TRAVEL LANE WIDTH (ALL AREA DESIGNATIONS)	11 ft.	10 ft.	10 ft.
MEDIAN/ TURN LANE WIDTH (ALL AREA DESIGNATIONS)	As Needed	As Needed	None

SIDEWALKS

Sidewalks provide for pedestrian movement and access, enhance connectivity, and promote walking. The requirements for pedestrian facilities in the City's planning area promote superior sidewalk design and encourage walking by making it more attractive. The area designations determine pedestrian facility design treatments along streets, including the width of the throughway for pedestrians, and the buffer between the vehicle travel way.

The sidewalk encompasses three zones (as shown in Figure 28), including the frontage, pedestrian throughway, and furnishings/ landscape. The minimum configuration for each of these zones is provided in Table 2. Wider widths may be considered as conditions warrant. For example, if a tree requires a wider area, the width of the landscape zone may be increased.

FIGURE 28: SIDEWALK ZONES



- The **frontage zone** describes the section where a pedestrian interacts with the adjacent buildings or private property and includes entryways and outdoor seating. This zone is typically between 1 and 3 feet wide in mixed-use areas (i.e., to accommodate outdoor seating in commercial areas or building access in residential areas) and ½ foot in other areas, and it may include a concrete or natural surface depending on the adjacent land use. The adjoining development may elect to expand this zone with additional space provided outside of and adjacent to the street right-of-way.

- The **pedestrian throughway zone** is the accessible zone in which pedestrians travel. It includes a minimum eight-foot-wide clear throughway in mixed-use areas, and six-feet wide clear throughway along streets with a Residential, Commercial, or Industrial area designation.

- The **furnishings/ landscape zone** is the sidewalk section located between the pedestrian throughway and the curb, and includes street furnishings or landscaping (e.g., benches, lighting, bicycle parking, tree wells, and/or plantings). If adjacent to on-street parking, it should also include a clearance distance between any curbside parking and the street furnishing area or landscape strip (i.e., so vehicles parking, or opening doors do not interfere with street furnishings and/or landscaping). Streets located along a transit route should incorporate furnishings to support transit ridership, such as transit shelters and benches, into the furnishings/landscape strip. It should include a minimum width between 5 to 6 feet, depending on the area designation.

BICYCLE FACILITIES

Streets should be safe and comfortable for bicyclists of all ages and abilities to encourage ridership. Building high quality bicycle infrastructure can help the City work towards achieving improved safety and public health, reduced congestion, and more equitable access.

The typical bicycle facilities shown in Table 2 and Figure 19 through Figure 27**.** for each area designation are determined based on a street's design and motor vehicle traffic conditions (i.e., expected vehicle speeds and volumes). When bike facilities are routed along the lowest speed and volume streets (i.e., streets with a Local functional classification), shared streets are typical. When the bike facilities are routed on busier or faster streets (i.e., streets with an Arterial or Collector functional classification), on-street bike lanes, which may be buffered or protected from the vehicle travel way, are typical. These may be separated from the vehicle travel way by a painted buffer and include vertical or horizonal protection, like bollards, planter boxes, curbs, or parked cars. These facilities include buffered bike lanes, cycle tracks, or shared-use paths.

Table 2 and Figure 19 through Figure 27 show the minimum bicycle facilities for streets in the City's planning area. Regardless of the area designation, Arterial Streets require 7-foot buffered bike lanes (i.e., 5-foot bike lane with 2-foot buffer), Collector Streets require 6-foot bike lanes, while Local Street typically have no on-street bike facility (i.e., bikes share the travel way with vehicular traffic). The bike lane on Arterial and Collector streets may also be adjacent to the curb and protected by the parking lane.

In general, streets with motor vehicle volumes over 3,000 per day should include conventional bike lanes at a minimum. When daily motor vehicle volumes exceed 6,000, buffered or protected bike lanes are desired. In any case, if motor vehicle travel speeds exceed 35 miles per hour, buffered or protected bicycle facilities are desired. In general, facilities that are protected or separated from the vehicle travel way include a 12-foot two-way or 6-foot one-way cycle track, 12-foot shared use path, or 7-foot buffered bike lanes. Non-separated bike lanes should be a minimum of 6-feet wide, while shared streets should include shared lane markings, with vehicle speed and volume management.

SEPARATED PEDESTRIAN AND BICYCLE FACILITIES

Some pedestrian and bicycle facilities may be separated from the right-of-way of a street, and include pedestrian trails, pedestrian, and bicycle accessway paths, and shared use paths. These facilities serve a variety of recreational, and transportation needs for pedestrians and bicyclists.

PEDESTRIAN TRAIL

Pedestrian trails offer recreational opportunities for pedestrians and are typically located in parks or natural areas. They should include a minimum width of 6 feet and may include a hard or soft surface.

ACCESSWAY PATH

Accessways provide short path segments between disconnected streets or localized recreational walking and biking opportunities. To allow for both pedestrian and bicycle travel, the accessway path must be on public easements or rights-of-way and have minimum paved surface of 10 feet, with a 2-foot shoulder on each side, and 14 feet of right-of-way. For low use segments, an accessway can be as narrow as 8 feet wide, with a 2-foot shoulder on each side and a total right-of-way of 12 feet.

Narrower widths with a minimum paved surface of 5 feet, with a 2-foot shoulder on each side, and 9 feet of right-of-way are acceptable for an accessway serving pedestrian access only (i.e., no bicycles).

SHARED USE PATH

Shared-use paths provide longer distance off-roadway facilities for walking and biking. Depending on their location, they can serve both recreational and citywide circulation needs. Shared-use path designs vary in surface types and widths. Hard surfaces are generally better for bicycle travel. Widths need to provide ample space for both walking and biking and should be able to accommodate maintenance vehicles.

To allow for both pedestrian and bicycle travel a shared-use path should typically be at least 12 feet wide, with a 2-foot shoulder on each side, and 16 feet of right-of-way (see Figure 29). In areas with a low amount of walking or biking demand, the path can be 6 feet wide, with a 2-foot shoulder on each side and a total right-of-way of 10 feet (see Figure 30).

FIGURE 29: TYPICAL DESIGN FOR REGIONAL SHARED-USE PATHS

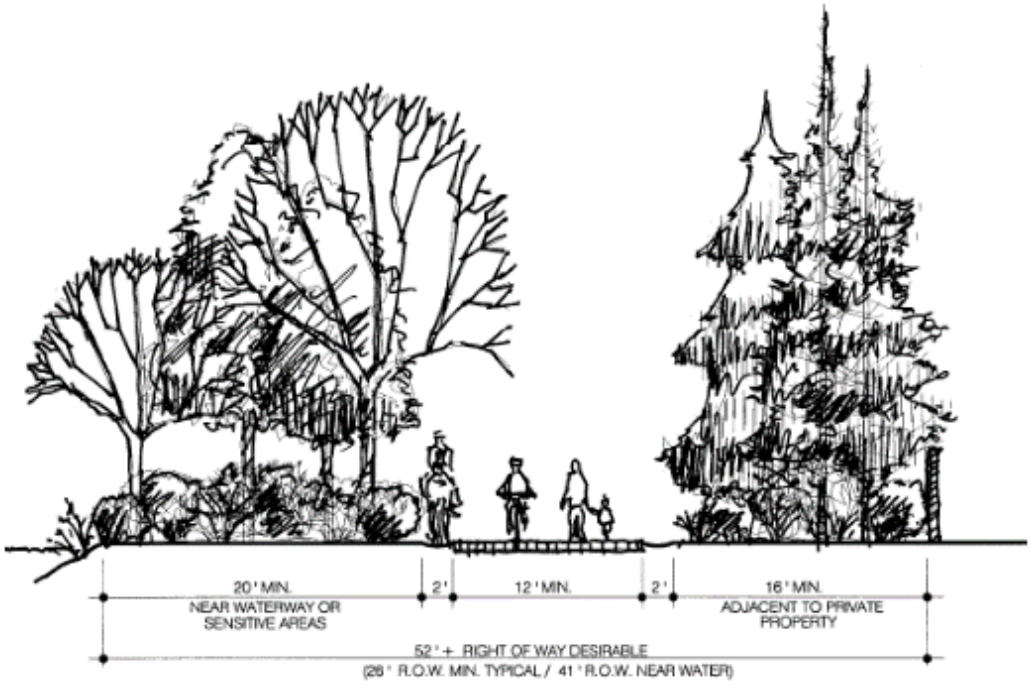
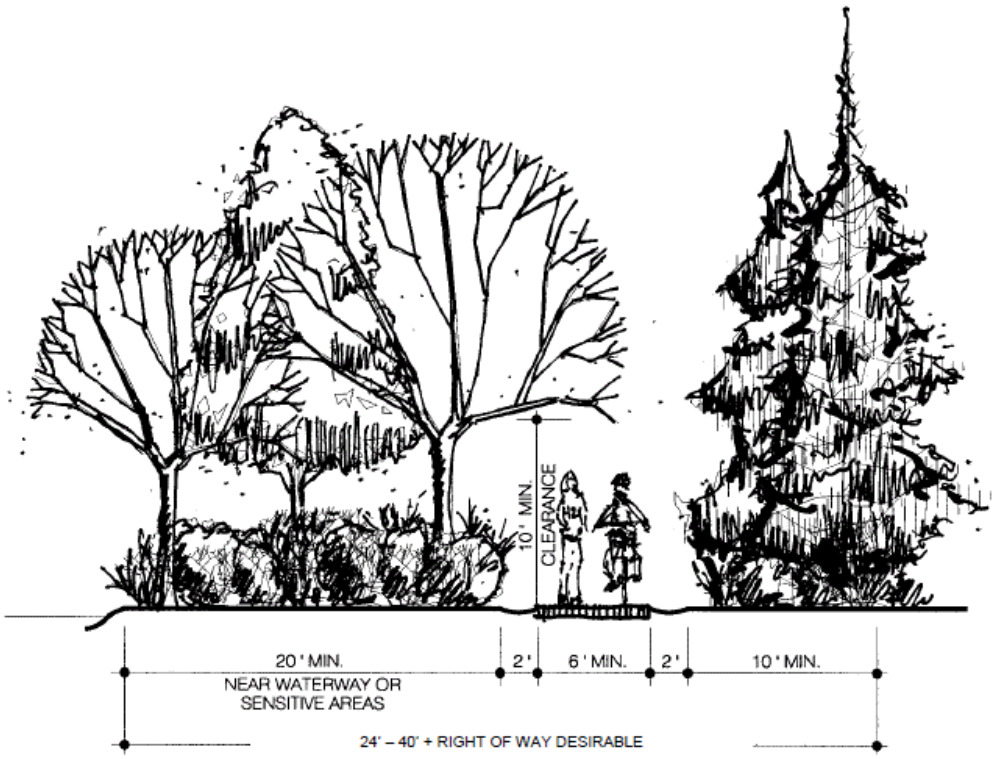


FIGURE 30: TYPICAL DESIGN FOR LOCAL SHARED-USE PATHS



PERFORMANCE STANDARDS

Performance standards are applied to the operation and design of transportation facilities to ensure that the network functions as intended. In Camas, this includes performance standards for vehicles and overall system connectivity.

VEHICLE CONGESTION THRESHOLDS

Mobility targets for streets and intersections in Camas provide a metric for assessing the impacts of new development on the existing transportation system and for identifying where capacity improvements may be needed. They are the basis for requiring improvements needed to sustain the transportation system as growth and development occur. Two methods used to gauge operational conditions for motor vehicles include volume-to-capacity (v/c) ratios and level of service (LOS).

- Volume-to-capacity (v/c) ratio: A v/c ratio is a decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00 (generally above 0.70), congestion noticeably increases, and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

- Level of service (LOS): LOS is a "report card" rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay is excessive and demand exceeds capacity, typically resulting in long queues and delays.

This TSP includes performance standards for motor vehicles. A LOS "D" and a v/c ratio not higher than 0.85 is the minimum performance standard during the highest one-hour period of the day for signalized, all-way stop and roundabout controlled intersections under City jurisdiction. These standards shall be applied to the intersection as a whole.

A LOS "E" and a v/c ratio not higher than 0.90 is the minimum performance standard during the highest one-hour period of the day for two-way stop and yield controlled intersections under City jurisdiction. These standards shall be applied to all intersection approaches serving more than 20 vehicles. Mobility standards do not apply to approaches at intersections serving 20 vehicles or fewer during the highest one-hour period of the day[8]. This mobility standard allows more flexibility in the tension between larger intersection and street designs that are sometimes needed to accommodate peak vehicle demands, and the desire to maintain smaller designs that encourage slower vehicle speeds and tend to be more accommodating to pedestrian and bicycle users.

Level of Service for Highways of Statewide Significance is set by the State. In Clark County, the standard is set as LOS "D" for urban areas, including SR 14. Level of Service for regional state highway facilities (not part of the HSS), including SR 500 in Camas, is set through the Southwest Washington Regional Transportation Council (RTC). The Southwest Washington RTC Board adopted LOS 'E' or better for non-HSS urban state highway facilities.

MULTIMODAL CONNECTIVITY

Transportation facility and access spacing standards include a broad set of techniques that balance the need to provide for efficient, safe, and timely multimodal travel with the ability to allow access to individual destinations. These standards help create a system of direct, continuous, and connected transportation facilities to minimize out-of-direction travel and decrease travel times for all users, while enhancing safety for people walking, biking, and driving by reducing conflict points.

Table 4 identifies maximum and minimum public roadway intersection, minimum private access, and maximum pedestrian and bicycle accessway spacing standards for streets in Camas. New streets or redeveloping properties must comply with these standards to the extent practical, as determined by the City Engineer or City Engineer designee. As the opportunity arises through redevelopment, strategies could be implemented along streets or at driveways not complying with

[8] When a low number of vehicles approach a stop-controlled intersection (i.e., 20 or fewer), particularly at those with high volumes on the uncontrolled major street, long delays for vehicles often result during peak periods. This can cause the intersection to operate with a peak hour v/c ratio that exceeds the adopted intersection mobility standard and can necessitate the need to expand the intersection. Therefore, stop controlled approaches with a low volume of traffic are commonly excluded from agency mobility standards.

these standards, such as shared access points, access restrictions (using a median or channelization islands), or closure of unnecessary access points, as feasible.

TABLE 4: TRANSPORTATION FACILITY AND ACCESS SPACING STANDARDS

	FUNCTIONAL CLASSIFICATION		
	ARTERIAL STREET	COLLECTOR STREET	LOCAL STREET
MAXIMUM BLOCK SIZE (PUBLIC STREET TO PUBLIC STREET)	1,000 ft.	600 ft.	600 ft.
MINIMUM BLOCK SIZE (PUBLIC STREET TO PUBLIC STREET)	600 ft.	300 ft.	150 ft.
MINIMUM DRIVEWAY SPACING (PUBLIC STREET TO DRIVEWAY AND DRIVEWAY TO DRIVEWAY) *	600 ft.**	300 ft.**	5-10 ft. ***
MINIMUM RIGHT-IN, RIGHT-OUT DRIVEWAY SPACING (PUBLIC STREET TO DRIVEWAY AND DRIVEWAY TO DRIVEWAY)	300 ft.	150 ft.	n/a
MAXIMUM DISTANCE BETWEEN PEDESTRIAN/ BICYCLE ACCESSWAYS (PUBLIC STREET TO PUBLIC STREET, PUBLIC STREET TO ACCESSWAY OR ACCESSWAY TO ACCESSWAY) ****	300 ft.	300 ft.	300 ft.

Note: All distances measured from the edge of adjacent approaches.

* All properties are allowed one driveway, which must take access from the lowest classified street.

** New residential access is not permitted along arterials or collectors.

*** Minimum driveway spacing along a local street is 5 feet for residential uses and 10 feet for non-residential uses.

**** Mid-block pedestrian and bicycle accessways on public easements or rights-of-way must be provided at spacing of no more than 300 feet if full-street connections cannot be provided, unless the connection is impractical due to topography, natural areas, inadequate sight distance, lack of supporting land use or other factors that may prevent safe connection, as determined by the City Engineer or City Engineer Designee.

STREET CROSSINGS

Streets with high traffic volumes and/or speeds and in areas with trail crossings, or nearby transit stops, residential uses, schools, parks, shopping, and employment destinations generally require enhanced street crossings with treatments, such as marked crosswalks, high visibility crossings, and curb extensions to improve safety and convenience. Crossing locations with higher volumes of pedestrians (either observed or projected) are also candidate locations for rectangular rapid flashing beacons or pedestrian hybrid beacons, which increase the visibility of the crossing for drivers.

Crossing opportunities along City streets should also align, where practical, with the transportation facility spacing standards shown earlier in this chapter to ensure pedestrian and bicycle accessways are connected and continuous across streets. Exceptions include where the connection is impractical due to topography, inadequate sight distance, high vehicle travel speeds, lack of supporting land use, or other factors that may prevent safe crossing, as determined by the City Engineer or City Engineer Designee.

Locations of enhanced pedestrian and bicycle crossing treatments along City streets should be determined using the National Cooperative Highway Research Program (NCHRP) Report 562, Improving Pedestrian Safety at Unsignalized Intersections[9]. These guidelines for pedestrian and bicycle crossing treatments are based on vehicle speed on the major street, pedestrian crossing distance, peak hour pedestrian volume, peak hour vehicle volume, and local parameters such as motorist compliance, pedestrian walking speed, and pedestrian start-up and clearance time. NCHRP Report 562 includes worksheets for inputting the variables above and identifying the appropriate treatment type. These guidelines should be reviewed with all traffic studies for any potential street crossing associated with new development in the City's planning area. Table 5 summarizes potential crossing treatments at intersections and mid-block locations for pedestrians and bicyclists.

[9] http://www.trb.org/Publications/Blurbs/157723.aspx

TABLE 5: CROSSING TREATMENTS FOR PEDESTRIANS AND BICYCLISTS

CROSSING TREATMENTS		CROSSING LOCATION	
		INTERSECTION	MIDBLOCK
RECTANGULAR FLASHING BEACON (RRFB)			✓
CONVENTIONAL CROSSWALK		✓	✓
BULB OUT		✓	
MEDIAN REFUGE		✓	✓
INTERSECTION CROSSING MARKINGS		✓	
BIKE BOXES		✓	
TWO STAGE QUEUE BOXES		✓	

VOLUME AND SPEED MANAGEMENT TOOLS

Volume and speed management refers to street design techniques that slow traffic and make streets safer and more pleasant for pedestrian and bicycle users and adjoining land uses without significantly changing their vehicle capacity. These design techniques encourage a more inviting environment for pedestrians and bicyclists, particularly along streets designed for shared bicycle travel.

Table 6 shows common traffic calming applications and suggests which devices may be appropriate for streets in the Camas planning area. Volume and speed management measures must balance vehicle speeds and volumes with the mobility and circulation needs of service providers, such as emergency responders. Any traffic calming project should include coordination with emergency service providers to ensure the project does not impede response times.

Volume and speed management influences driver behavior through physical and psychological means, by using one or more of the following:

- **Horizontal impediments** designed to make a driver turn the wheel and reduce the sight lines of unending pavement, which usually results in slower speeds. Examples include chicanes, roundabouts, and mini roundabouts.
- **Road narrowing** via striping, parking, or curb to reduce the drive lane widths, which slightly lower speeds. These treatments have the additional benefit of shortening pedestrian crossings, which lead to a safer multi-modal environment. Examples include curb extensions or bulbouts, or mid-block pedestrian refuge islands.
- **Closing the through road partially or fully** to disrupt travel patterns. These treatments alone may not change vehicle speeds but are effective at lowering volumes along certain streets.

TABLE 6: VOLUME AND SPEED MANAGEMENT TOOLS

TOOLS *		USE BY FUNCTIONAL CLASSIFICATION			IMPACT	
		Arterial Street	Collector Street	Local Street	Speed Reduction	Traffic Diversion
NARROWING TRAVEL LANES		✓	✓	✓	✓	
PLACING BUILDINGS, ON-STREET PARKING, AND LANDSCAPING CLOSER TO THE STREET		✓	✓	✓	✓	
CURB EXTENSIONS OR BULBOUTS		✓	✓	✓	✓	
ROUNDABOUTS		✓	✓	✓	✓	
MINI-ROUNDABOUTS			✓	✓	✓	
MEDIANS AND PEDESTRIAN ISLANDS		✓	✓	✓	✓	

TOOLS *		USE BY FUNCTIONAL CLASSIFICATION			IMPACT	
		Arterial Street	Collector Street	Local Street	Speed Reduction	Traffic Diversion
PAVEMENT TEXTURE		✓	✓	✓	✓	
RAISED INTERSECTION OR CROSSWALK				✓	✓	✓
CHOKER				✓	✓	✓
CHICANES				✓	✓	✓
DIVERTERS (WITH EMERGENCY VEHICLE PASS-THROUGH)			✓	✓	✓	✓

Note: * Any traffic calming project should include coordination with emergency service providers to ensure the project does not impede response times.

CHAPTER 5.

Projects and Priorities

This chapter describes the transportation system improvement projects identified to address the system needs discussed in Chapter 3.

PROCESS FOR DEVELOPING PROJECTS

The project team developed the recommended transportation solutions using guidance provided by the project goals and with input from three main sources:

- Stakeholders (via committee meetings, online surveys, and project website comments)
- Previous Plans (such as the Camas North Shore Subarea Plan)
- Independent Project Team Evaluation (Existing and Future Transportation Conditions and Needs Evaluation)

The full list of projects in this TSP are identified to improve the transportation network along major streets in the City's planning area, regardless of their priority or their likelihood of being funded. This TSP focuses on streets in the planning area with a functional classification of Collector or higher. Additional improvements will occur with private development in the City's planning area, including the build out of the local street network consistent with the standards in Chapter 4.

The TSP planning process screens candidate projects to set aside those that may not be feasible due to environmental or existing development limitations. The remaining projects are a combination of new and previous ideas for the transportation system that seek to address the gaps and deficiencies in the city.

PROJECT FUNDING

Each project was reviewed to consider how it might be funded during the next 20 years. In general, the primary funding agency was assumed to be the current or future facility owner, as they are responsible for overseeing construction and long-term maintenance. All projects were assigned a primary funding agency which includes Camas, Clark County, RTC, and WSDOT. In some cases, funding partnerships were identified for projects that were expected to provide mutual benefits between agencies or where there were opportunities to accelerate projects to completion.

PLANNED TRANSPORTATION PROJECTS

The full project list includes 99 projects totaling over $180 million in total investments and is shown in Table 7 and Figure 31 to Figure 33. For the purposes of cost estimates, project design elements are identified, however, the actual design elements for any project are subject to change and will ultimately be determined through a preliminary and final design process and are subject to City, WSDOT, Clark County, and/or other partner agency approval. The Aspirational projects were assigned to one of several categories:

- **Multi-Modal Street Improvement** – these projects will improve or construct new multi-modal streets throughout the planning area, each with facilities for motorists, pedestrians,

and bicyclists. A total of 29 projects are identified that, as of 2024, will cost an estimated $72 million to complete.

- **Intersection Improvement** – these projects will improve safety and mobility at intersections throughout the planning area. A total of 19 projects were identified to construct new or improve existing intersections that, as of 2024, will cost an estimated $64 million to complete.
- **Pedestrian/ Bike Improvement** – these projects include stand-alone sidewalk, path and roadway crossing improvements, and an integrated network of bicycle lanes, marked on-street routes and shared-use paths to facilitate safe and convenient travel citywide. A total of 39 pedestrian and bicycle projects were identified that, as of 2024, will cost an estimated $38 million to complete.
- **Transit Enhancement** – these projects will enhance the quality and convenience for transit passengers. One transit project was identified that, as of 2024, will cost an estimated $1 million.
- **Demand/ System Management** – this will encourage more efficient usage of the transportation system. Two projects were identified that, as of 2024, will cost an estimated $450,000.

TABLE 7: PLANNED TRANSPORTATION PROJECTS

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
A	Bike Parking Program	Install new bike parking throughout the City.	$150,000		
B	Wayfinding Signage Program	Install wayfinding signage to assist pedestrians and bicyclists in choosing comfortable routes and to help visitors navigate through the City.	$300,000		
T1	Facility Improvements	Improve transit stop amenities as needed, to include sheltered stops with seating, landing pads, route information, sidewalk connections, bicycle parking and lighting.	$1,000,000		
M1	NW Pacific Rim Boulevard reconfiguration between SE Payne Road and NW Parker Street	Reconfigure the existing paved width of NW Pacific Rim Boulevard between SE Payne Road and NW Parker Street to address safety and bicycle facility gaps. Requires coordination with the City of Vancouver.	$2,450,000		
M2	NE 6th Avenue reconfiguration between Norwood Street and Adams Street	Reconfigure the existing paved width of NE 6th Avenue between Norwood Street and Adams Street to address safety and bicycle facility gaps. Included in 2024 six-year Transportation Improvement Program as Priority #11.	Included in TIP		
M3	NE 3rd Avenue reconfiguration between NE Garfield Street and 4th Street	Reconfigure the existing paved width of NE 3rd Avenue between NE Garfield Street and 4th Street to address safety and bicycle facility gaps.	$3,800,000		
M4	NE 3rd Avenue reconfiguration between 4th Street and SE Lechner Street	Reconfigure the existing paved width of NE 3rd Avenue between 4th Street and SE Lechner Street to address safety, pedestrian and bicycle facility gaps.	$450,000		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
M5	NE Laurel Street extension to SE 15th Street	Extend NE Laurel Street to SE 15th Street. This street should be constructed as a Collector, with sidewalks and bike lanes.	$1,000,000		
M6	NE Pioneer Street extension to SE 15th Street	Extend NE Pioneer Street to SE 15th Street. This street should be constructed as a Collector, with sidewalks and bike lanes.	$1,225,000		
M7	SE 271st Avenue extension to SE 8th Street extension	Extend/Improve SE 271st Avenue from SE 15th Street to the SE 8th Street extension. This street should be constructed as a Collector, with sidewalks and bike lanes.	$3,300,000		
M8	SE 8th Street extension between SR 500-NE Everett Street and the SE 271st Avenue extension	Extend SE 8th Street from SR 500-NE Everett Street to the SE 271st Avenue extension. This street should be constructed as a Collector, with sidewalks and bike lanes.	$2,100,000		
M9	SR 500-NE Everett Street widening between NW Lake Road and the UGA	Widen SR 500-NE Everett Street between NW Lake Road and the UGA boundary to include pedestrian and bike facilities (i.e., assumes a shared-use path on both sides per Everett Street Corridor Analysis). Includes bridge replacement. Included in 2024 six-year Transportation Improvement Program as Priority #1.	Included in TIP		
M10	Northshore Boulevard extension to SR 500-NE Everett Street	Extend Northshore Boulevard to SR 500-NE Everett Street/NE Everett Drive. This street should be constructed as an Arterial, with sidewalks and bike lanes. Included in 2024 six-year Transportation Improvement Program as Priority #9.	Included in TIP		
M11	NE 232nd Avenue widening between Northshore Boulevard and the UGA	Widen NE 232nd Avenue between Northshore Boulevard and the UGA boundary to include one travel lane in each direction, a center turn-lane/median, a bike lane and sidewalk on the west side and a shared-use path on the east side. PE included in 2024 six-year Transportation Improvement Program as Priority #27.	$4,850,000		
M12 *	NE 242nd Avenue extension from NE 28th Street to Northshore Boulevard	Extend NE 242nd Avenue extension from NE 28th Street to Northshore Boulevard. This street should be constructed as an Arterial, with sidewalks and bike lanes. PE included in 2024 six-year Transportation Improvement Program as Priority #34.	$3,100,000		
M13	Northshore Roadway A from Northshore Boulevard to Northshore Roadway C	Construct a new street between Northshore Boulevard and Northshore Roadway C. This street should be constructed as a Collector, with sidewalks and bike lanes.	$675,000		
M14	Northshore Roadway E from Northshore Boulevard to Northshore Roadway C	Construct a new street between Northshore Boulevard and Northshore Roadway C. This street should be constructed as a Collector, with sidewalks and bike lanes.	$1,275,000		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
M15	Northshore Roadway C from Northshore Boulevard (west) to Northshore Boulevard (east)	Construct a new street between Northshore Boulevard (west) to Northshore Boulevard (east). This street should be constructed as a Collector, with sidewalks and bike lanes.	$4,675,000		
M16	SR 500-NE Everett Street / SE 8th Street extension intersection improvements	Intersection improvements (i.e., potential installation of roundabout per the Northshore Subarea Plan).	$5,450,000		
M17	Northshore Boulevard / Northshore Roadway C (east) intersection improvements	Intersection improvements (i.e., potential installation of roundabout per the Northshore Subarea Plan).	$5,450,000		
M18	Northshore Boulevard / Northshore Roadway E intersection improvements	Intersection improvements (i.e., potential installation of roundabout per the Northshore Subarea Plan).	$5,450,000		
M19	NE 28th Street widening between N Juniper Street and NE 232nd Avenue	Widen NE 28th Street between N Juniper Street and NE 232nd Avenue to include one travel lane in each direction, a center turn-lane/median, bike lanes and sidewalks. Included in 2024 six-year Transportation Improvement Program as Priority #8.	Included in TIP		
M20	NE 28th Street widening between NE Ingle Road and N Juniper Street	Widen NE 28th Street between NE Ingle Road and N Juniper Street to include one travel lane in each direction, a center turn-lane/median, bike lanes and sidewalks. Included in 2024 six-year Transportation Improvement Program as Priority #8.	Included in TIP		
M21	NE Goodwin Road widening between NE Ingle Road and NE 13th Street	Widen NE Goodwin Road between NE Ingle Road and NE 13th Street to include bike lanes and sidewalks. Included in 2024 six-year Transportation Improvement Program as Priority #8.	Included in TIP		
M22	NE Ingle Road widening between NE 28th Street and the UGA	Widen NE Ingle Road between NE 28th Street and the UGA to include one travel lane in each direction, a center turn-lane/median, bike lanes and sidewalks. PE included in 2024 six-year Transportation Improvement Program as Priority #39.	$1,550,000		
M23	SE Bybee Road realignment to NW Fisher Creek Drive	Realign SE Bybee Road to intersect with NW 38th Avenue at NW Fisher Creek Drive. This street should be constructed as a Collector, with sidewalks and bike lanes. Included in 2024 six-year Transportation Improvement Program as Priority #12.	Included in TIP		
M24	Northshore Boulevard / Northshore Roadway C (west) intersection improvements	Intersection improvements (i.e., potential installation of roundabout per the Northshore Subarea Plan).	$5,450,000		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
M25	NW 38th Avenue-NW Astor Street-NW 43rd Avenue widening between NW Dahlia Drive and NW Sierra Street	Widen NW 38th Avenue-NW Astor Street-NW 43rd Avenue between NW Dahlia Drive and NW Sierra Street to include one travel lane in each direction, a center turn-lane/median, bike lanes and sidewalks. PE included in 2024 six-year Transportation Improvement Program as Priority #26.	$7,350,000		
M26	NW 16th Avenue-NW Hood Street-NW 18th Street widening between NW Klickitat Street and NW Astor Court	Widen NW 16th Avenue-NW Hood Street-NW 18th Street between NW Klickitat Street and NW Astor Court to include one travel lane in each direction, a center turn-lane/median, bike lanes and sidewalks. Included in 2024 six-year Transportation Improvement Program as Priority #6 and #23.	$4,200,000		
M27	NW 11th Avenue-NW Astor Street widening between NW McIntosh Road and NW 16th Avenue	Widen NW 11th Avenue-NW Astor Street between NW McIntosh Road and NW 16th Avenue to include one travel lane in each direction, a center turn-lane/median, bike lanes and sidewalks. PE included in 2024 six-year Transportation Improvement Program as Priority #22.	$5,500,000		
M28	NW McIntosh Road widening between NW Brady Road and NW 11th Avenue	Widen NW McIntosh Road between NW Brady Road and NW 11th Avenue to include one travel lane in each direction, a center turn-lane/median, bike lanes and sidewalks. PE included in 2024 six-year Transportation Improvement Program as Priority #28.	$9,325,000		
M29	SE Crown Road widening between NE 3rd Avenue and NE Woodburn Drive	Widen SE Crown Road between NE 3rd Avenue and NE Woodburn Drive to include one travel lane in each direction, left-turn lanes at intersections and a shared-use path (per the Crown Road Corridor Study). Widen the SE Crown Road approach to NE 3rd Avenue to accommodate westbound truck turning maneuvers. Requires coordination with Washougal and Clark County. Included in 2024 six-year Transportation Improvement Program as Priority #5.	Included in TIP		
M30	SE 283rd Avenue widening between NE Woodburn Drive and the SE 8th Street extension	Widen SE 283rd Avenue between NE Woodburn Drive and the SE 8th Street extension to include one travel lane in each direction, left-turn lanes at intersections and a shared-use path. Requires coordination with Clark County.	$10,250,000		
M31	SE Lechner Street reconfiguration between NE 3rd Avenue and the UGA boundary	Reconfigure SE Lechner Street between NE 3rd Avenue and the UGA boundary to include one travel lane in each direction, a center turn-lane/median and bike lanes.	$350,000		
M32	NE 6th Avenue / NE Adams Street intersection improvements	Intersection improvements (e.g., Per the Camas Safety Plan this should include the installation of a roundabout and intersection lighting; retain eastbound right-turn slip lane).	$3,975,000		
M33	NE 6th Avenue / SR 500-NE Garfield Street intersection improvements	Intersection improvements (i.e., restripe the eastbound NE 6th Avenue approach to include a separate left-turn and through/right turn lane; requires removal of on-street parking along the south side of NE 6th Avenue within 75 feet of the intersection).	$250,000		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
M34	SE Crown Road / SE 23rd Street-NE Woodburn Drive intersection improvements	Intersection improvements (e.g., installation of a roundabout per the Crown Road Corridor Study). Realign SE 23rd Street to intersect with NE Woodburn Drive. This street should be constructed as an Arterial, with sidewalks and bike lane. Realignment included in 2024 six-year Transportation Improvement Program as Priority #29.	Included in TIP		
M35	SR 500-NE Everett Street / NE 38th Avenue intersection improvements	Intersection improvements (i.e., installation of roundabout or a southbound left-turn lane on SR 500-NE Everett Street).	$5,450,000		
M36	SR 500-NE Everett Street / NE 43rd Avenue intersection improvements	Intersection improvements (i.e., potential installation of roundabout per the Northshore Subarea Plan).	$5,450,000		
M37	SR 500-NE Everett Street / SE Leadbetter Road intersection improvements	Intersection improvements (i.e., installation of a median to limit SE Leadbetter Road access to left-in, right-in, right-out only).	$25,000		
M38	SR 500-NE Everett Street / Northshore Boulevard extension intersection improvements	Intersection improvements (e.g., potential installation of a roundabout per Northshore Subarea Plan).	$5,450,000		
M39 *	SR 500-NE Everett Street / SE NE 3rd Street / NE Robinson Road intersection improvements	Intersection improvements (e.g., installation of a roundabout). Requires coordination with WSDOT and Clark County.	$5,450,000		
M40 *	NE 28th Street / SR 500-NE 242nd Avenue intersection improvements	Intersection improvements (e.g., installation of a southbound left-turn lane on SR 500-NE Everett Street, eastbound left-turn lane on NE 28th Street and traffic signal, or installation of a roundabout). Requires coordination with WSDOT and Clark County.	$5,450,000		
M41 *	NE 232nd Avenue / NE 28th Street intersection improvements	Intersection improvements (e.g., installation of a roundabout or traffic signal). Requires coordination with Clark County. Included in 2024 six-year Transportation Improvement Program as Priority #20.	Included in TIP		
M42 *	NE 199th Avenue / SR 500-NE 58th Street intersection improvements	Intersection improvements (e.g., installation of a westbound left-turn lane and eastbound right-turn lane on SR 500-NE 58th Street and traffic signal, or installation of a roundabout). Requires coordination with WSDOT and Clark County.	$5,450,000		
M43	NW Camas Meadows Drive / NE Goodwin Road intersection improvements	Intersection improvements (i.e., installation of a roundabout or traffic signal). Included in 2024 six-year Transportation Improvement Program as Priority #37.	Included in TIP		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
M44	NW Lake Road / NW Sierra Street intersection improvements	Intersection improvements (i.e., installation of a roundabout). Included in 2024 six-year Transportation Improvement Program as Priority #2.	Included in TIP		
M45	Pacific Rim Boulevard / NW Parker Street intersection improvements	Intersection improvements (i.e., installation of a traffic signal). Included in 2024 six-year Transportation Improvement Program as Priority #38.	Included in TIP		
M46	NW Lake Road safety improvements from NE Everett Street to NW Leadbetter Drive	Implement safety improvements along NW Lake Road safety improvements from NE Everett Street to NW Leadbetter Drive. These include horizontal curve signing, profiled pavement marking and shoulder widening per the Camas Safety Plan.	$4,275,000		
M47	SR-14 West Camas Slough Bridge widening	Widen the SR-14 West Camas Slough Bridge to four lanes. Included in 2024 six-year Transportation Improvement Program as Priority #7. WSDOT project.	Included in TIP		
M48	Northshore Boulevard / Northshore Roadway A intersection improvements	Intersection improvements (i.e., potential installation of roundabout per the Northshore Subarea Plan).	$5,450,000		
P1	Pedestrian improvements on NW 7th Avenue between NW Fargo Street and NW Drake Street	Add pedestrian improvements to NW 7th Avenue between NW Fargo Street and NW Drake Street (i.e., complete sidewalk gaps on the south side).	$1,050,000		
P2	Pedestrian improvements on NW 10th Avenue between NW Forest Home Road and NW Elm Street	Add pedestrian improvements to NW 10th Avenue between NW Forest Home Road and NW Elm Street (i.e., complete sidewalk gaps on the north side).	$1,650,000		
P3	Pedestrian improvements on Division Street between NW 6th Avenue and NW 11th Avenue	Add pedestrian improvements to Division Street between NW 6th Avenue and NW 11th Avenue (i.e., complete sidewalk gaps on the west side).	$1,100,000		
P4	Pedestrian improvements on SR 500-SE Union Street between SE 8th Avenue and SE 6th Avenue	Add pedestrian improvements to SR 500-SE Union Street between SE 8th Avenue and SE 6th Avenue (i.e., complete sidewalk gaps on the east side).	$625,000		
P5	Pedestrian improvements on NE 2nd Avenue-NE Whitney Street between NE 3rd Avenue and SE James Street	Add pedestrian improvements to NE 2nd Avenue-NE Whitney Street between NE 3rd Avenue and SE James Street (i.e., complete sidewalk gaps on the east side).	$1,325,000		
P6	Pedestrian improvements on SR 500-NE Everett Street between NE 23rd Avenue and Fallen Leaf Lake Park	Add pedestrian improvements to SR 500-NE Everett Street between NE 23rd Avenue and Fallen Leaf Lake Park (i.e., complete sidewalk gaps on both sides).	$1,875,000		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
P7	Pedestrian improvements on NW Lake Road between NW Lacamas Lane and the Lacamas Lake Lodge	Add pedestrian improvements to NW Lake Road between NW Lacamas Lane and the Lacamas Lake Lodge (i.e., complete sidewalk gaps on both sides). Included in 2024 six-year Transportation Improvement Program as Priority #3.	Included in TIP		
P8	Pedestrian improvements on NE Umatilla Street between NE Woodburn Drive and SE 15th Street	Add pedestrian improvements to NE Umatilla Street between NE Woodburn Drive and SE 15th Street (i.e., complete sidewalk gaps on the east side). Requires right-of-way acquisition, outside current city limits, in part.	$1,050,000		
P9	Pedestrian improvements on NE 43rd Avenue-SE 15th Street between SR 500-NE Everett Street and SE Crown Road	Add pedestrian improvements to NE 43rd Avenue-SE 15th Street between SR 500-NE Everett Street and SE Crown Road (i.e., complete sidewalk gaps on both sides). Included in 2024 six-year Transportation Improvement Program as Priority #13 and #30.	Included in TIP		
P10	Pedestrian improvements on NW Camas Meadows Drive between NE Goodwin Road and NW Payne Street	Add pedestrian improvements to NW Camas Meadows Drive between NE Goodwin Road and NW Payne Street (i.e., complete sidewalk gaps on the south side).	$1,075,000		
P11	Pedestrian improvements on NW Leadbetter Drive between NW Parker Street and NW Lake Road	Add pedestrian improvements to NW Leadbetter Drive between NW Parker Street and NW Lake Road (i.e., complete sidewalk gaps on both sides). Included in 2024 six-year Transportation Improvement Program as Priority #19.	Included in TIP		
P12	Pedestrian improvements on NW Parker Street between NW Leadbetter Drive and NW 38th Avenue	Add pedestrian improvements to NW Parker Street between NW Leadbetter Drive and NW 38th Avenue (i.e., complete sidewalk gaps on the west side).	$2,150,000		
P13	Pedestrian improvements on SE Bybee Road between SE 196th Avenue and the SE Bybee Road realignment	Add pedestrian improvements to SE Bybee Road between SE 196th Avenue and the SE Bybee Road realignment (i.e., complete sidewalk gaps on both sides).	$1,525,000		
P14	Pedestrian improvements on NW Fargo Street between NW Kent Street and NW Fargo Loop	Add pedestrian improvements to NW Fargo Street between NW Kent Street and NW Fargo Loop (i.e., complete sidewalk gaps on the north/east side).	$2,150,000		
P15	Pedestrian improvements on NW 23rd Avenue between NW Astor Street and NW Tanner Street	Add pedestrian improvements to NW 23rd Avenue between NW Astor Street and NW Tanner Street (i.e., complete sidewalk gaps on both sides). Included in 2024 six-year Transportation Improvement Program as Priority #17.	Included in TIP		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
P16	Pedestrian improvements on NW 18th Avenue-NW Tidland Street-NW 16th Avenue between NW Whitman Street and NW Brady Road	Add pedestrian improvements to NW 18th Avenue-NW Tidland Street-NW 16th Avenue between NW Whitman Street and NW Brady Road (i.e., complete sidewalk gaps on north/east side). Included in 2024 six-year Transportation Improvement Program as Priority #24 and #25.	Included in TIP		
P17	Pedestrian improvements on NW 10th Avenue west of NW NW Norwood Street	Add pedestrian improvements to NW 10th Avenue west of NW Norwood Street (i.e., complete sidewalk gaps on the south side).	$550,000		
B1	Bicycle improvements on NW Ivy Street-NW 7th Avenue from NW 6th Avenue to NW Drake Street	Add bicycle improvements to NW Ivy Street-NW 7th Avenue from NW 6th Avenue to NW Drake Street (i.e., pavement markings/ signage designating it as a shared street for bikes).	$500,000		
B2	Bicycle improvements on NW Drake Street between NW 7th Avenue and NW 12th Avenue	Add bicycle improvements to NW Drake Street between NW 7th Avenue and NW 12th Avenue (i.e., restripe with bike lanes).	$350,000		
B3	Bicycle improvements on NW 12th Avenue-Division Street-NE 15th Avenue-NE 18th Avenue-NE 21st Avenue between NW Drake Street and SR 500-NE Everett Street	Add bicycle improvements to NW 12th Avenue-Division Street-NE 15th Avenue-NE 18th Avenue-NE 21st Avenue between NW Drake Street and SR 500-NE Everett Street (i.e., pavement markings/ signage designating it as a shared street for bikes).	$1,275,000		
B4	Bicycle improvements on NE 22nd Avenue-NE Ione Street-NE 19th Avenue-NE Oak Street-NE 6th Avenue between SR 500-NE Everett Street and NE Joy Street	Add bicycle improvements to NE 22nd Avenue-NE Ione Street-NE 19th Avenue-NE Oak Street-NE 6th Avenue between SR 500-NE Everett Street and SR 500-NE Joy Street (i.e., pavement markings/ signage designating it as a shared street for bikes).	$1,025,000		
B5	Bicycle improvements on NE 6th Avenue-NE Dallas Street-NE Joy Street between NE Adams Street and NE 3rd Avenue	Add bicycle improvements to NE 6th Avenue-NE Dallas Street-NE Joy Street between NE Adams Street and NE 3rd Avenue (i.e., pavement markings/ signage designating it as a shared street for bikes).	$925,000		
B6	Bicycle improvements on NE Woodburn Drive between Laurel Street and the NE Umatilla Street	Add bicycle improvements to NE Woodburn Drive between Laurel Street and the NE Umatilla Street (i.e., widen for bike lanes).	$2,850,000		
B7	Bicycle improvements on NE Umatilla Street between NE Woodburn Drive and SE 15th Street	Add bicycle improvements to NE Umatilla Street between NE Woodburn Drive and SE 15th Street (i.e., widen for bike lanes).	$1,750,000		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
B8	Bicycle improvements on NE 43rd Avenue-SE 15th Street between SR 500-NE Everett Street and SE Crown Road	Add bicycle improvements to NE 43rd Avenue-SE 15th Street between SR 500-NE Everett Street and SE Crown Road (i.e., widen for bike lanes). Included in 2024 six-year Transportation Improvement Program as Priority #13 and #30.	Included in TIP		
B9	Bicycle improvements on SE Bybee Road between SE 196th Avenue and the SE Bybee Road realignment	Add bicycle improvements to SE Bybee Road between SE 196th Avenue and the SE Bybee Road realignment (i.e., widen for bike lanes).	$2,100,000		
B10	Bicycle improvements on NW Leadbetter Drive between NW Fremont Street and NW Lake Road	Add bicycle improvements to NW Leadbetter Drive between NW Fremont Street and NW Lake Road (i.e., restripe with bike lanes).	$250,000		
B11	Bicycle improvements on NW Sierra Street between NW Lake Road and NW 43rd Avenue	Add bicycle improvements to NW Sierra Street between NW Lake Road and NW 43rd Avenue (i.e., restripe with bike lanes; requires removal of left-turn lane to NW 44th Avenue; at the NW Lake Road intersection stripe with a southbound bike lane and shared northbound left and right turn-lanes).	$250,000		
B12	Bicycle improvements on NE Fremont Street-NW Leadbetter Parkway-NW Dahlia Drive-NW 29th Avenue-NW Valley Street-NW Utah Street between NW Leadbetter Drive and NW 28th Avenue	Add bicycle improvements to NE Fremont Street-NW Leadbetter Parkway-NW Dahlia Drive-NW 29th Avenue-NW Valley Street-NW Utah Street between NW Leadbetter Drive and NW 28th Avenue (i.e., pavement markings/ signage designating it as a shared street for bikes).	$1,925,000		
B13	Bicycle improvements on NW 44th Avenue-NW Bass Street-NW 45th Avenue-NW 44th Avenue-NW Lacamas Lane-NW 35th Avenue-NW 34th Avenue-NW Norwood Street between NW Dahlia Drive and NW 28th Avenue	Add bicycle improvements to NW 44th Avenue-NW Bass Street-NW 45th Avenue-NW 44th Avenue-NW Lacamas Lane-NW 35th Avenue-NW 34th Avenue-NW Norwood Street between NW Dahlia Drive and NW 28th Avenue (i.e., pavement markings/ signage designating it as a shared street for bikes).	$2,700,000		
B14	Bicycle improvements on NW 28th Avenue-NW Fargo Street between NW Sierra Street and NW 18th Avenue	Add bicycle improvements to NW 28th Avenue-NW Fargo Street between NW Sierra Street and NW 18th Avenue (i.e., pavement markings/ signage designating it as a shared street for bikes).	$1,175,000		
B15	Bicycle improvements on NW 18th Loop between NW 18th Avenue and NW Couch Street	Add bicycle improvements to NW 18th Loop between NW 18th Avenue and NW Couch Street (i.e., restripe with a bike lane on the uphill side).	$375,000		
B16	Bicycle improvements on NW Sierra Street between NW 28th Avenue and NW 23rd Avenue	Add bicycle improvements to NW Sierra Street between NW 28th Avenue and NW 23rd Avenue (i.e., restripe with bike lanes).	$300,000		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
B17	Bicycle improvements on NW 23rd Avenue between NW Astor Street and NW Sierra Street	Add bicycle improvements to NW 23rd Avenue between NW Astor Street and NW Sierra Street (i.e., widen for bike lanes). Included in 2024 six-year Transportation Improvement Program as Priority #17.	Included in TIP		
B18	Bicycle improvements on NW Pacific Rim Drive-NW Endicott Street-NW 37th Avenue between NW Parker Street and NW Dahlia Drive	Add bicycle improvements to NW Pacific Rim Drive-NW Endicott Street-NW 37th Avenue between NW Parker Street and NW Dahlia Drive (i.e., pavement markings/ signage designating it as a shared street for bikes).	$1,075,000		
B19	Bicycle improvements on NW Julia Street-NW 26th Avenue-NW Maryland Street-NW Larkspur Street-NW Klickitat Street between NW Pacific Rim Drive and NW 16th Avenue	Add bicycle improvements to NW Julia Street-NW 26th Avenue-NW Maryland Street-NW Larkspur Street-NW Klickitat Street between NW Pacific Rim Drive and NW 16th Avenue (i.e., pavement markings/ signage designating it as a shared street for bikes).	$1,325,000		
B20	Bicycle improvements on NW Klickitat Street between NW 16th Avenue and NW McIntosh Road	Add bicycle improvements to NW Klickitat Street between NW 16th Avenue and NW McIntosh Road (i.e., pavement markings/ signage designating it as a shared street for bikes).	$475,000		
B21	Bicycle improvements on SE Payne Road-NW 18th Avenue-NW Tidland Street-NW 16th Avenue between NW Pacific Rim Boulevard and NW Brady Road	Add bicycle improvements to SE Payne Road-NW 18th Avenue-NW Tidland Street-NW 16th Avenue between NW Pacific Rim Boulevard and NW Brady Road (i.e., widen for bike lanes). Included in 2024 six-year Transportation Improvement Program as Priority #24 and #25.	Included in TIP		
B22	Bicycle improvements on NW 10th Avenue between NW 10th Place and NW Drake Street	Add bicycle improvements to NW 10th Avenue between NW 10th Place and NW Drake Street (i.e., pavement markings/ signage designating it as a shared street for bikes).	$800,000		
S1	Shared-use path on NW Brady Road between the City limits and NW McIntosh Road	Create a shared-use path connection along the north side of NW Brady Road between the City limits and NW McIntosh Road. Included in 2024 six-year Transportation Improvement Program as Priority #21.	Included in TIP		
S2	Shared-use path between NW 11th Avenue and NW 10th Avenue	Create a shared-use path connection between NW 11th Avenue and NW 10th Avenue. Will require grading, switchbacks and/or stairs to navigate the steep slopes.	$450,000		
S3	Shared-use path between NW 18th Avenue and NW Brady Road	Create a shared-use path connection between NW 18th Avenue and NW Brady Road.	$375,000		

ID	PROJECT DESCRIPTION	PROJECT ELEMENTS **	ESTIMATED COST (2024 DOLLARS	POTENTIAL FUNDING SOURCE	PRIORITY HORIZON
S4	Fallen Leaf Lake Park Crossing	Install a pedestrian and bicycle crossing on SR 500-NE Everett Street at Fallen Leaf Lake Park. This improvement includes a continental crossing, a median refuge island and pedestrian crosswalk signs.	$50,000		
S5	Shared-use path on NE Leadbetter Road between SR 500-NE Everett Street and the Lacamas Lake boat ramp	Create a shared-use path connection along the north side of NE Leadbetter Road between SR 500-NE Everett Street and the Lacamas Lake boat ramp.	$725,000		
S6	Shared-use path on NE Leadbetter Road between the Lacamas Lake boat ramp and NE 232nd Avenue-Northshore Boulevard	Close NE Leadbetter Road to motor vehicle traffic (except emergency services) between the Lacamas Lake boat ramp and NE 232nd Avenue-Northshore Boulevard and convert the roadway surface to a shared-use path.	$1,975,000		
S7	Lacamas Trail SE Crown Road Crossing	Install a pedestrian and bicycle crossing on Crown Road at the Lacamas Trail. As part of this project, extend the sidewalk along the west side of SE Crown Road from Woodburn Elementary to the Lacamas Trail. This improvement includes a continental crossing, a median refuge island and pedestrian crosswalk signs.	$1,725,000		
S8	E 1st Avenue Crossing	Install a pedestrian and bicycle crossing on NE 3rd Avenue at E 1st Avenue. This improvement includes a continental crossing, a median refuge island and pedestrian crosswalk signs.	$50,000		
S9	NE Weir Street Crossing	Install a pedestrian and bicycle crossing on NE 3rd Avenue at NE Weir Street. This improvement includes a continental crossing, a median refuge island and pedestrian crosswalk signs.	$50,000		

Note: * Project (or a portion of the alignment) is located outside the UGA and is shown for future planning purposes only.

** The project design elements depicted are identified for planning purposes. The actual design elements for any project are subject to change and will ultimately be determined through a preliminary and final design process and are subject to City and/or WSDOT approval.

FIGURE 31: PLANNED ROADWAY AND INTERSECTION PROJECTS

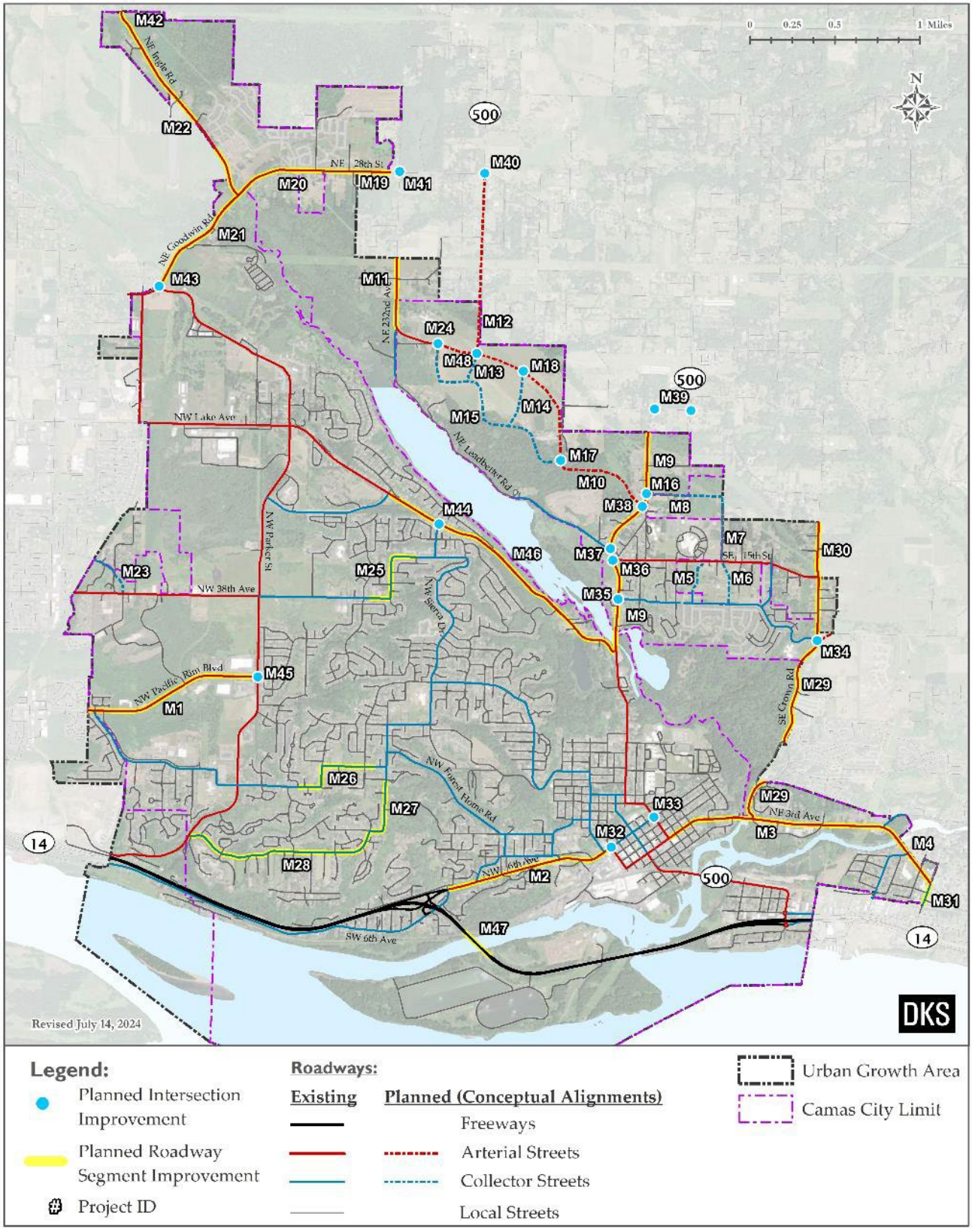


FIGURE 32: PLANNED PEDESTRIAN PROJECTS

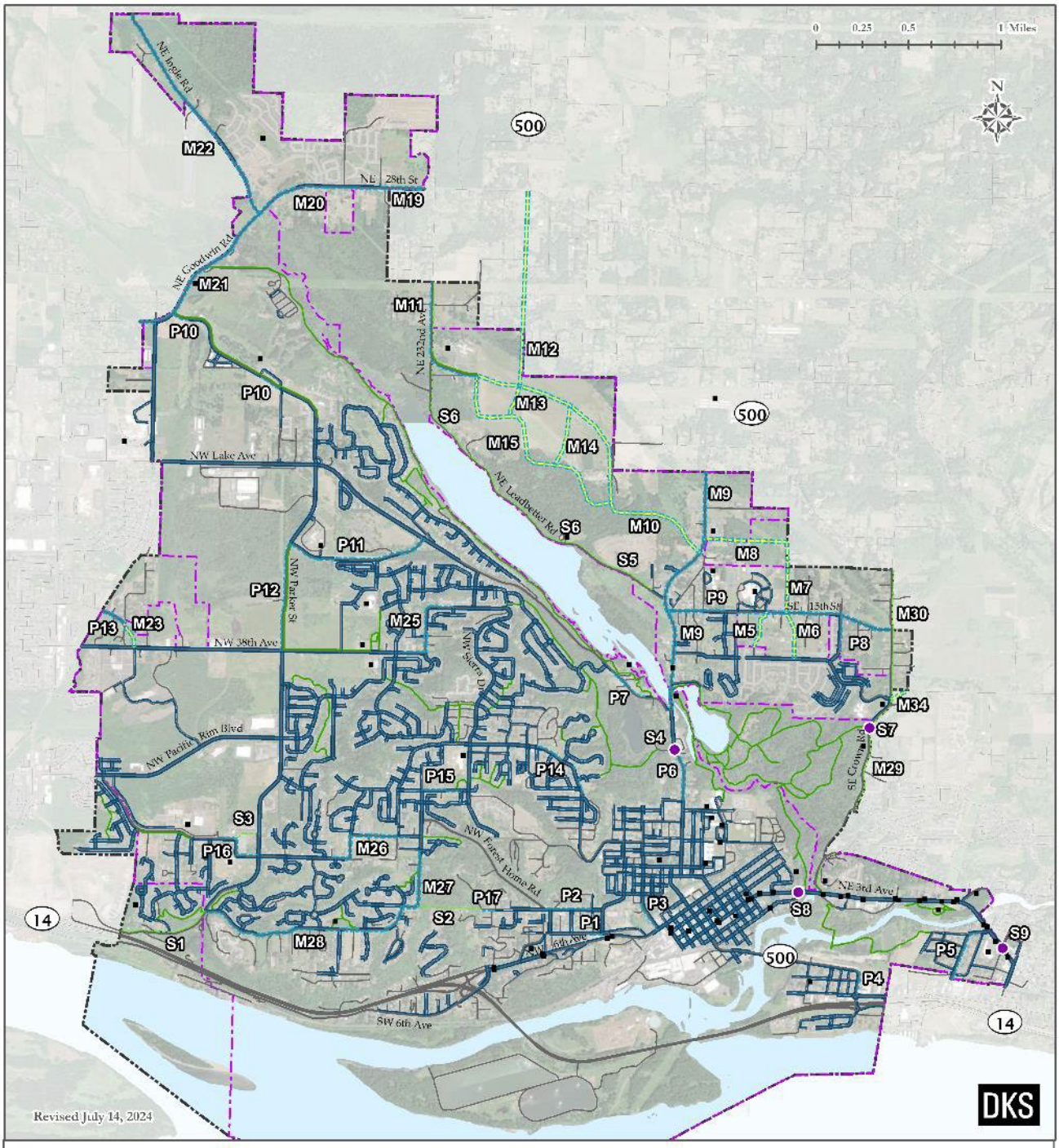
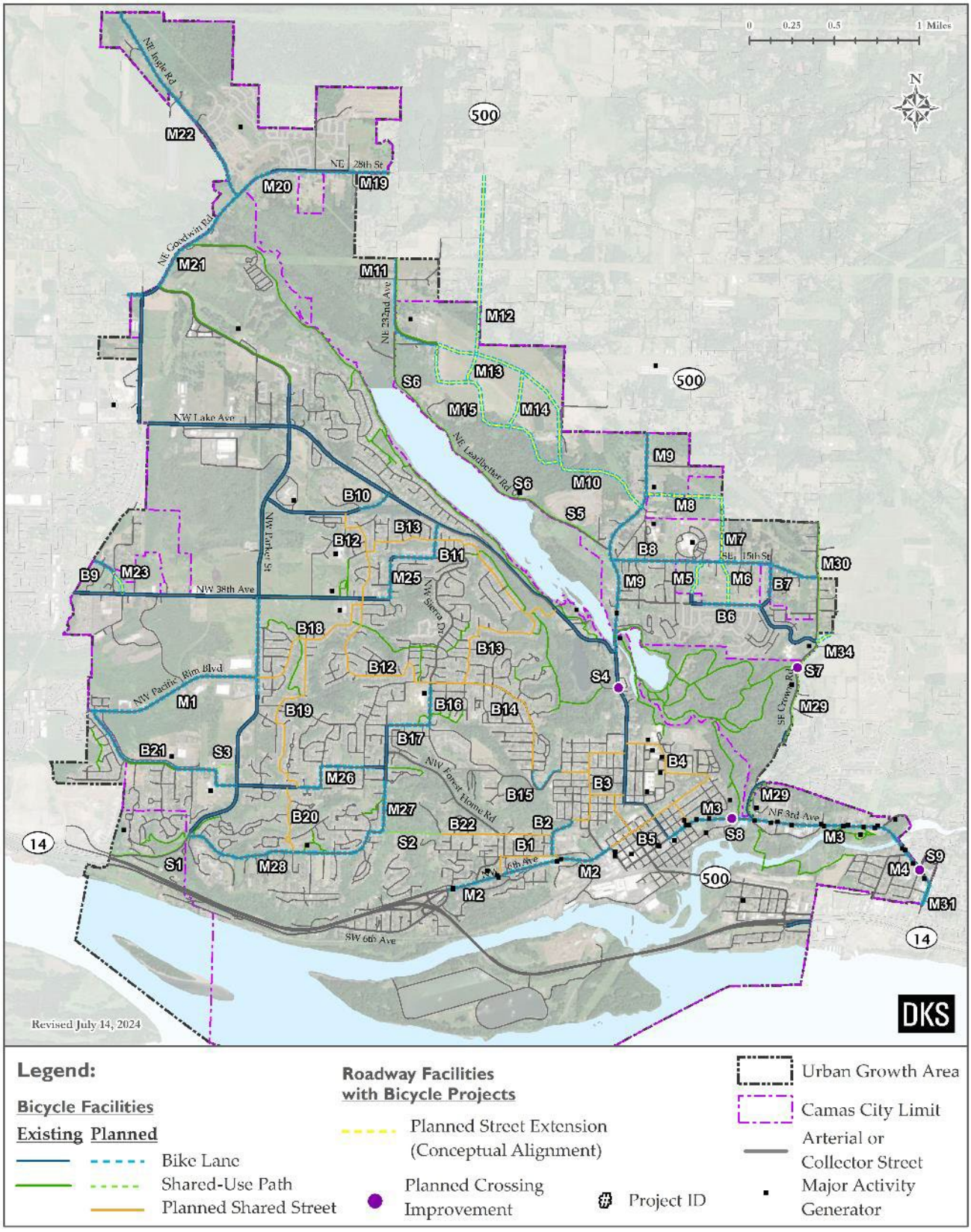


FIGURE 33: PLANNED BICYCLE PROJECTS



CHAPTER 6.

Future Strategies and Considerations

The following chapter provides transportation strategies and policy considerations around providing travel options, preparing for advancements in transportation through technology, and monitoring plan implementation. Some are emerging issues to be monitored, and others are ongoing but need greater emphasis or attention. Addressing these will take the City time to evaluate, and they may require future decisions from the City Council.

Furthermore, it is recognized that there are on-going community issues related to general transportation needs that will continue to evolve after the TSP process and outcomes. These issues are acknowledged in the final section along with a summary of their status and the expected path forward.

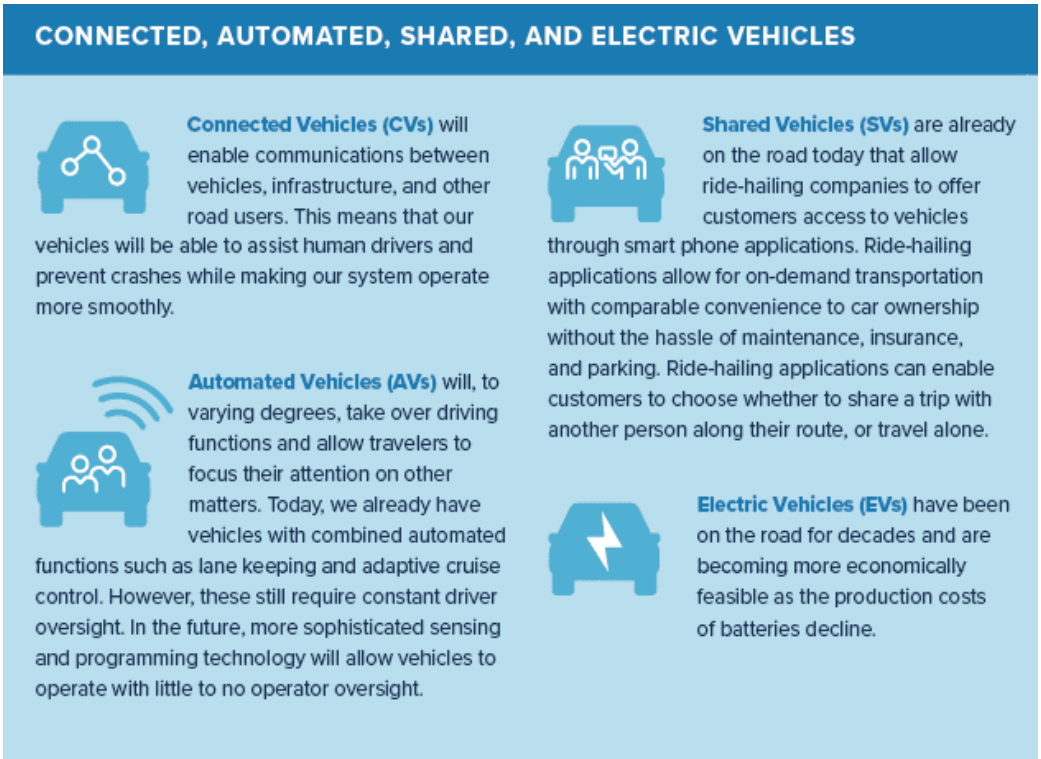
PREPARING FOR EMERGING FORMS OF MOBILITY

Emerging technologies will continue to shape roads, communities, and daily lives for generations. Vehicles are becoming more connected, automated, shared, and electric. This future is highly uncertain, but it will have significant impacts for how the transportation system is planned, designed, built, and utilized. The following sections highlight these emerging forms of mobility.

CONNECTED, AUTOMATED, SHARED, AND ELECTRIC VEHICLES

We do not know the full impacts that connected, automated, shared, and electric (CASE) vehicles will have on the transportation system. A lot depends on how they will be regulated at the federal and state levels.

Many of these vehicles will not be exclusive of the others and it is important to think of the host of implications that arise from the combination of these technologies.



There are several competing forces that will unfold as CASE vehicles are deployed.

- AVs will provide a more relaxing or productive ride experience and people may have less resistance to longer commutes.
- Shared AVs are projected to have lower fuel and operating costs, making them less expensive on a per mile basis than private vehicle ownership. This may increase demand for auto-based travel in the future.
- CV technology will allow vehicles to operate safely with closer following distance, less unnecessary braking, and better coordinated traffic control. This will increase road capacity in the long run when CVs and AVs comprise most of the public and private fleet of vehicles.
- In the near term, since AVs make up a fraction of the fleet of vehicles, road capacity could decrease as AVs will operate more slowly and cautiously than regular vehicles.
- A new class of traffic – zero-occupant vehicles – will increase traffic congestion. These could include AVs making deliveries or shared AVs circulating around the City and traveling to their next rider.
- Roadways may need to be redesigned or better maintained to accommodate the needs of automated driving systems. For instance, striping may need to be wider and more consistently maintained to ensure the vehicle's sensors can recognize it.

These points raise questions about the degree to which CASE vehicles will impact road capacity, safety, and congestion. The development and use of the technologies should be monitored closely.

ELECTRIC SCOOTER AND BIKE SHARE

Shared-use fleets of small, fully or partially human-powered vehicles such as bikes, electric bikes (e-bikes) and electric scooters (e-scooters) are forms of micromobility transportation options (see Figure 34). These vehicles are generally rented through a mobile app or kiosk, are picked up and dropped off in the public right-of-way and are meant for short point-to-point trips. These emerging transportation options are convenient and have a low cost and make it easier for people to get around without a personal vehicle.

FIGURE 34: MICROMOBILITY TRANSPORTATION OPTIONS



Bikes **E-Bikes** **E-Scooters**

Public safety has been a concern in other cities as many riders do not wear helmets or they ride on sidewalks, which creates conflicts with pedestrians. In addition, many riders do not park the vehicles properly and leave them in places that obstruct pedestrian pathways. The only time these may be on the sidewalk is if it is already parked, being parked on the curb or being walked. Both the bike and scooter should be driven with the flow of traffic in a bicycle lane or in the vehicle lane when there is no bike lane. They are also permitted on shared use pathways that are designated for shared pedestrian and bicycle travel (i.e., accessways or shared-use paths with a 10-foot width are acceptable for shared pedestrian and bicycle travel).

The rapid growth in the number of shared micromobility trips and the introduction of e-scooters has required cities to focus new attention on how best to regulate these new services in order to achieve the best public outcomes. Local government has both the authority and the responsibility to protect public health, safety, and welfare, and to ensure safe passage on and govern commerce in the public right-of-way. Cities have taken varied approaches to managing shared micromobility on their streets and chosen to exercise their authority in different ways.

Infrastructure is essential for shared micromobility to succeed as a viable transportation option. Cities must build out bike lane networks that encourage and protect riders. They must also decide where in the right-of-way shared micromobility vehicles should be parked and what locking requirements are appropriate. Some general guidelines include:

- **Parking:** In permitting shared micromobility companies to operate in the public right-of-way, cities must decide where is appropriate for companies and customers to leave their vehicles. Increasingly, cities and operators are striking a balance by encouraging customers to use "corrals" or designated shared micromobility parking zones in high volume or crowded areas, but also allowing users to drop off vehicles in the furniture zone of sidewalks. Designating locations provides cities and operators more control over the start and end location of

vehicles, increases predictability for users and non-users alike, and reduces encroachment in the public right-of-way.

- **Provide Safe Place to Ride:** To fully realize the potential of shared micromobility, cities must redesign their streets so that everyone has a safe, low-stress network of places to ride. Poor or inadequate infrastructure leads to increased injuries and fatalities. In places without clearly marked, safe places to ride, riders often report feeling safer riding on the sidewalk.
- **Restrict/Limit Access:** Some cities have areas where shared micromobility services may not operate or where vehicles must move at slower speeds to ensure safety.

City of Camas

Facility Condition Assessment

Volume 1: Executive Summary Report

Prepared by MENG Analysis

Contents

Introduction 1
Report Organization 1
Terminology and Abbreviations 1
List of Surveyed Facilities 3
Condition Summary 4
Cost Overview 5

Executive Summary

Introduction

In 2021, the City of Camas, Washington engaged MENG Analysis to complete a comprehensive facility condition assessment (FCA). The purpose of this assessment is to assist City staff in organizing & prioritizing maintenance backlog needs while supporting future-focused proactive facility management. Proactive facility management includes but is not limited to, planning and budgeting for short-term correction of Observed Deficiencies (ODs), and long-term major maintenance, referred to in this report as Predicted Renewals (PRs).

The surveyed facilities included 17 buildings on 11 sites. The total square footage of the surveyed buildings is just under 276,000 SF.

FCA Stats

Number of Surveyed Buildings 17	**Total SF Surveyed** 276K
Total Replacement Value of Facilities (2022 dollars) $61M	**Long-term Needs 2028-2041** $18M
2022-2027 Deficiencies $17M	**Priority[1] Needs 6 Years** $6.3M

Report Organization

This Executive Summary Report (Volume 1) presents an introduction and overview to the Facility Condition assessment process as well as summary findings across all facilities. The Facility Detail Report (Volume 2) contains the database-generated subsystem level reports.

Terminology and Abbreviations

To aid in understanding the data and concepts presented in this report, the following list includes definitions of common terms and abbreviations related to the FCA process.

Facility Condition Assessment (FCA): A structured process to document the conditions of site infrastructure and building systems. FCAs are typically performed by a multi-disciplinary team of architects, engineers, construction, and cost specialists. Facility information and condition data should be maintained in a database for ease of updating and reporting. The data should be renewed over time.

[1] Priority needs include life-safety and code issue deficiencies

Facility Condition Index (FCI): A benchmark used to compare relative condition of facilities within a portfolio of assets; derived by the following formula:

Note: There are a number of different methods used by various organizations to calculate that backlog. For this reason, using FCIs to compare City of Camas facilities to other organizations may not represent accurate equivalency.

$$FCI = \frac{\text{Backlog of Maintenance \& Repair (BMAR)}}{\text{Current Replacement Value (CRV)}}$$

This assessment uses a parametric method that calculates BMAR based on the assessed condition scores. The statistical basis is a study conducted by NASA on over 10,000 surveyed facilities that evaluated the backlog of repair items relative to qualitative condition scores 1 through 5. The parametric backlog for each system is calculated based on a statistical theoretical percentage of that system that would need repair or replacement for each of the qualitative condition scores. The costs of those systems are the facility use cost models customized for Camas. It should also be noted that we continually update our cost models based on current market conditions, so the CRV values in this report will differ from those presented in earlier reports.

Predicted Renewal Model: A theoretical forecast of when building systems will exceed their typical lifespan and funding will be required for renewals.

Remaining Useful Life: An estimate of the years that a facility system may remain serviceable or in operation before failure; which would then require system renewal or replacement.

Subsystem: The term subsystem in this report refers to a Uniformat Level 3 building systems category (e.g., B3010 - Roof Coverings; or B3020 – Roof Opening; or B3030 – Projections).

System: The term system in this report refers to a Uniformat Level 2 building system category (e.g., B30 – Roofing)

Commonly Used Abbreviations

AC = Asphalt concrete
ACT = Acoustic ceiling tile
A/V = Audio/video
AHU = Air handling unit
ASHRAE = American Society of Heating, Refrigeration, & Air Conditioning Engineers
BUR = Built-up roofing
CCTV = Closed circuit television
CFH = Cubic feet per hour (of natural gas)
CFL = Compact fluorescent
CI = Cast iron
CMU = Concrete masonry unit
CO2 = Carbon dioxide
CU = Condensing unit
Cx = Commissioning
DDC = Direct digital control
DHW = Domestic hot water
Dx = Direct expansion
EA = Each (measurable unit)
EF = Exhaust fan
EFIS = Exterior insulation finishing system
FRP = Fiber reinforced plastic
GI = Grease interceptor
GSHP = Ground-source heat pump
HID = High intensity discharge (lamps)
HM = Hollow metal
HVAC = Heating, ventilating, and air conditioning
IT = Information technology
LF = Linear feet (measurable unit)
LED = Light emitting diode
LS = Lump sum (measurable unit)

MDF = Main distribution frame
OWS = Oil/water separator
PA = Public address
P-lam = Plastic laminate
PRV = Pressure regulating valve
PTAC = Packaged terminal air conditioning
Psig = Pounds per square inch (pressure)
SS = Stainless Steel
PVC = Polyvinyl chloride
RTU = Roof top unit
RPBP = Reduced pressure backflow preventer
SF = Square feet (measurable unit)
UPS = Uninterruptible power supply
VAV = Variable air volume
VCT = Vinyl composite tile
VWC = Vinyl wall covering
VOIP = Voice over internet protocol
WAP = Wireless access point
WD = Wood

List of Surveyed Facilities

Table 1 lists the facilities surveyed during this project.

Table 1. List of Surveyed Facilities

Site	Facility	Address	Bldg Area (sf)
Fire Station 42	Fire Station 42	4321 NW Parker Street Camas, WA 98607	12,069
Police Station	Police Station	2100 NE 3rd Ave Camas, WA 98607	23,100
City Hall - Station 41	City Hall - Station 41	616 NE 4th Ave Camas, WA 98607	28,080
City Hall Annex	City Hall Annex	528 NE 4th Ave Camas, WA 98607	10,000
Public Works Operations Center	Public Works Operations Center	1620 SE 8th Ave Camas, WA 98607	21,190
Public Works Operations Center	Mobile Office	1620 SE 8th Ave Camas, WA 98607	
Community Center	Community Center	1718 SE 7th Ave Camas, WA 98607	21,420
Library	Library	625 NE 4th Ave Camas, WA 98607	36,500
Wastewater Treatment Plant	Equipment Building	1129 SE Polk Street Camas, WA 98607	4,250
Wastewater Treatment Plant	Bio-solids Dryer Building	1129 SE Polk Street Camas, WA 98607	3,670
Wastewater Treatment Plant	Digester Building	1129 SE Polk Street Camas, WA 98607	3,420
Wastewater Treatment Plant	Control Building	1129 SE Polk Street Camas, WA 98607	1,630
Wastewater Treatment Plant	Main Office	1129 SE Polk Street Camas, WA 98607	1,770

Site	Facility	Address	Bldg Area (sf)
Wastewater Treatment Plant	UV Building	1129 SE Polk Street Camas, WA 98607	3,360
Fire Station 43	Fire Station 43	1400 A St. Washougal, WA 98671	8,496
Scout Hall	Scout Hall	621 NE 15th Ave Camas, WA 98607	1,200
Lacamas Lake Lodge	Lacamas Lake Lodge	227 NW Lake Road Camas, WA 98607	4,615

Condition Summary

Methodology

The field survey team included architects & engineers with expertise in building assessment who reviewed civil, structural, architectural, mechanical, electrical, plumbing, and site infrastructure systems to a Uniformat Level 3 detail[2]. These descriptions and scores are the basis for generating the Facility Condition Index (FCI), and Weighted Average Condition Score (WACS). Costs were developed by an experienced cost estimator familiar with the regional construction market & construction practices. The costs shown in this report are based on market rates, and not on prevailing wage requirements from the State of Washington.

Facility Condition Index (FCI)

A Facility Condition Index (FCI) is an industry standard used for benchmarking and evaluating a portfolio of facility assets over time[3]. The FCI is the ratio between a facility's Backlog of Maintenance and Repair (BMAR) and the Current Replacement Value (CRV) of the facility. Therefore, the lower the FCI, the lower the cost of maintenance backlog in relation to the cost of a full building replacement.

Common industry practice is to create a scale for interpreting the FCI as a way to prioritize facility needs. Most organizations adjust their classifications of FCI to relate to their own unique criteria. For this project, we suggest the following FCI breakdown to support decision making.

- Excellent = 0.00 – 0.05 (5%)
- Good = 0.06 – 0.10 (6% – 10%)
- Fair = 0.11 – 0.20 (11% – 20%)
- Poor = 0.21 – 0.25 (21% – 25%)
- Critical = 0.26 (26% or greater)

Weighted Average Condition Score (WACS)

Every surveyed building is broken down into Uniformat categories, systems, and subsystems. The surveyors use standard criteria for scoring each subsystem from 1 to 5, where 1 is Excellent, and 5

[2] http://www.uniformat.com/index.php/classification-of-building-elements

[3] Since 1999 GASB 34 has required government agencies to improve Basic Financial Statements, including periodic Condition Assessment of capital assets; subsequent protocols were developed by GSA, NASA, States, NCUBO and others with most sharing similar definitions of BMAR, CRV & FCI.

is Unsatisfactory[4]. These subsystem scores are combined to a weighted average (based on importance) to the system level. A similar weighed calculation is performed at the category level, resulting in a 1-5 score for the building as a whole. This is called the Weighted Average Condition Score (WACS).

For both WACS and FCI, the lower the number, the better the condition, or relative condition.

Table 2. FCI and WACS

Facility	FCI	WACS
City Hall / Station 41	0.20	3.15
City Hall Annex	0.26	3.43
Community Center	0.26	3.45
Fire Station 42	0.13	2.78
Fire Station 43	0.13	2.83
Lacamas Lake Lodge	0.07	2.21
Library	0.12	2.68
Police Station	0.11	2.53
Mobile Office	0.16	3.11
Public Works Operations Center	0.13	2.76
Scout Hall	0.20	3.54
Wastewater Treatment Plant		
Bio-solids Dryer Building	0.07	2.52
Control Building	0.05	3.04
Digester Building	0.06	2.38
Equipment Building	0.17	3.24
Main Office	0.11	2.69
UV Building	0.09	2.71

Cost Overview

Estimated costs are *calculated* for short-term Observed Deficiencies (ODs) and *modeled* for long-term Predicted Renewals (PRs). The deficiency costs in the Facility Details Report show direct costs plus typical construction markups as well as project development markups (design, management, etc.).

Table 3 shows the total deficiencies and predicted renewals for each facility.

[4] A full description of the scoring metrics for all subsystems can be provided upon request.

Table 3. Total ODs and PRs by Facility

Facility	Predicted Renewals 2028-2041	Observed Deficiency 2022-2027
City Hall / Station 41	$3,518,800	$2,804,000
City Hall Annex	$809,600	$1,102,000
Community Center	$991,600	$2,653,000
Fire Station 42	$1,494,000	$572,000
Fire Station 43	$1,958,400	$448,000
Lacamas Lake Lodge	$420,500	$184,000
Library	$4,232,600	$1,763,000
Police Station	$2,464,800	$538,000
Mobile Office	$45,300	$51,000
Public Works Operations Center	$1,227,300	$898,000
Scout Hall	$121,200	$259,000
Bio-solids Dryer Building	$75,200	$101,000
Control Building	$46,600	$228,000
Digester Building	$73,100	$135,000
Equipment Building	$94,400	$968,000
Main Office	$142,600	$155,000
UV Building	$62,800	$1,215,000

Observed Deficiencies

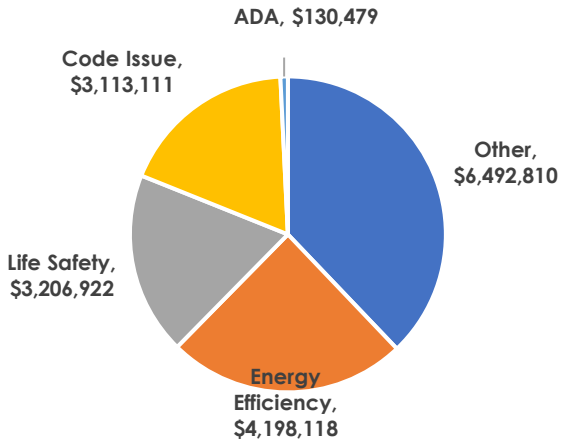
For a notable issue to be considered an Observed Deficiency (OD), the surveyor must think that the issue needs to be addressed within the next 5-year period, with an expected direct cost of $5,000 or greater. Each deficiency is assigned an action type to help prioritize the order in which it should be addressed. The following pie chart shows the ODs broken out by action type.

For the 2021 FCA, ODs total approximately $17M.

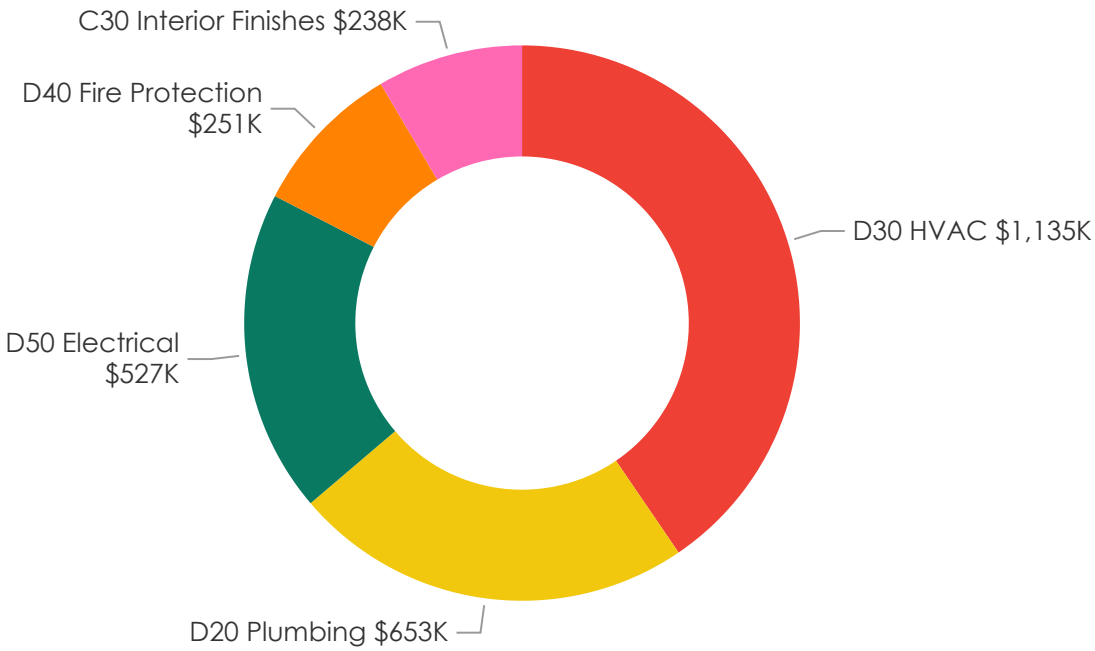
Priority ODs are those in the "Life Safety" and "Code Issue" categories, which total approximately $6.3M. Detailed descriptions, photos, and cost estimates of these deficiencies can be found in the Facility Details Report (Volume 2).

Pages 7 to 15 show a graphic representation of the ODs by Site, broken out to Uniformat Level 2 Systems. These graphics can be viewed in greater detail in the Microsoft BI Dashboard that accompanies this report.

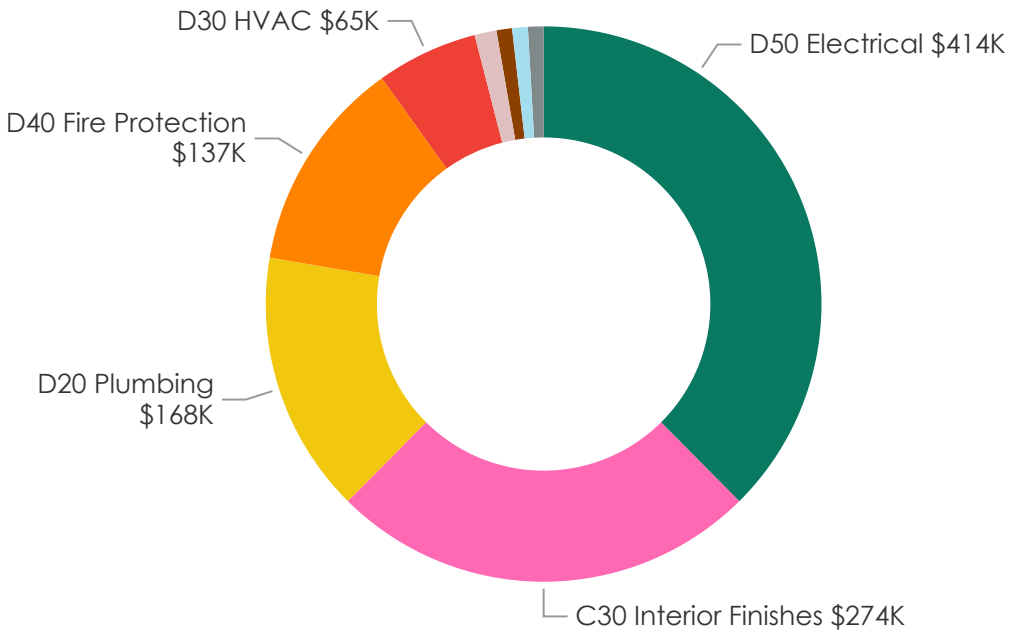
Figure 1. Deficiencies by Action Type



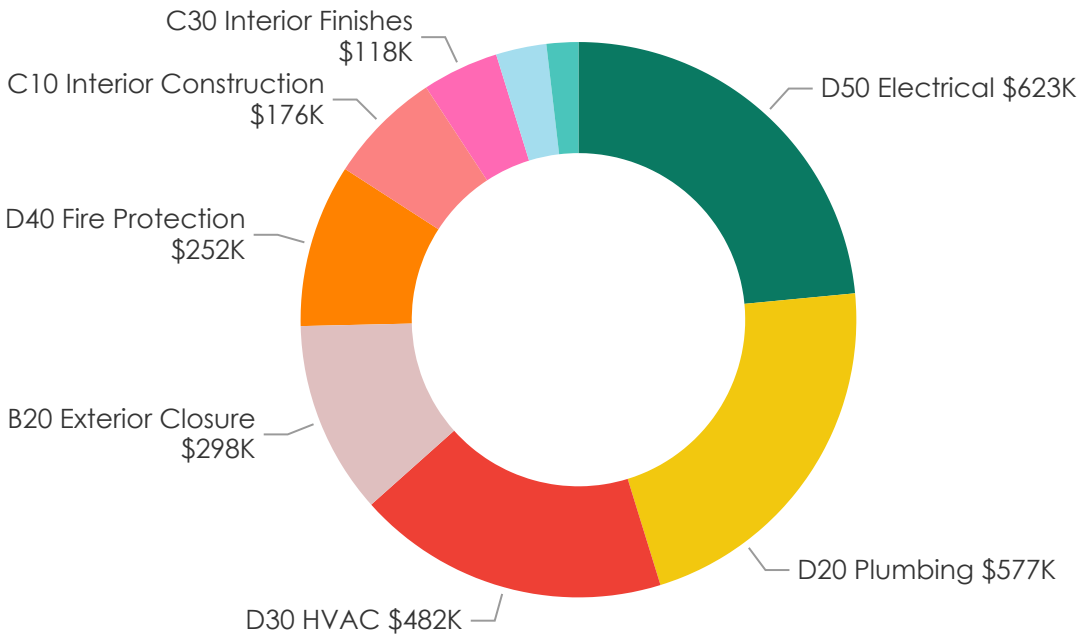
City Hall / Station 41



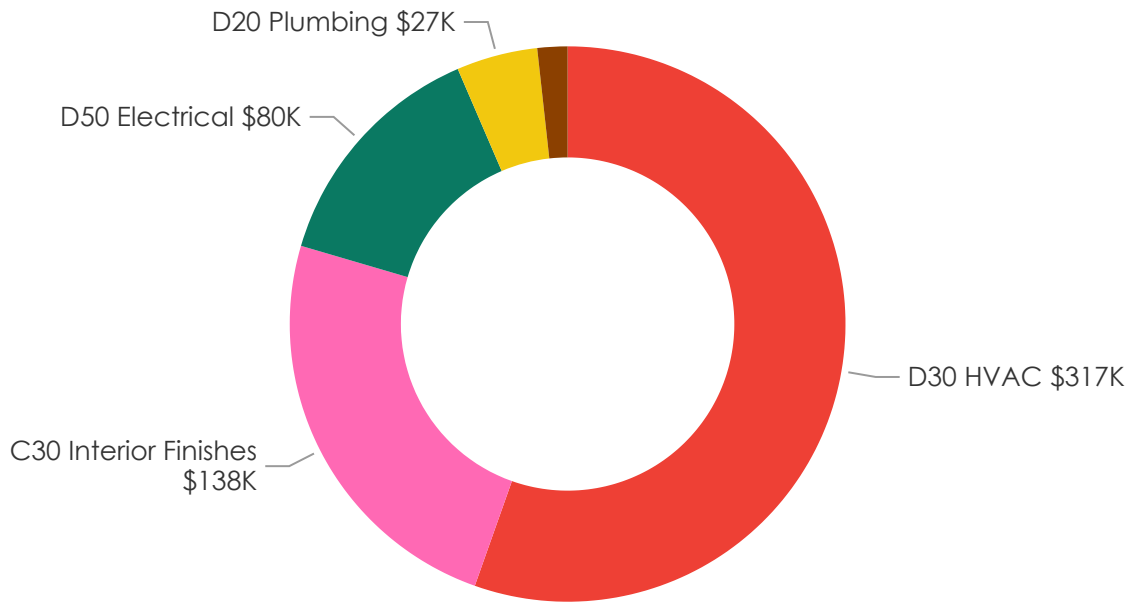
City Hall Annex



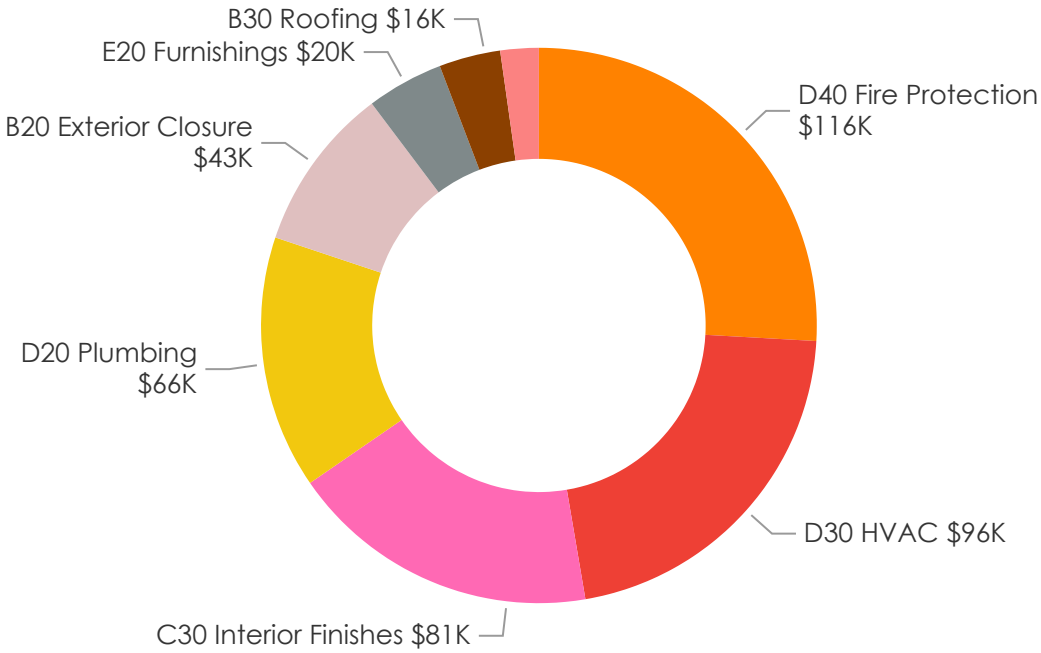
Community Center



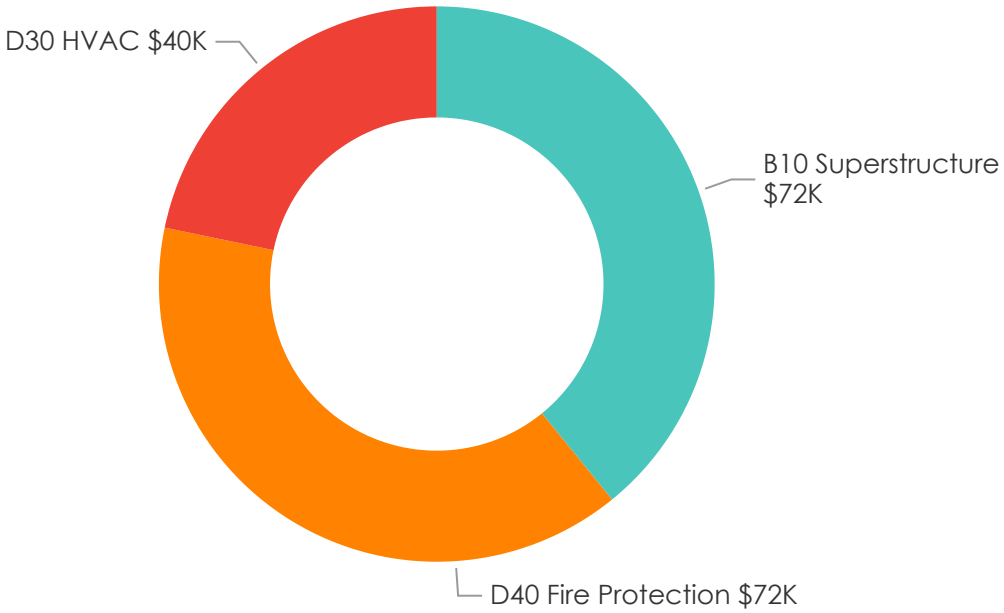
Fire Station 42



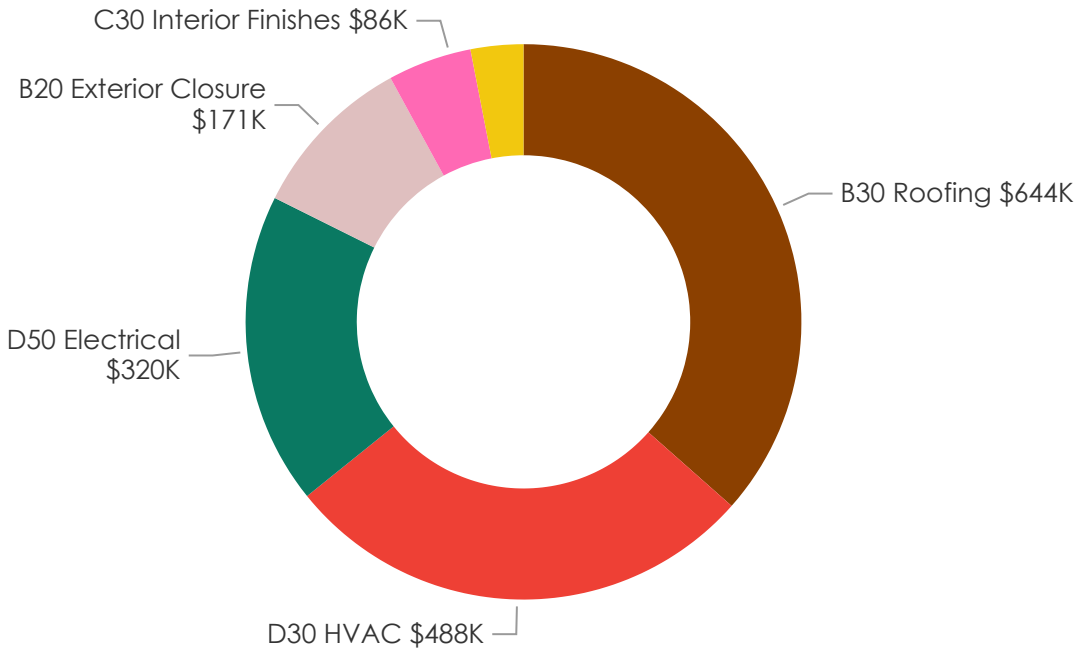
Fire Station 43



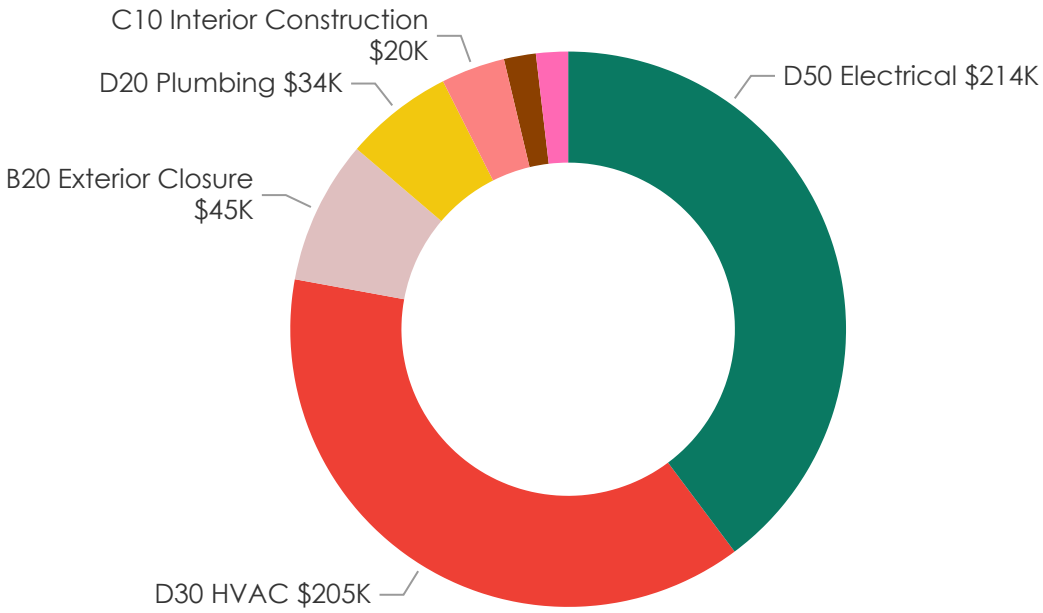
Lackamas Lake Lodge



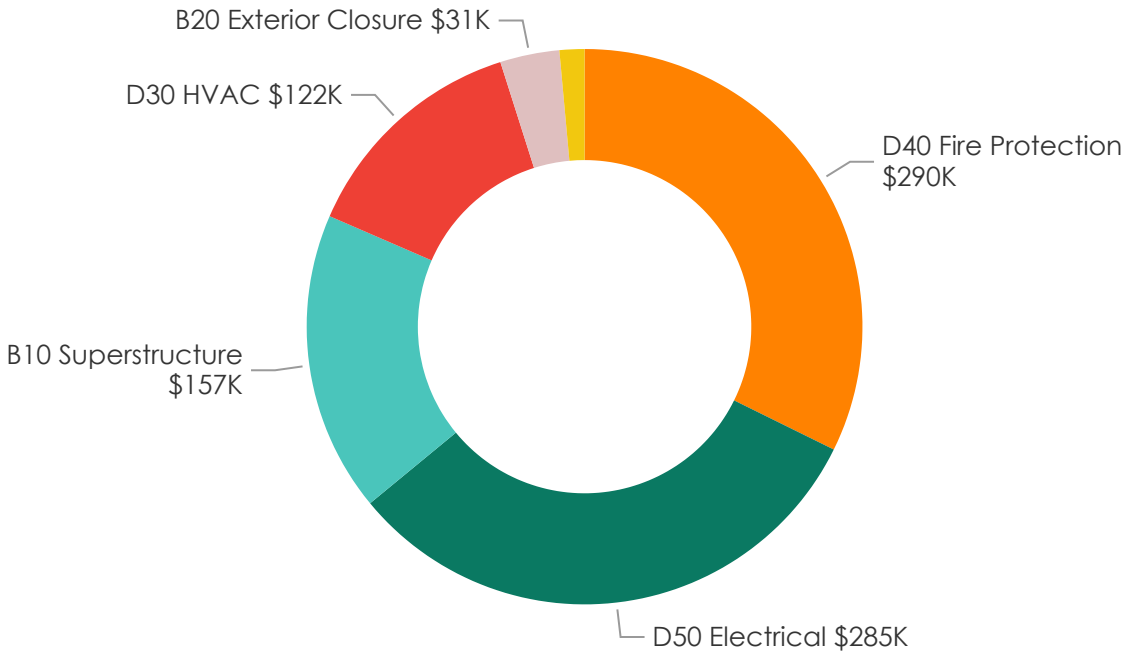
Library



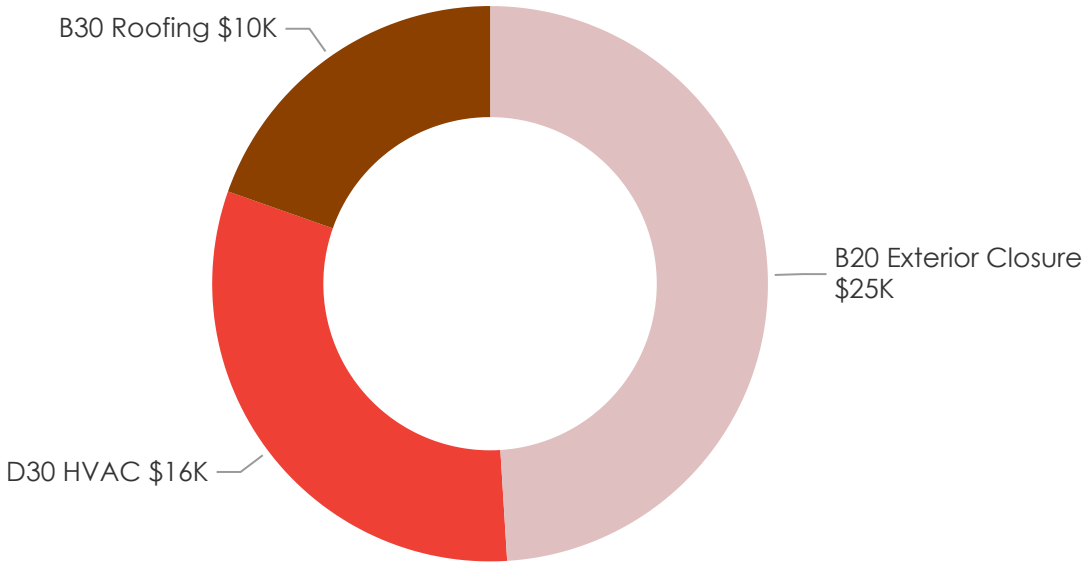
Police Station



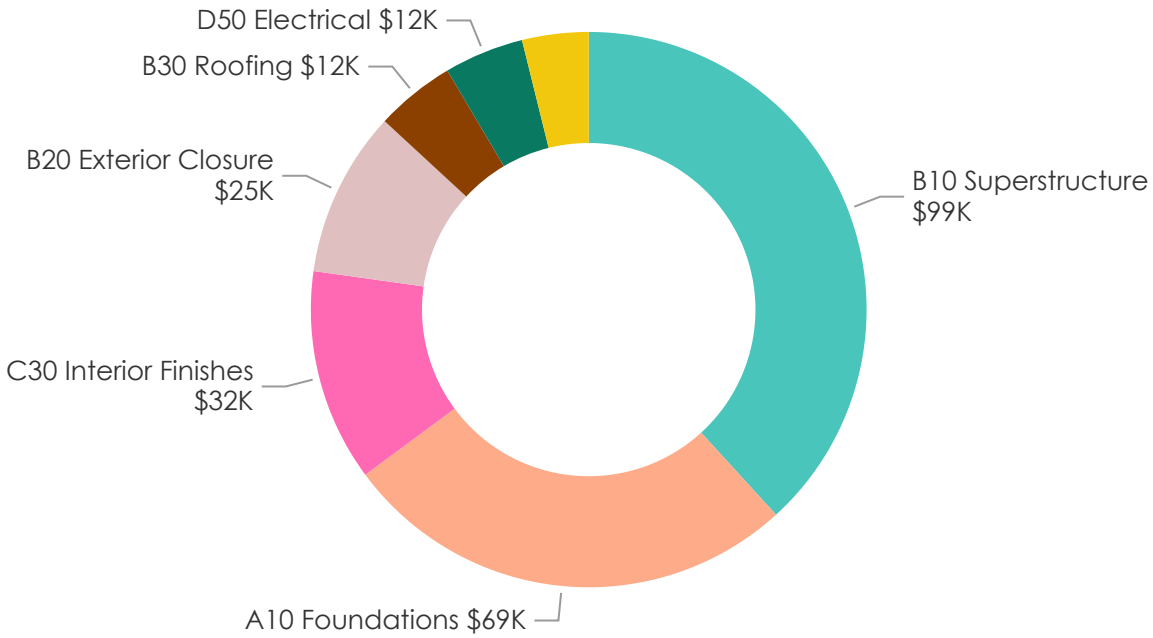
Public Works Operations Center



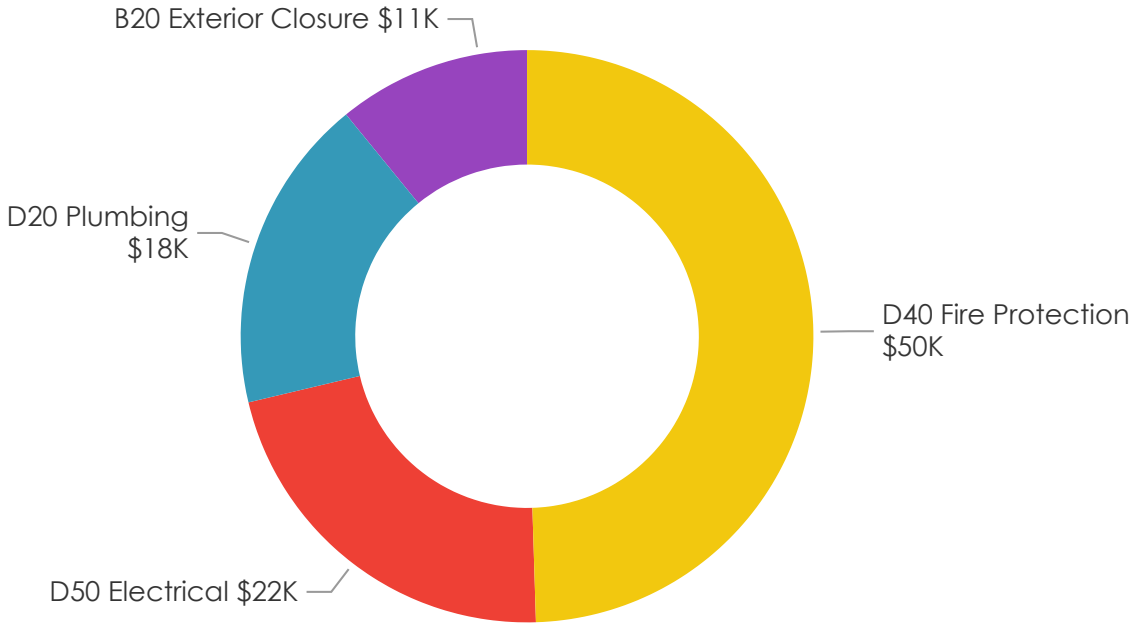
Public Works Operations Center Mobile Office



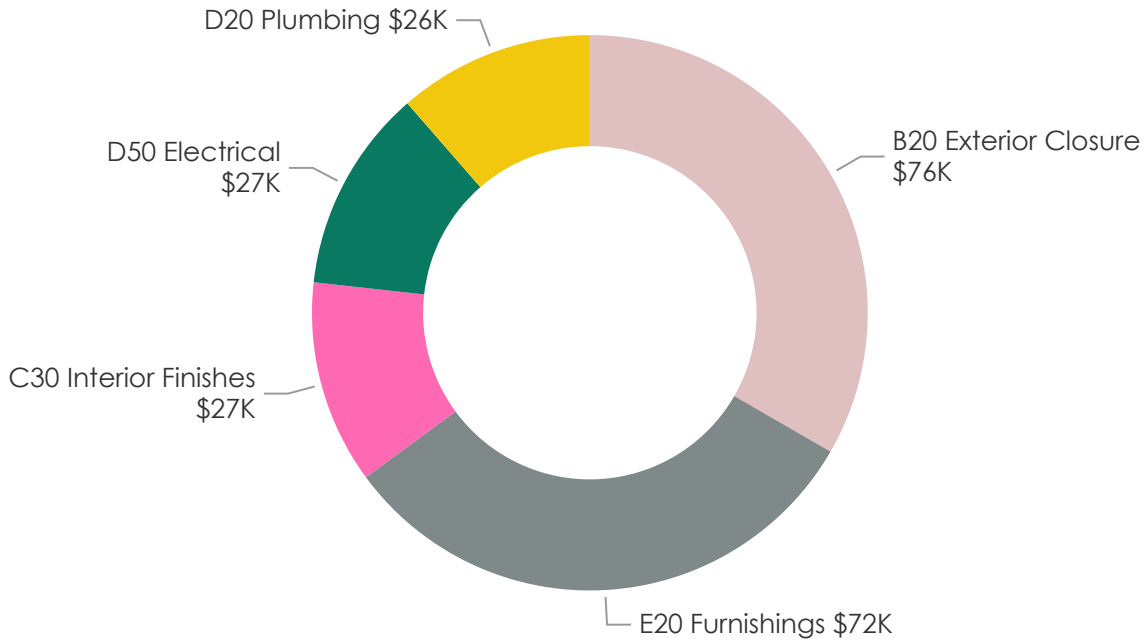
Scout Hall



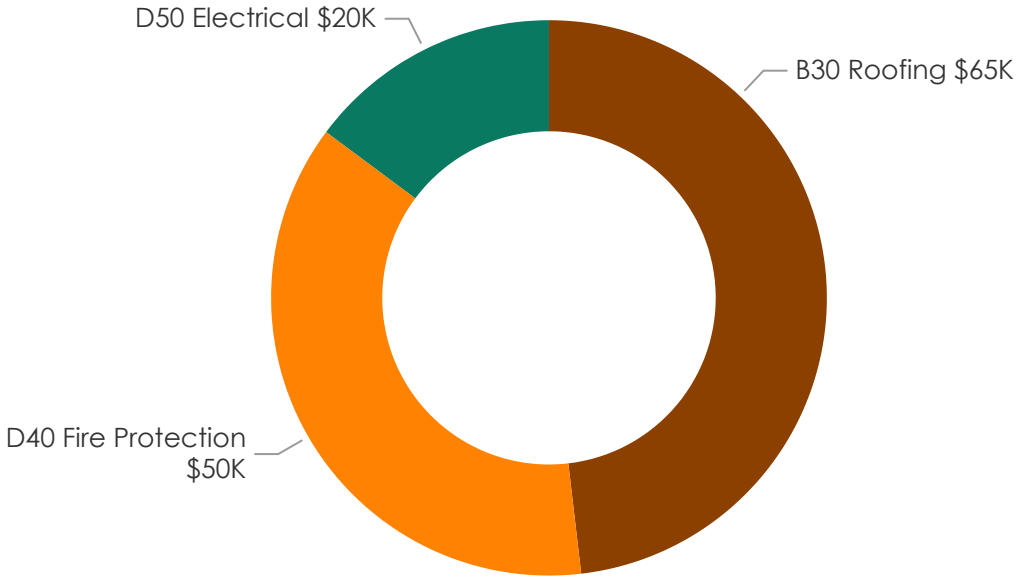
Wastewater Treatment Plant
Bio-solids Dryer Building



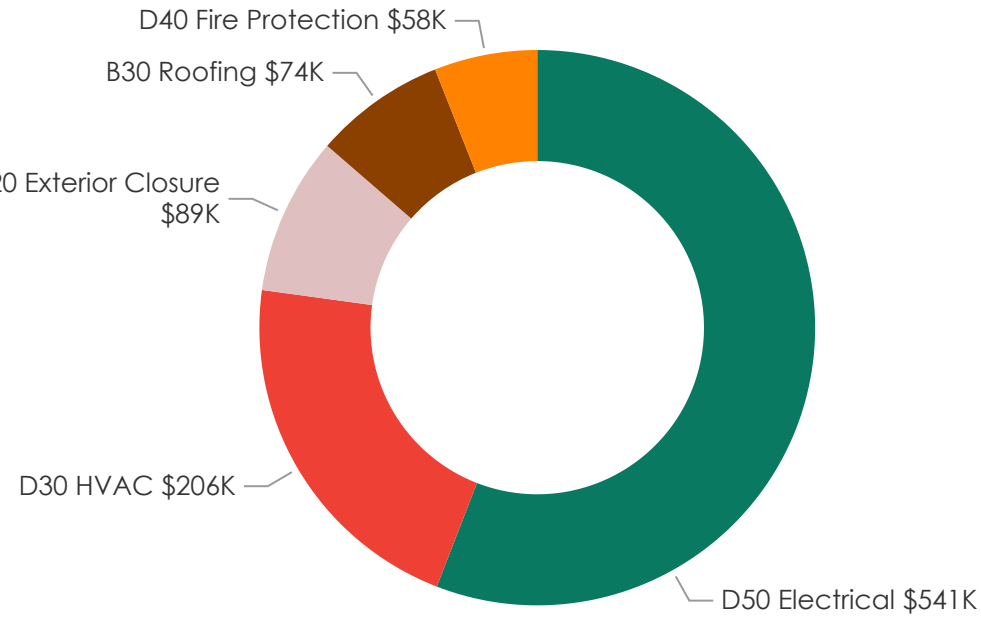
Wastewater Treatment Plant Control Building



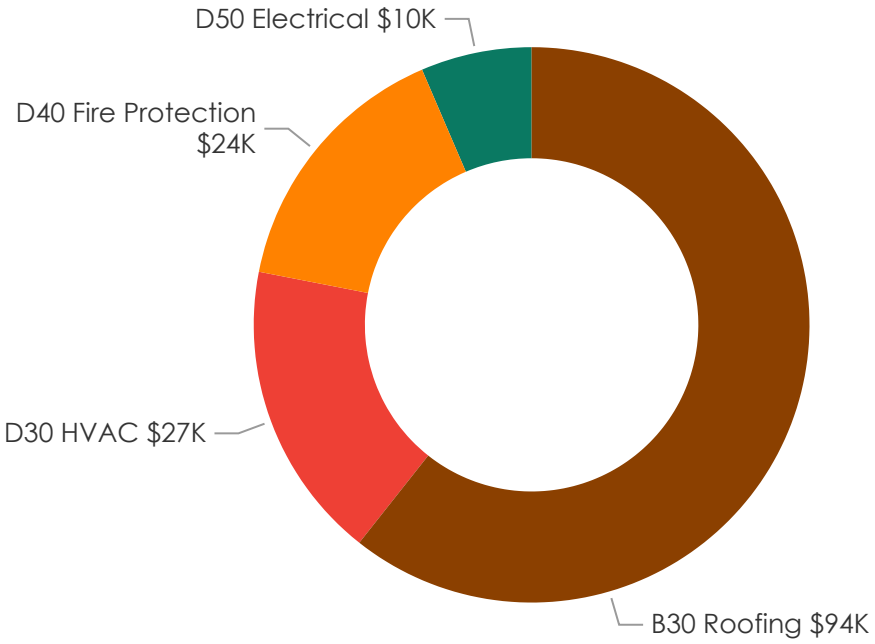
Wastewater Treatment Plant Digester Building



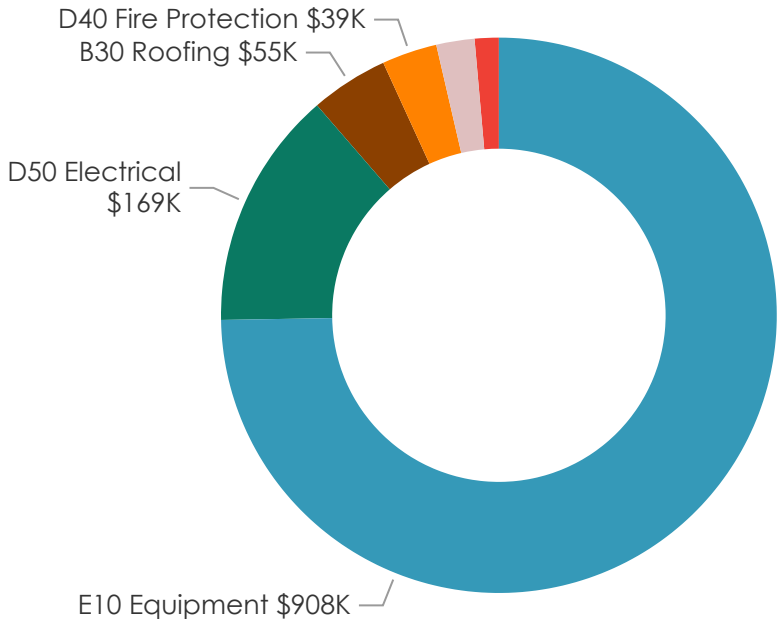
Wastewater Treatment Plant Equipment Building



Wastewater Treatment Plant Main Office



Wastewater Treatment Plant
UV Building

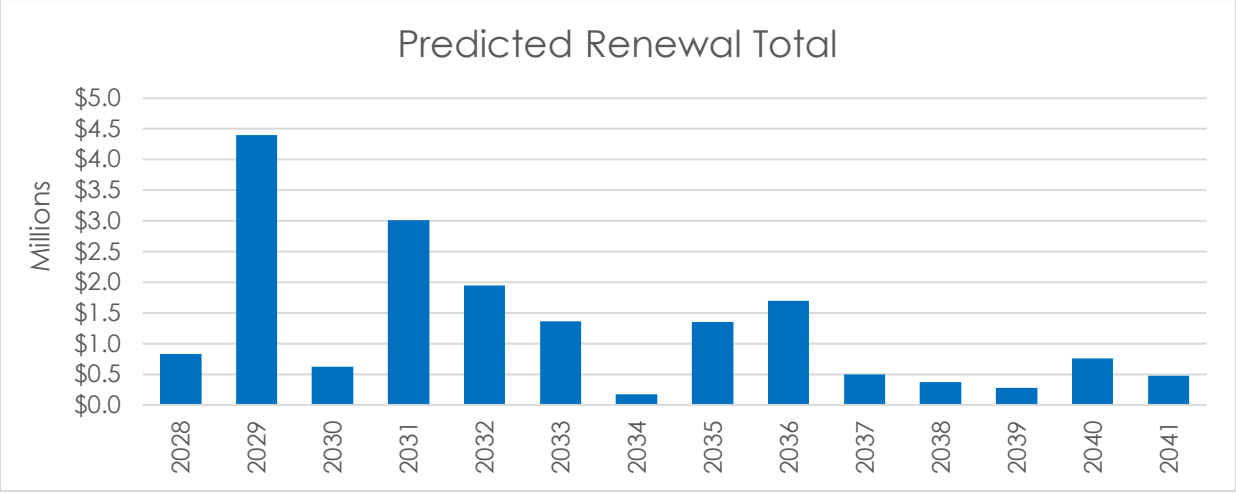


Predicted Renewals

Predicted Renewals (PRs) are modeled for the years 2028 – 2041, based on the system type, age, current condition, expected useful life, and anticipated replacement cost. These costs are based on predictive models, and therefore should be used as high-level long-term planning tool. Some systems may fail sooner or last longer than the model predicts based on maintenance practices, intensity of use, or extreme weather events.

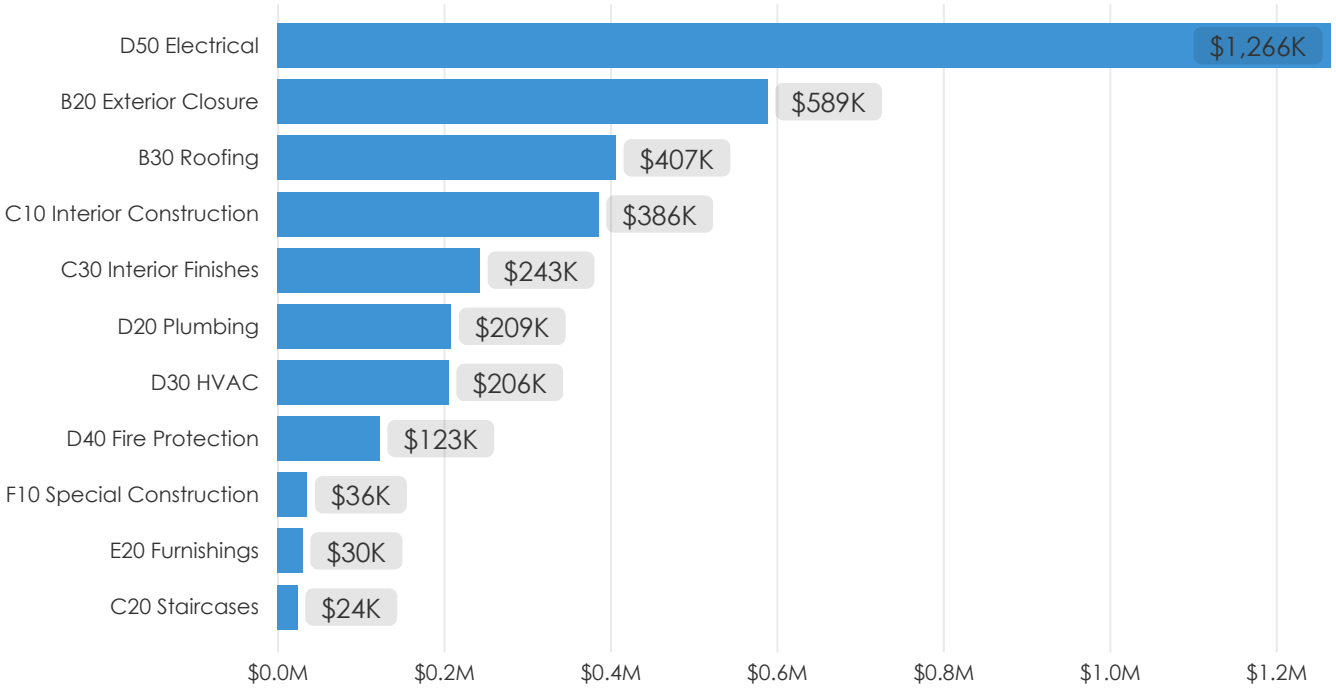
For the time period of 2028 – 2041, the estimated PR cost is approximately $18M The highest cost year is expected to be 2029 at just under $4.5M. The detailed PR table included in the Appendix shows these PRs broken out by facility, subsystem, and year.

Figure 2. Predicted Renewal Totals by Year

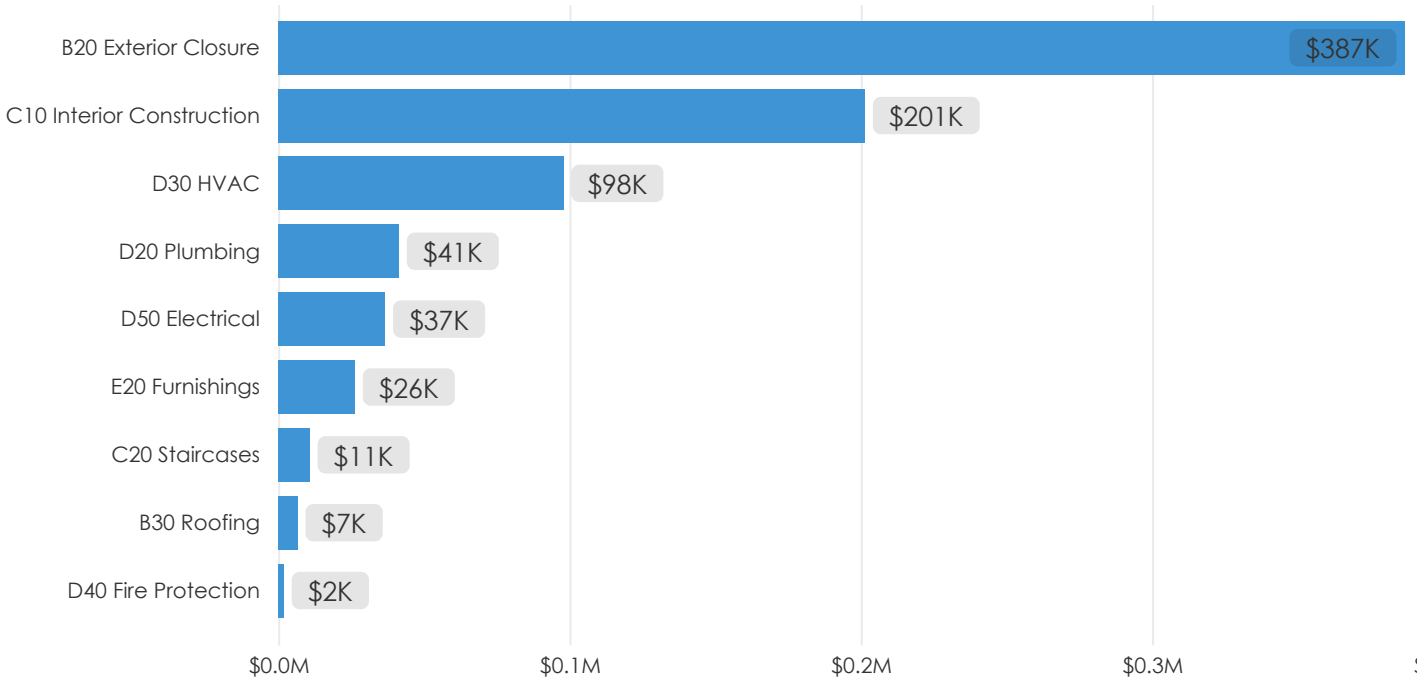


Pages 17 to 25 show a graphic representation of the total predicted renewals by site, broken out by Uniformat Level 2 categories.

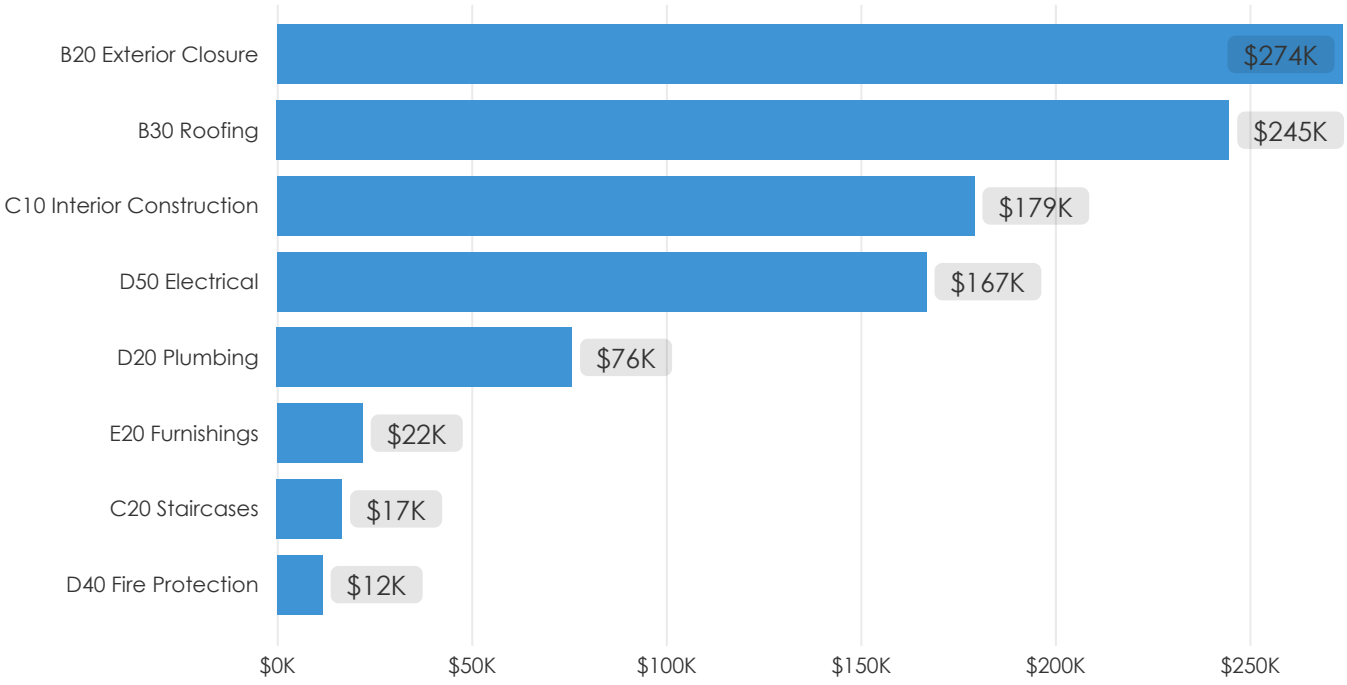
City Hall / Station 41



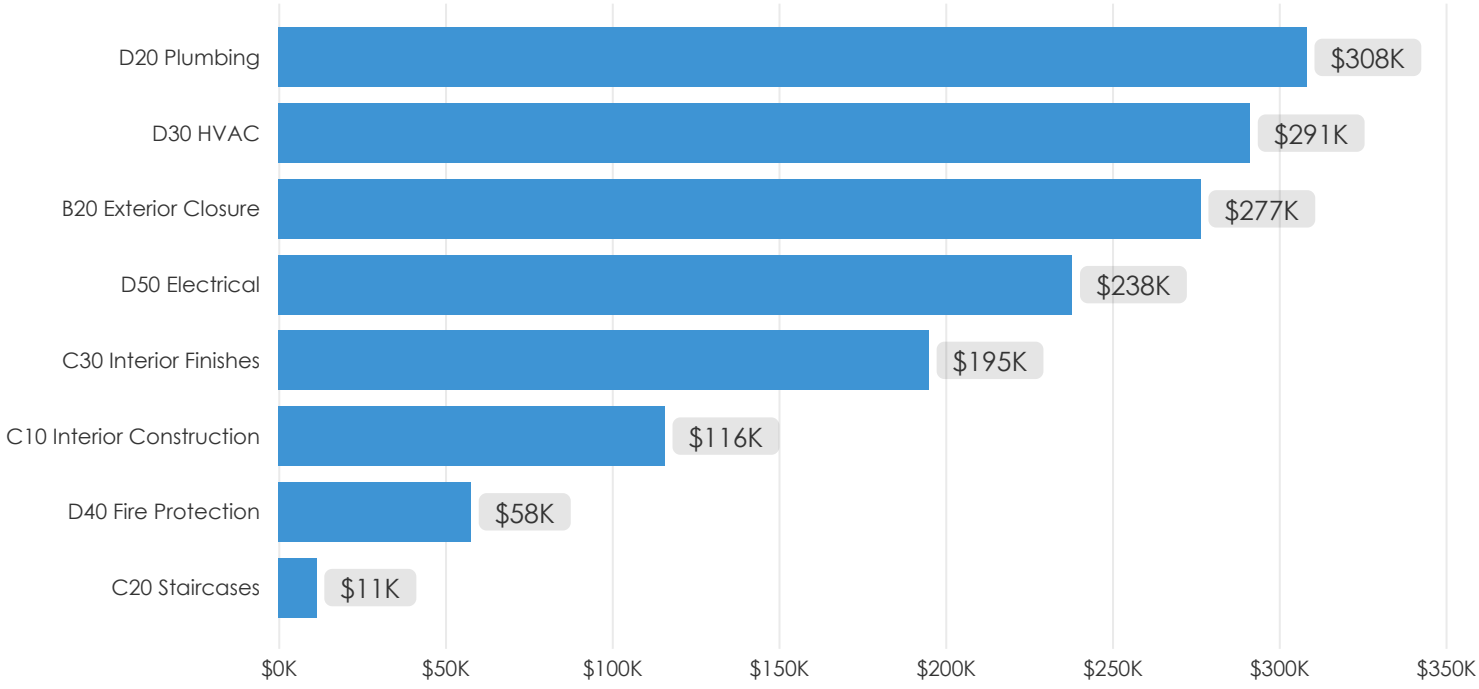
City Hall Annex



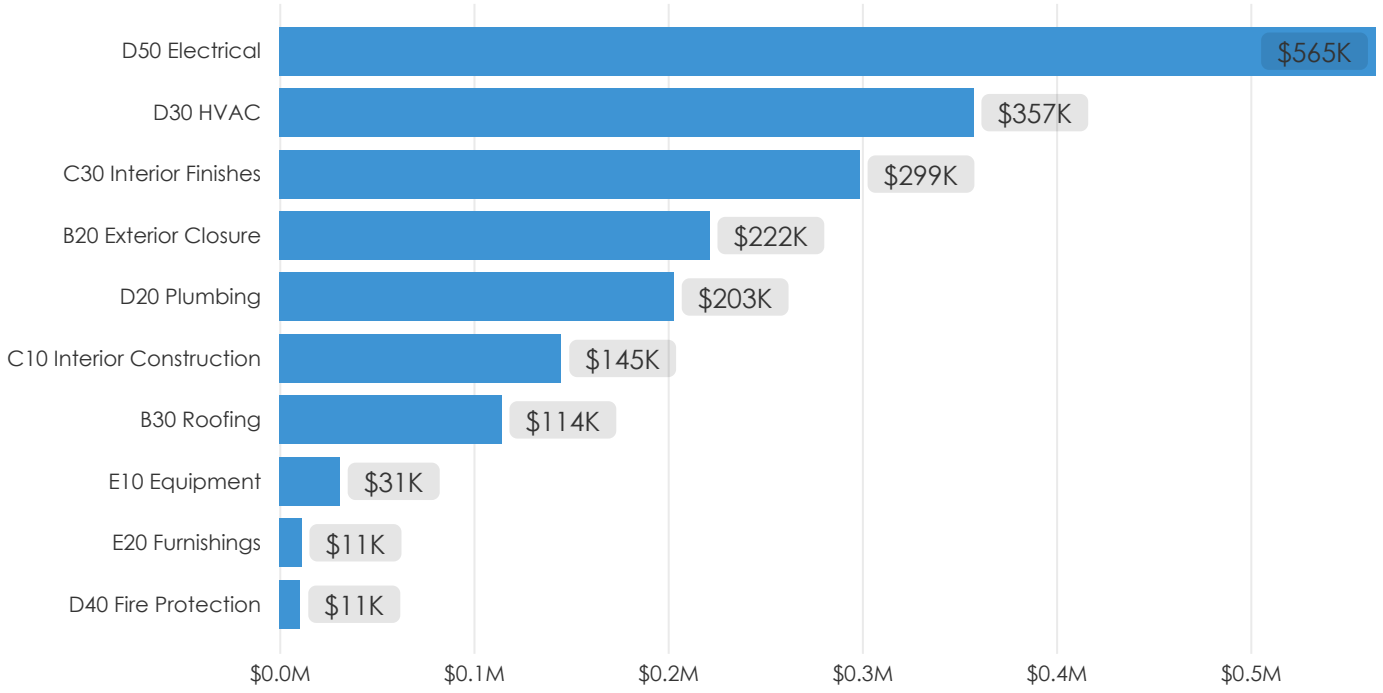
Community Center



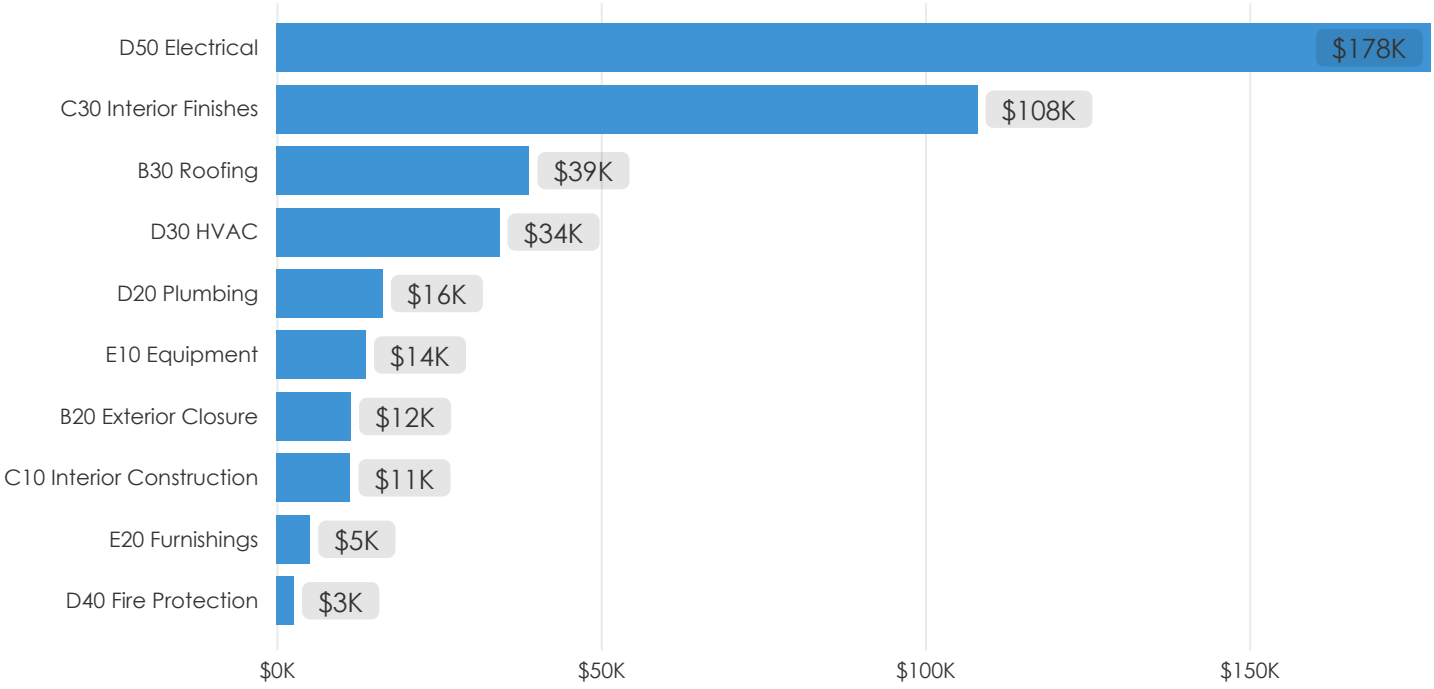
Fire Station 42



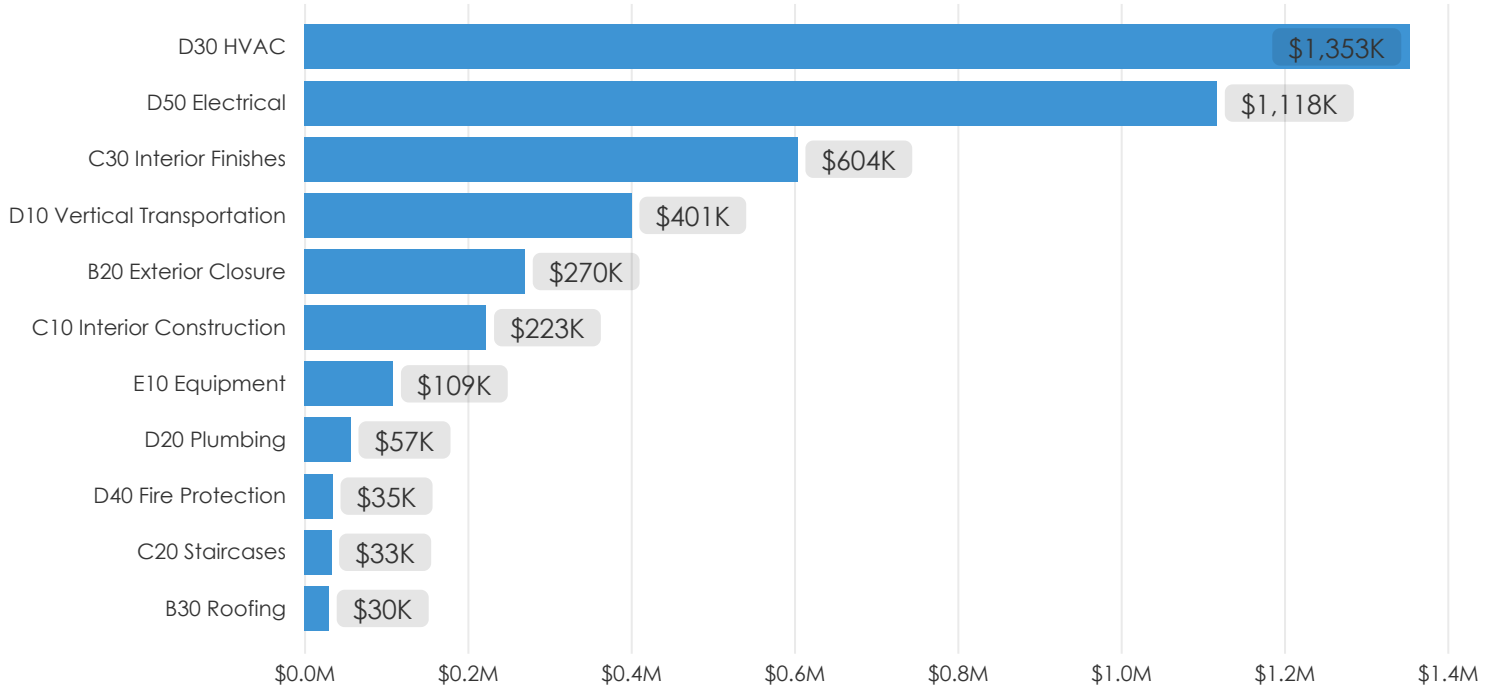
Fire Station 43



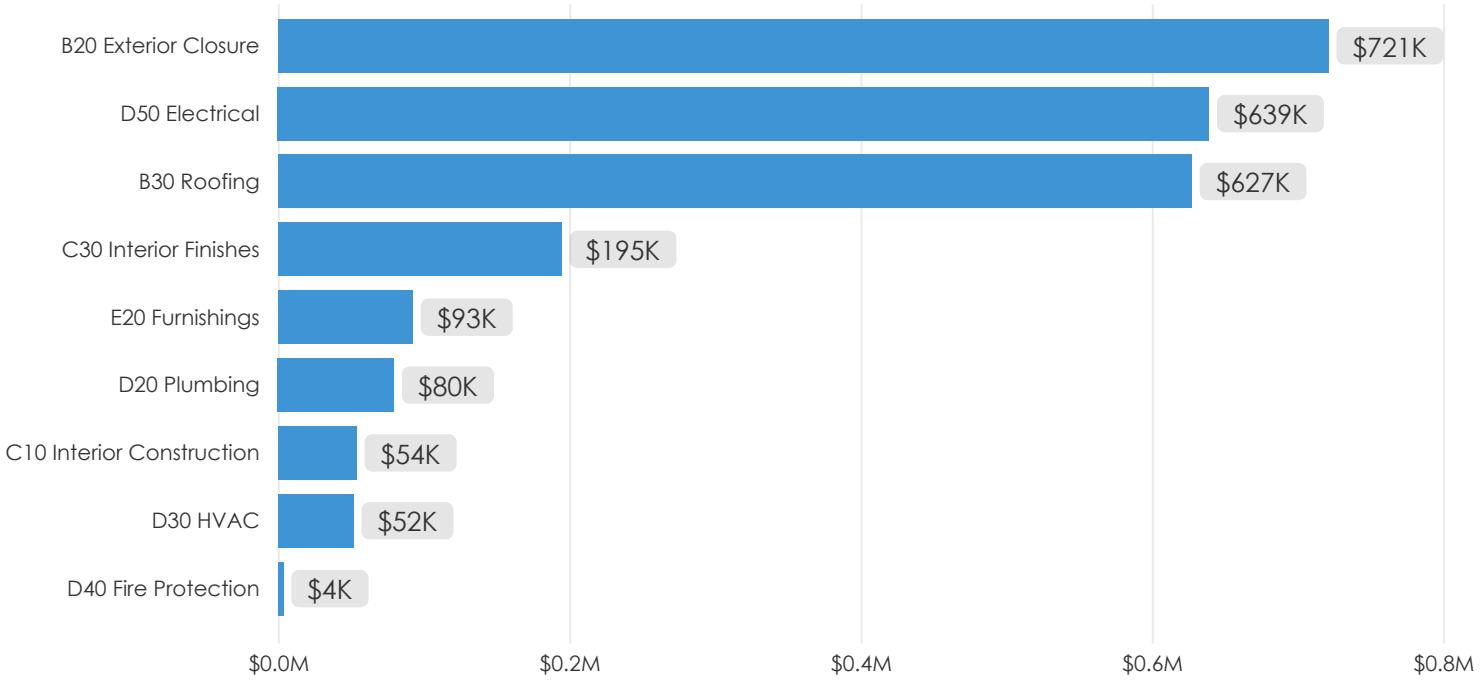
Lackamas Lake Lodge



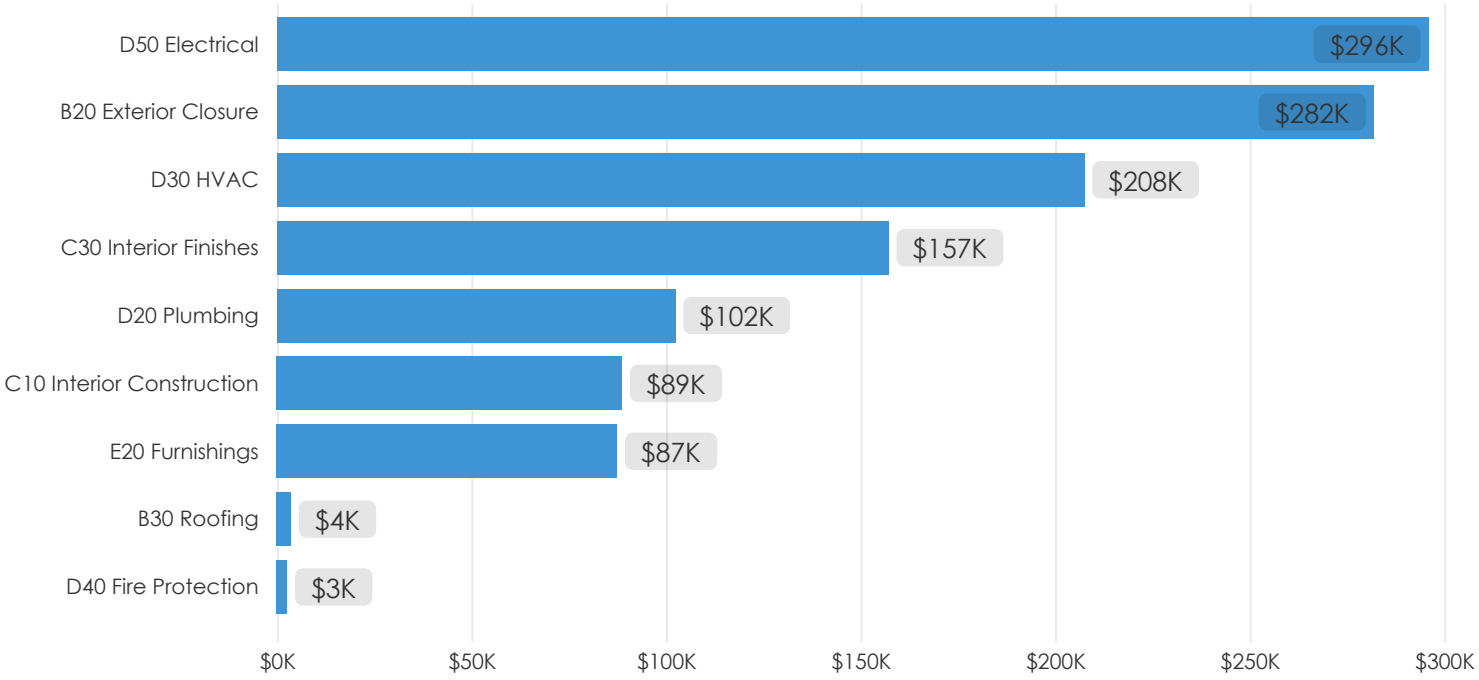
Library



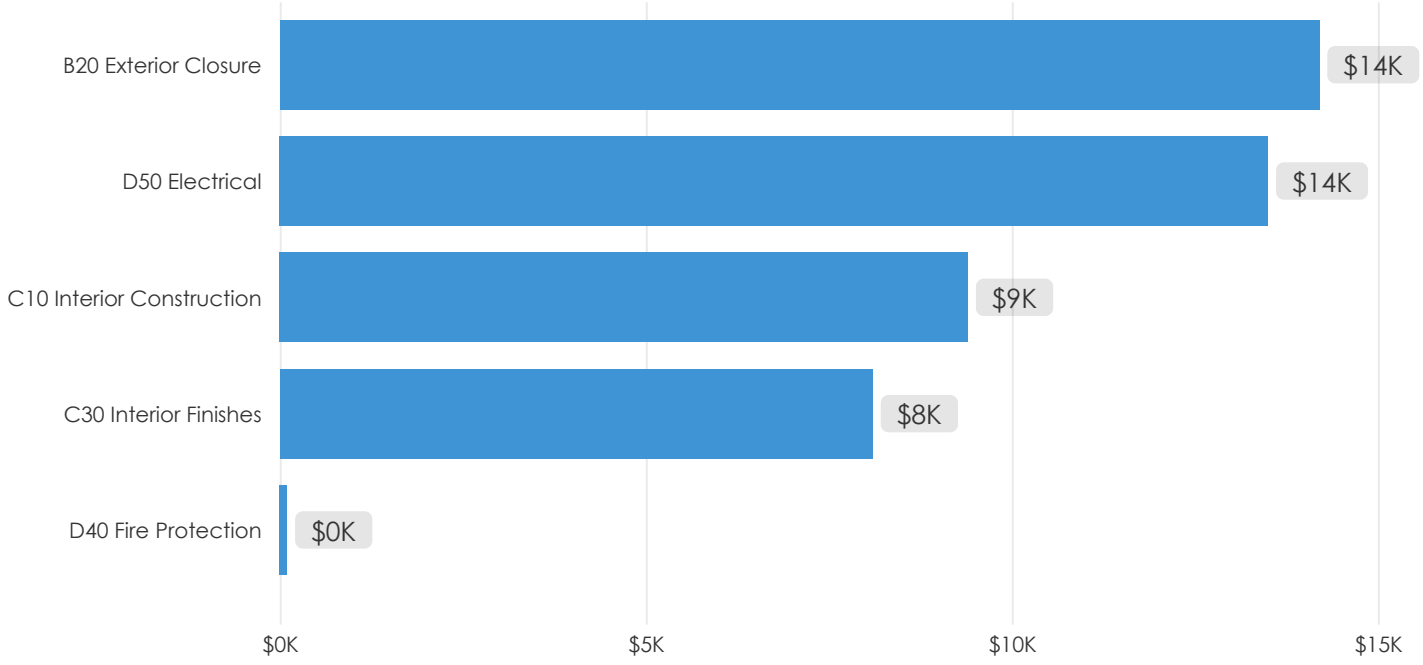
Police Station



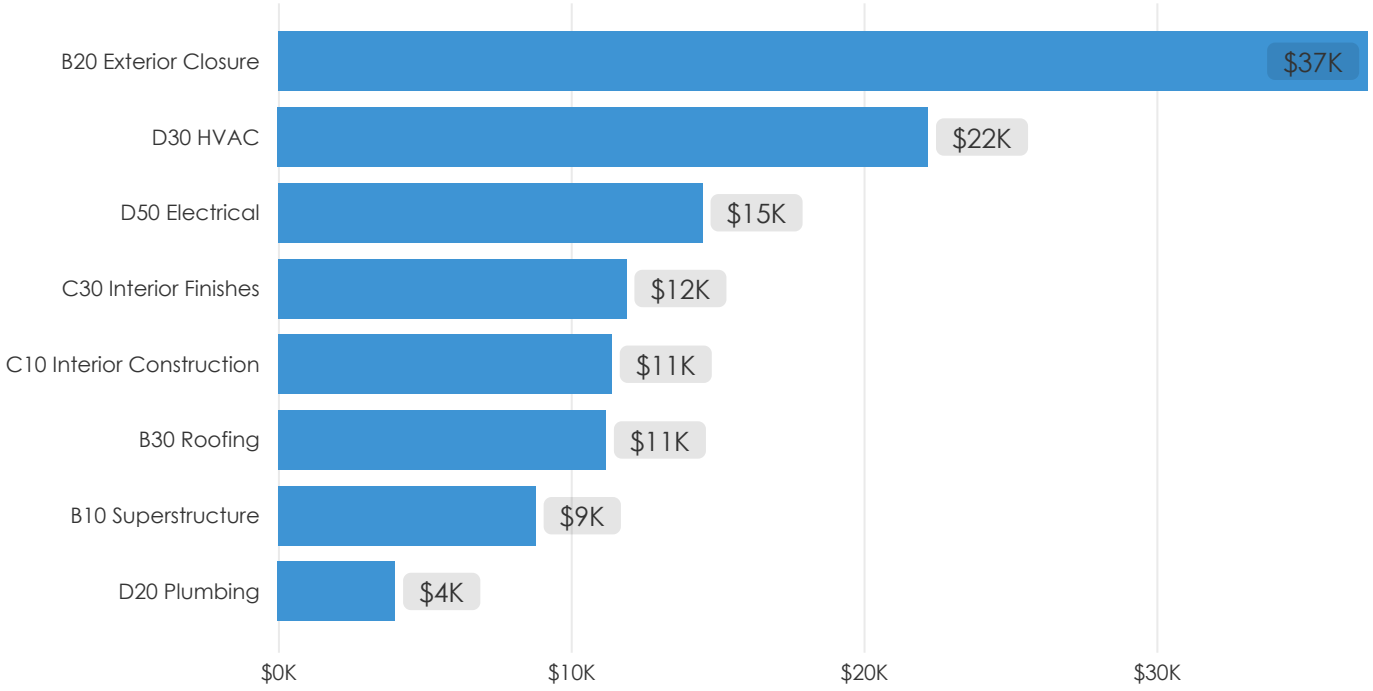
Public Works Operations Center



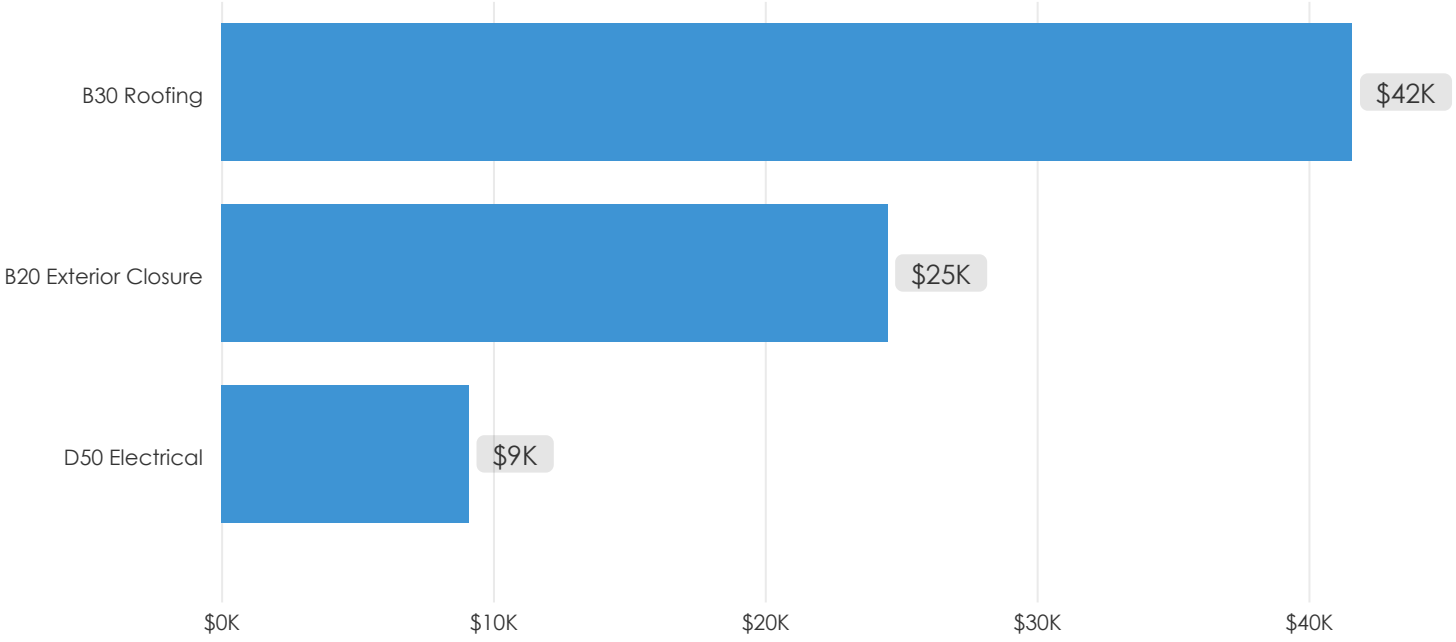
Public Works Operations Center Mobile Office



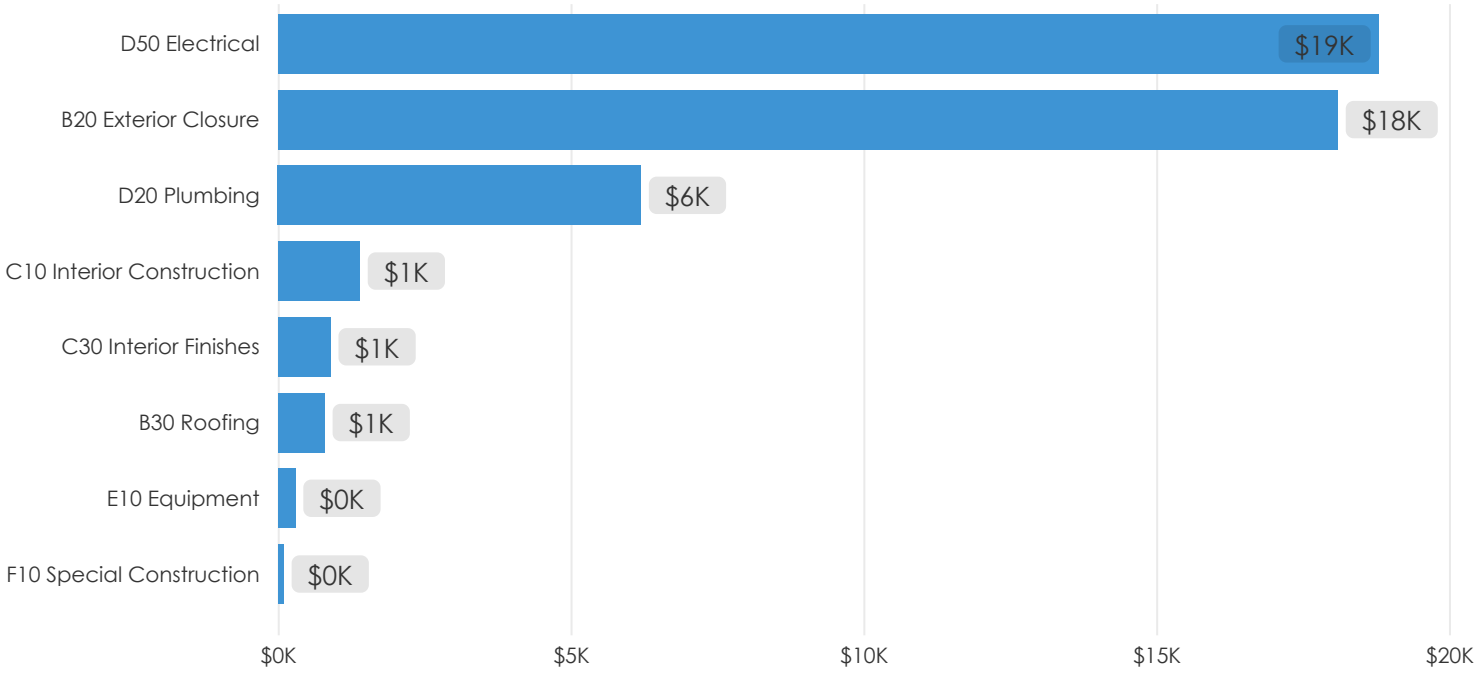
Scout Hall



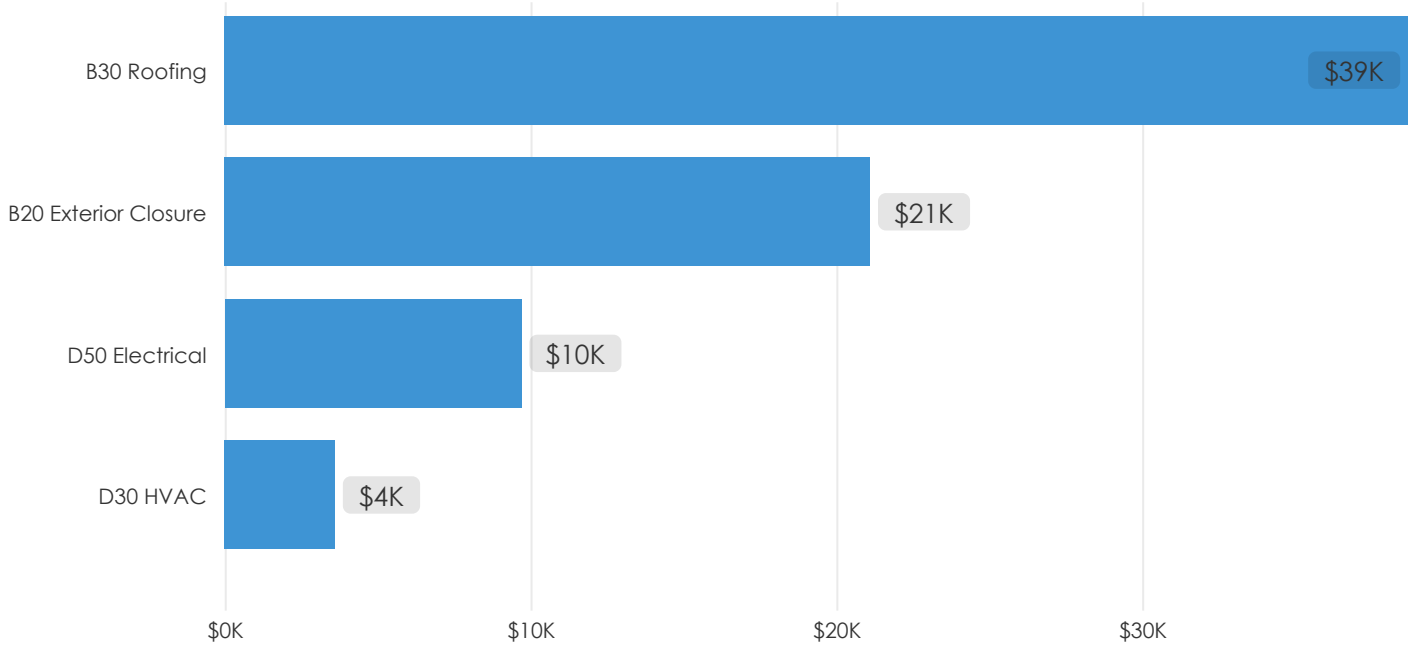
Wastewater Treatment Plant
Bio-solids Dryer Building



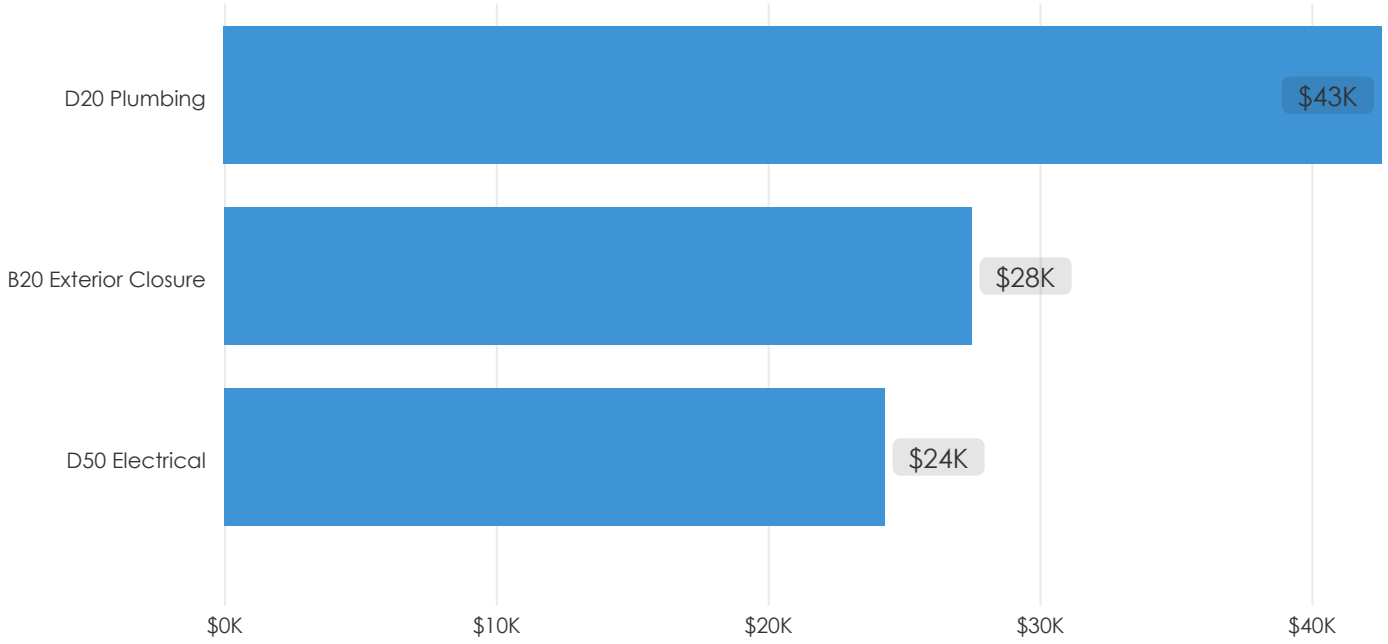
Wastewater Treatment Plant Control Building



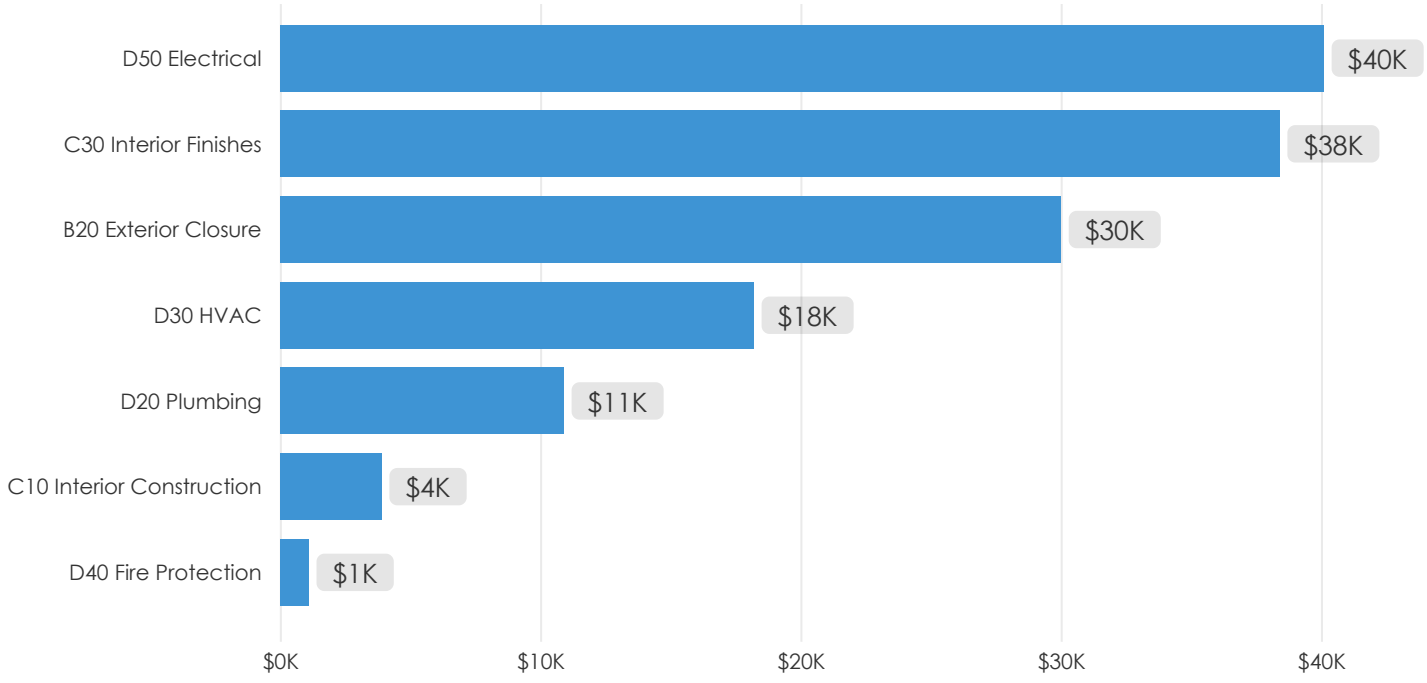
Wastewater Treatment Plant Digester Building



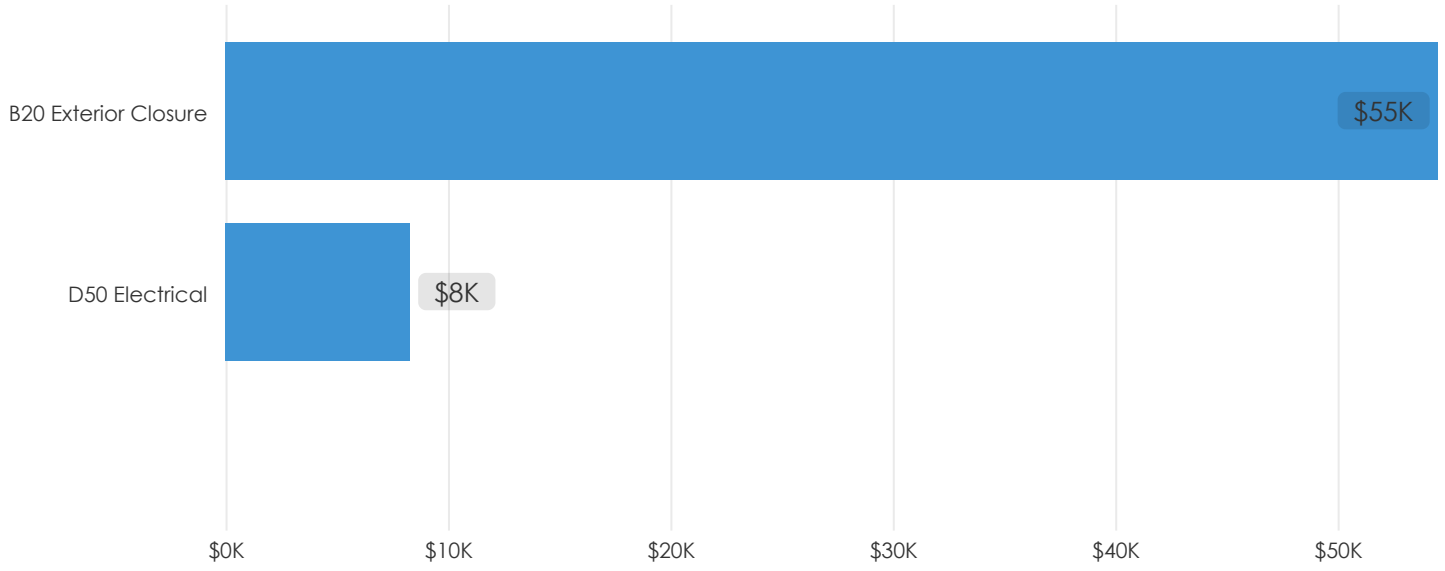
Wastewater Treatment Plant Equipment Building



Wastewater Treatment Plant Main Office



Wastewater Treatment Plant
UV Building



City of Camas

Facility Condition Assessment

Volume 2: Detailed Facility Report

Prepared by MENG Analysis

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Size - Gross S.F.	28,080
Year Of Original Construction	1967
Facility Use Type	Community Center
Construction Type	Heavy
# of Floors	2
Energy Source	Gas
Year Of Last Renovation	1967
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**3.2**			
Facility Condition Index (FCI)	0.20	**Predicted Renewal Budget 2028 - 2041**	$3,048,000	$3,519,000
Current Replacement Value (CRV)	$10,371,000	**Observed Deficiencies 2022 - 2027**	$2,743,000	$2,804,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$3,693,000	N/A

Facility Condition Summary

The building houses City Hall, administrative functions, Fire Station 41, and the permitting and land use offices. The building is a two-story concrete structure with an additional basement (a former firing range, now used for records storage). The roofing is a 2017 membrane roof, exterior walls are a combination of mid-century modern patterned precast concrete panels, and cast concrete, windows are a mix of the original mid-century tall single-pane and aluminum frame fenestrations, and other newer (1995 and 2001) insulated aluminum and vinyl windows.

HVAC is distributed water-source heat pump with separate ventilation air systems for most regularly occupied spaces. The apparatus bays and hose tower have gas-fired unit heaters. Most sub-basement spaces are not heated, but some have ventilation. Most of the HVAC system is at end of life. Similarly, much of the plumbing piping is at end of life, with multiple aged fixtures; however, the hot water heaters are relatively new. Fire sprinkler is provided in the station house (living and office) area and portions of the basement, but not the apparatus bays, City Hall offices, or City Hall garage; however, relatively modern fire alarm is provided for most areas, except for City Hall main floor. Power is modern 208V three-phase, with obsolete and under-capacity standby generator power. Lighting is mostly lay-in type with mostly aged fluorescent lamps but some upgraded to LED; many spaces include occupancy sensor lighting control. High-speed fiber-optic data is provided, including WiFi service in many regularly occupied spaces; other low-voltage systems are a mix of mostly older and some newer.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**3.0**			
A10 Foundations						
A1010 Standard Foundations	1967	1967	3	TRB	12/01/21	Standard concrete footings and foundations assumed, no issues reported.
A1030 Slab On Grade	1967	1967	3	TRB	12/01/21	Concrete slab on grade, concerns voiced by staff about radon. A past radon vent system has been installed; reportedly tested yearly and radon levels are reported below thresholds of concern.
A20 Basements						
A2020 Basement Walls	1967	1967	3	TRB	12/01/21	Concrete masonry, no issues observed.
B Shell			**2.9**			
B10 Superstructure						
B1010 Floor Construction	1967	1967	3	TRB	12/01/21	Concrete floor on concrete beams, no issues reported or observed.
B1020 Roof Construction	1967	1967	3	TRB	12/01/21	Rigid insulation on a mix of systems: tongue and groove car deck on heavy timber and glulam, and steel on metal joists. No issues reported.
B20 Exterior Closure						
B2010 Exterior Walls	1967	1967	3	TRB	12/01/21	Painted concrete (a combination of precast units on the east, south, and west areas), and cast concrete on the south area housing fire and permitting.
B2020 Exterior Windows	1967	1990	3	TRB	12/01/21	A mix of window systems, areas of original uninsulated single-pane glass, some units replaced in 1995 and 2001 with thermal units in aluminum, and vinyl windows at the fire station living quarters.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**2.9**			
B20 Exterior Closure						
B2030 Exterior Doors	1967	1995	3	TRB	12/01/21	Aluminum storefront. Metal overhead doors at the fire station. Reportedly, the operating mechanisms and tracks often require maintenance and adjustment (especially considering the amount of use they receive).
B30 Roofing						
B3010 Roof Coverings	1967	2017	2	TRB	12/01/21	2017 white membrane roofing. Existing roof drains from the perimeter gutters are inadequately sized for the volume and roof area (see D2040 Rain Water Drainage).
B3020 Roof Openings	1967	1995	3	TRB	12/01/21	Roof access hatch from access ladder with cage (recommend installing safety extension post at hatch). Solatube-type skylights over the fire house. Nine acrylic bubble skylights over the main entry canopy that are in need of cleaning.
B3030 Projections	1967	1967	3	TRB	12/01/21	Freestanding entry canopy at the main entrance, and a fabric canopy over the permit center walk ramp and entrance. Hose drying tower (still used for drying hoses).
C Interiors			**3.2**			
C10 Interior Construction						
C1010 Partitions	1967	1967	3	TRB	12/01/21	Gypsum on wood studs. Concrete masonry unit walls in ground and basement level areas. Toilet partitions are painted metal.
C1020 Interior Doors	1967	1967	3	TRB	12/01/21	Wood doors and frames, most accessible doors have ADA-compliant hardware, but some utility-type doors with knob hardware. Some doors with wire glass.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**3.2**			
C10 Interior Construction						
C1030 Fittings	1967	1967	3	TRB	12/01/21	Chair rail and wainscot wood paneling in council chambers. Miscellaneous fire station storage and equipment fittings. One stair railing loose.
C20 Staircases						
C2010 Stair Construction	1967	1967	3	TRB	12/01/21	Concrete stairs typical, no issues reported. Metal stairs from the fire house down to the apparatus bays.
C2020 Stair Finishes	1967	1980	3	TRB	12/01/21	Carpet at lower level permitting offices is worn and torn and is a trip hazard (replace with general carpet flooring). West stair has cast non-slip treads with vinyl risers. Other stairs are exposed concrete.
C30 Interior Finishes						
C3010 Wall Finishes	1967	2000	3	TRB	12/01/21	Painted finishes.
C3020 Floor Finishes	1967	1995	4	TRB	12/01/21	Carpet in administrative and permitting areas is worn and nearing end of life.
C3030 Ceiling Finishes	1967	1995	3	TRB	12/01/21	Suspended acoustic 2x4 ceiling tiles. Some water stains and some tiles need to be replaced. Based on assumed age, the track and suspension system likely does not meet modern seismic standards.
D Services			**3.3**			
D10 Vertical Transportation						
D1090 Other Conveying Systems	1967	1967	3	DCS	12/01/21	Hose hoist and rack system at hose tower. The hose tower includes a gas-fired unit heater and exhaust fan to assist with hose drying and ventilation of the adjacent apparatus bay.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.3**			
D20 Plumbing						
D2010 Plumbing Fixtures	1967	1967	3	DCS	12/01/21	Mix of older and newer fixtures, with variety of fixture types and trim (faucets and flush valves), but with no automatic trim observed. Both original rough-concrete block and newer one-piece fiberglass showers. Minimal support for decontamination, and no safety showers and/or eyewash observed throughout. Only single-height (non-ADA) drinking fountains observed. Bottled water stations set up in multiple locations.
D2020 Domestic Water Distribution	1967	1967	4	DCS	12/01/21	Mostly original galvanized water piping with low flow to some fixtures and increasing problems from rust and other particulate fouling plumbing fixture trim. Discolored water at less frequently used fixtures. Use of bottled water throughout. At least three newer domestic hot water theaters - two electric tank-type and one tankless gas-fired serving the remodeled station house area. No apparent submetering between City Hall and Fire Station 41. No apparent deduct meter for cooling tower make-up.
D2030 Sanitary Waste	1967	1967	4	DCS	12/01/21	Mostly original cast iron drain, waste, & vent (DW&V) piping, and some newer cast iron and non-metallic where observed. Many tested fixtures are slow to drain or flush. Reports of increasing frequency of back-ups and overflows. Original galvanized pipe to trap primers with uncertain performance.
D2040 Rain Water Drainage	1967	1967	4	DCS	12/01/21	Low-sloped roof to perimeter metal gutters, then down to exterior metal downspouts, in turn down to storm to north and to grade to south, with frequent back-ups and water intrusion into the building, damaging finishes and disrupting occupant work.
D2090 Other Plumbing Systems	1967	1967	3	DCS	12/01/21	Sump pump in pit at basement mechanical room. Newer air compressor in apparatus bay storage room.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems		Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services				**3.3**			
D30	**HVAC**						
D3010	**Energy Supply**	1967	1967	3	DCS	12/01/21	Rusty gas piping on roof; no submetering; minor maintenance to address either separately.
D3020	**Heat Generating Systems**	1967	1995	3	DCS	12/01/21	One Laars gas-fired boiler serving the water-source heat pump (WSHP) condenser water loop, with assumed recirculation pump internal to the boiler. Two gas-fired unit heaters in the apparatus bays - one older, one newer.
D3030	**Cooling Generating Systems**	1967	1985	4	DCS	12/01/21	Aging cooling tower in poor location, but with newer water chemistry control system. Dedicated condensing unit for data center cooling.
D3040	**HVAC Distribution Systems**	1967	1967	4	DCS	12/01/21	Distributed water-source heat pump (WSHP) system with condenser water loop including two 7.5-hp constant speed condenser water pumps, expansion tank and head tank. Dedicated outside air system (DOAS) ventilation with no apparent heat recovery for City Hall area with rooftop gas-pack type unit at grade to south between City Hall and Saw Shop buildings. Separate DOAS with heat recovery for the FS-41 station house area. Ductwork is a mix of sheet metal mains and sub-mains, open plenum return and factory-insulated flex-duct. While there are no operable windows for the City Hall area; many FS-41 offices and living areas do have operable windows. City Hall lobby restroom exhaust fans are reportedly not operable - minor maintenance to repair or replace.
D3050	**Terminal and Package Units**	1967	1967	4	DCS	12/01/21	Four new water-source heat pumps in City Hall finance area; otherwise reportedly all original.
D3060	**Controls and Instrumentation**	1967	1967	4	DCS	12/01/21	Standalone thermostats for each water-source heat pump, unit heater, and similar. Original relay control of central plant condenser water. No networked controls.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.3**			
D30 HVAC						
D3090 Other HVAC Systems and Equipment	1967	1995	3	DCS	12/01/21	Three apparatus bay make-up air louvers, with exhaust air up and out via one side-wall propeller fan in the hose tower. The louvers are partially blocked by stored material and/or bunker gear - minor maintenance to clear airflow paths. No separate bunker gear drying room. No vehicle engine exhaust system. No carbon monoxide (CO) and/or nitrogen oxides (NOx) control or monitoring. Somewhat newer below basement slab radon gas extraction system. Original basement shooting range exhaust system - abandoned in place. Apparent floor sweep collection exhaust system, with discharge to top of the hose tower - also abandoned in place. Garage exhaust for City Hall parking garage, partially blocked by storage and no apparent make-up air system, such as screened louvers.
D40 Fire Protection						
D4010 Fire Protection Sprinkler Systems	2009	2009	3	DCS	12/01/21	Six-inch service to four-inch riser in sub-basement, with four-inch fire department connection, with 2.5-inch main serving several basement areas, and four-inch main serving the station house (office and living) areas - all in good condition. No fire sprinkler for City Hall offices or parking garage and no fire sprinkler for apparatus bays.
D4020 Stand-Pipe and Hose Systems	1967	1967	4	DCS	12/01/21	Original fire hose cabinets with hoses removed and replaced with fire extinguishers; assume galvanized pipe in poor condition, same as the potable water system.
D4030 Fire Protection Specialties	1967	1995	2	DCS	12/01/21	Fire extinguishers in cabinets and on hooks; AED in cabinet; first aid kits; special extinguishers in data center area.
D50 Electrical						
D5010 Electrical Service and Distribution	1967	1967	3	DCS	12/01/21	Square D 208V, 600A main distribution panel, supplying Panels A, B, C, D, & G, plus automatic transfer switch (ATS) via breakers; and Panels E, F, and other devices via gutter system. No renewable energy system.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.3**			
D50 Electrical						
D5020 Lighting and Branch Wiring	1967	1995	3	DCS	12/01/21	Mostly lay-in 2x4 fluorescent fixtures, many with occupancy sensor control, and with 20% estimated upgraded to LED lamps.
D5032 Low Voltage Communication	1967	2008	3	DCS	12/01/21	2008 voice over internet protocol (VOIP) telephone handsets; A/V in conference rooms; special A/V, including basic video broadcast in Council Chamber; Ring doorbell at main entry; radio systems at fire station. Apparent abandoned siren on top of the hose tower roof - minor maintenance to remove if no longer needed.
D5037 Low Voltage Fire Alarm	1967	2009	3	DCS	12/01/21	2009 fire alarm system in remodeled fire station areas, but little or no coverage in City Hall office areas.
D5038 Low Voltage Security	1967	1995	3	DCS	12/01/21	Mix of older, increasingly obsolete cipher door locks and newer card-key access devices; CCTV monitoring of some areas; unclear intrusion detection.
D5039 Low Voltage Data	1967	2010	3	DCS	12/01/21	City data center in basement; hardwired data drops in most office areas, plus multiple WiFi wireless access points (WAPs).
D5090 Other Electrical Systems	1967	1967	4	DCS	12/01/21	1967 Onan gasoline-fired 40-kW standby generator in City Hall garage, retrofitted to dual-fuel gas or natural gas, with original Onan automatic transfer switch in the main electrical room. No apparent emergency lighting systems other than the generator and some lighted exit signs with unclear battery back-up.
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1010 Commercial Equipment	1967	1995	3	DCS	12/01/21	Mix of older and somewhat newer kitchen appliances and office equipment.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall / Station 41

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1020 Institutional Equipment	1967	1967	3	DCS	12/01/21	Heavy files; high-security vaults; exercise equipment; other specialties.
E1030 Vehicular Equipment	1967	1967	3	DCS	12/01/21	Garage door openers for four apparatus bay doors and one roll-up door at the City Hall garage.
E20 Furnishings						
E2010 Fixed Furnishings	1967	1995	3	TRB	12/01/21	Main level reception counters and the Council Chambers desks are in good condition, as are many of the break room casework elements from the 1995 remodel. There are areas of original 1967 casework (northwest ground level break room) that is chipped, tired, and dated. Window blinds are in generally fair condition.
F Special Construction			**3.0**			
F10 Special Construction						
F1010 Special Structures	1967	1967	3	DCS	12/01/21	Hose tower structure with no issues reported.
F1050 Special Controls and Instrumentation	1967	2009	3	DCS	12/01/21	Fire station tone alarm system, and related specialty radio systems; multiple antennas on the roof.

Copyright MENG Analysis 2022

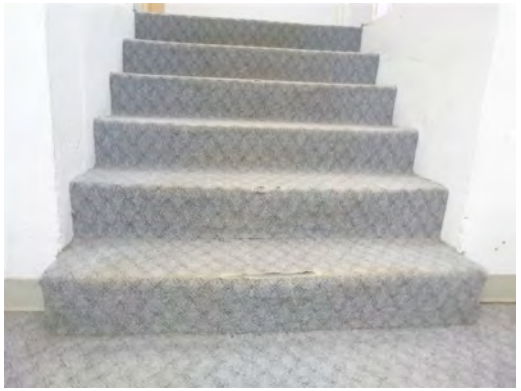
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

C3020 Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10,000	$12.00	SF	$120,000	$235,008

Deficient Material: **Carpet**

Broadloom carpet is at end of life and showing wear patterns and thinning in traffic areas. Carpet on lower level stair is also torn and worn and is a trip hazard. Replace star finish with floor refinishing.



Remedial Action:

Replace carpet (consider replacing with carpet tiles in lieu of broadloom).

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D2010 Plumbing Fixtures	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	7	$2,500.00	EA	$17,500	$34,272

Deficient Material: **Fixtures**

Several original, old, inefficient, obsolete fixtures remain, such as concrete block showers and high-water-use flushing fixtures.

Remedial Action:

Replace aged original fixtures with modern fixtures and trim.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D2020 Domestic Water Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	28,080	$5.00	SF	$140,400	$274,959

Deficient Material: **Domestic water**

Mostly original galvanized steel pipe, with increasing rust and other particulate fouling plumbing fixture trim. Bottled water in use throughout by occupants.



Remedial Action:

Replace all galvanized piping with new copper and/or PEX tubing.

Action Type:

Code Issue

Copyright MENG Analysis 2022

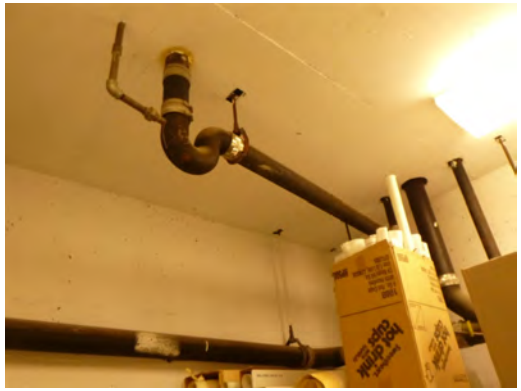
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D2030 Sanitary Waste	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	28,080	$5.00	SF	$140,400	$274,959

Deficient Material: **DW&V piping**

Aged cast iron drain, waste, and vent (DW&V) piping with increasing back-ups and overflows.



Remedial Action:

Replace original DW&V piping.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D2040 Rain Water Drainage	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	28,080	$1.00	SF	$28,080	$54,992

Deficient Material: **Gutter & downspouts**

Gutter and downspouts frequently plug and flood into the occupied space; only half the downspouts are piped to storm.

Remedial Action:

Clean, flash, and seal sources of water intrusion into conditioned space. Add more downspouts to gutters and pipe to storm to north; pipe all un-piped downspouts to storm; install leaf guards at north gutter, adjacent to large trees.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3020 Heat Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2026	1	$60,000.00	LS	$60,000	$117,504

Deficient Material: **Boiler**

Boiler is aging; assume installed in 1995.



Remedial Action:

Budget to replace upon failure.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3020 Heat Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	1	$8,500.00	LS	$8,500	$16,646

Deficient Material: **Unit heater**
Aging gas-fired unit heater.

Remedial Action:
Budget to replace upon failure.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3030 Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$7,500.00	LS	$7,500	$14,688

Deficient Material: **Condensing unit**

The data center split-Dx outside condensing unit is nearing end-of-life.



Remedial Action:

Install new purpose-built data center cooling system.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3030 Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	1	$125,000.00	LS	$125,000	$244,800

Deficient Material: **Cooling Tower**

Aging cooling tower with signs of damage and sounds of leakage. The tower is wedged between City Hall to north and the saw shop to south.



Remedial Action:

Replace and relocate the cooling tower to the roof.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	1	$50,000.00	LS	$50,000	$97,920

Deficient Material: **HVAC system**

City Hall dedicated outside air system (DOAS) gas-pack unit, aged with poor outside air intake location between buildings; failed return/exhaust fan.

Remedial Action:

Replace and relocate the City Hall DOAS unit to the roof for improved indoor air quality and maintenance access.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	28,080	$2.00	SF	$56,160	$109,984

Deficient Material: **Test, Adjust, and Balance (TAB) & Commissioning**

Uneven temperature and ventilation air flow throughout most areas; unclear return air path for many smaller and some larger spaces.



Remedial Action:

Test, adjust, and balance and retrocommission the HVAC system.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3050 Terminal and Package Units	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	16	$8,500.00	EA	$136,000	$266,342

Deficient Material: **WSHPs**

Original 1967 water-source heat pumps (WSHPs) may fail at any time.



Remedial Action:

Budget to replace upon failure.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3060 Controls and Instrumentation	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	3	2021	2024	28,080	$4.00	SF	$112,320	$219,967

Deficient Material: **Controls**

Obsolete, non-networked HVAC controls.

Remedial Action:

Install networked direct digital control (DDC) HVAC control system.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

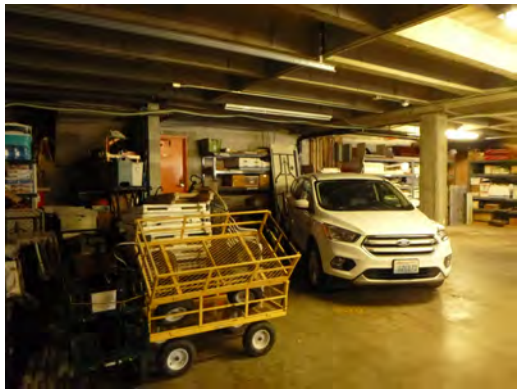
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D3090 Other HVAC Systems and Equipment	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	2	$3,000.00	EA	$6,000	$11,750

Deficient Material: **Industrial ventilation**

No carbon monoxide (CO) and/or nitrogen oxides (NOx) monitoring, alarm, or control for apparatus bays or City Hall parking garage spaces.



Remedial Action:

Install CO and/or NOx monitoring, alarm, or control.

Action Type:

Code Issue

Copyright MENG Analysis 2022

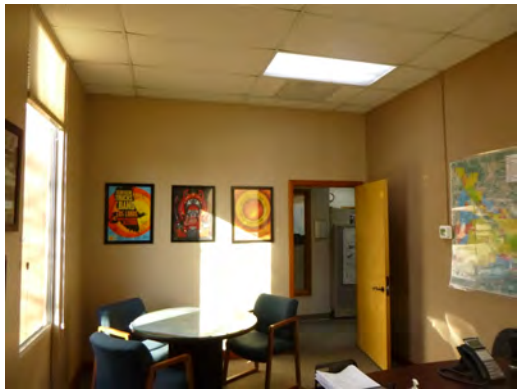
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	20,000	$6.00	SF	$120,000	$235,008

Deficient Material: **Fire Sprinkler**

No fire sprinkler for City Hall offices and parking garage; no fire sprinkler for apparatus bays.



Remedial Action:

Extend fire sprinkler to protect the entire building.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D4020 Stand-Pipe and Hose Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	8	$1,000.00	EA	$8,000	$15,667

Deficient Material: **Hose cabinet piping**
Original galvanized steel piping assumed to current abandoned hose cabinets.



Remedial Action:
Replace with code-approved piping, if hose cabinet function is to be retained.

Action Type:
Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D5010 Electrical Service and Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	1	$70,000.00	LS	$70,000	$137,088

Deficient Material: **Electrical distribution**

Insufficient main distribution panel capacity for loads; hence use of gutter system to directly feed additional panels via disconnect switches.

Remedial Action:

Replace original 1967 600A main distribution panel (MDP) with 800A MDP capacity, assuming all lighting will be upgraded to LED in the near future.

Action Type:

Code Issue



Copyright MENG Analysis 2022

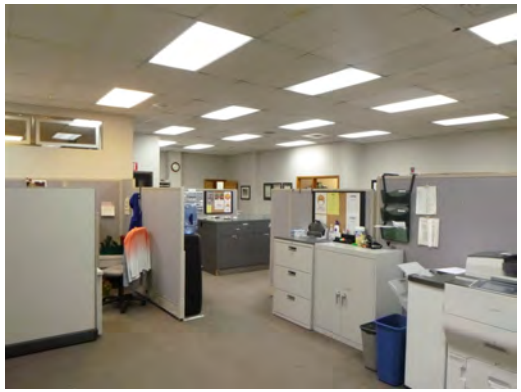
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	15,000	$3.00	SF	$45,000	$88,128

Deficient Material: **Fire alarm**

No apparent fire alarm protection for City Hall office area.



Remedial Action:

Extend fire alarm system to cover the entire City Hall and fire station areas.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall / Station 41

D5090 Other Electrical Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$150,000.00	LS	$150,000	$293,760

Deficient Material: **Generator**

Obsolete and undersized standby generator and automatic transfer switch (ATS).



Remedial Action:

Replace with larger, say 250 kW, diesel generator and new bumpless transfer ATS.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall Infrastructure

616 NE 4th Ave
Camas, WA 98607

Facility Condition Summary

The property is fully developed, housing the combined City Hall and Fire Station 41 building, and a small asphalt parking lot on the southeast corner. There is also a small landscape zone with a picnic table and flag pole on the northwest corner of the property.

City water and fire sprinkler service, but no observed or reported irrigation. City sewer with failing side sewer connections due to age and tree root intrusion. Some piped and mostly surface sheet flow storm south to City street storm drainage. Northwest Natural gas, Clark County PUD 208V three-phase power, and high-speed fiber-optic data, plus plain old telephone service (POTS) for legacy systems.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall Infrastructure

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1967	1967	3	TRB	12/01/21	Concrete apparatus approach is broken and failing at one bay, and another will be in the future. Two bay concrete approaches replaced (one recently).
G2020 Parking Lots	1967	2000	3	TRB	12/01/21	Asphalt parking lot on the southeast corner for staff and the public. Lot is in fair condition but there are some cracks and alligatoring, and the lot is tight. No public ADA parking to access permitting.
G2030 Pedestrian Paving	1967	1967	3	TRB	12/01/21	Pedestrian paving is generally limited to public sidewalks, an ADA ramp and stair to the main entry, and an asphalt built-up ramp to the concrete landing step at the permit center. Significant street tree root upheaval is causing significant inconsistency in sidewalk surface, trip hazards, and ADA access issues. Ongoing maintenance is replacing sections and grinding off differential to prevent trip hazards. West egress concrete stair is experiencing concrete failure.
G2040 Site Development	1967	1967	3	TRB	12/01/21	Flag pole, picnic bench, minor areas of chain link fencing.
G2050 Landscaping	1967	1967	3	TRB	12/01/21	Mature landscaping with no irrigation system. Street trees are causing significant damage to sidewalks and causing ADA and trip hazards (see pedestrian paving section). Cut all landscaping material away from the face of the facility.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall Infrastructure

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1967	1967	3	DCS	12/01/21	The original approximately two-inch water service enters from north to basement City water meter; the original meter at the sidewalk may be abandoned in place; piping is original galvanized where observed. A 2009 fire sprinkler six-inch service enters from the east side of the site, with backflow preventer in the sub-basement, and fire department connection at the street. Pressure is 130 psig observed at the riser base. No irrigation was system was reported or observed.
G3020 Sanitary Sewer	1967	1967	3	DCS	12/01/21	The side sewer to the City sewer at the street is reported to have been recently inspected and found in acceptable condition, but may need replacement in five to ten years due to age.
G3030 Storm Sewer	1967	1967	3	DCS	12/01/21	Some roof drains and several catch basins and apparatus bay apron trench drains, are piped to the City storm system at street to south. The parking lot to south mostly sheet flows downhill to the street to south. Most observed catch basins and trench drains are mostly blocked by leaves - minor maintenance to clean. No oil/water separator observed.
G3060 Fuel Distribution	1967	1967	3	DCS	12/01/21	Northwest Natural Gas meter No. 1091017 with 1,000 cfh capacity, includes seismic shut-off valve and four branch lines assumed to serve: 1) City Hall gas-fired furnace, 2) Building water-source heat pump condenser water loop boiler, 3) Apparatus bay unit heaters, and 4) Station house domestic hot water heater.
G40 Site Electrical utilities						
G4010 Electrical Distribution	1967	1967	3	DCS	12/01/21	Overhead power to utility pole-mounted pot-type transformers at pole to west, then down and underground to the main electrical room, with Clark PUD meter No. 81-464-091 nearly hidden in the small alcove between the south center of the City Hall building and the northeast corner of the private saw shop.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall / Station 41
City Hall Infrastructure

616 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G40 Site Electrical utilities						
G4020 Site Lighting	1967	1967	4	DCS	12/01/21	Variety of light fixtures unevenly distributed around building perimeter, with most toward the apparatus bay outside apron and the City parking lot to southeast.
G4030 Site Communications and Security	1967	2010	3	DCS	12/01/21	Newer high-speed fiber-optic data from overhead lines at street to west, then overhead to the building, with support cable scraping the new membrane roof - minor maintenance to raise. Recent overhead fiber-optic sub-fed to City Hall Annex to west, reportedly as semi-temporary service. Multiple apparent past plain old telephone service (POTS) and cable; some may be still be in service for legacy systems. Several exterior CCTV cameras, no issues reported.
G90 Other Site Construction						
G9010 Service and Pedestrian Tunnels	1967	1967	4	DCS	12/01/21	Window and HVAC wells at building perimeter, dirty and/or intentionally blocked or modified, allowing storm water intrusion and/or reduce airflow - minor maintenance to clean and restore full function and protect from storm water.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall Infrastructure

G2010 Roadways	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	800	$15.00	SF	$12,000	$23,501

Deficient Material: **Concrete Pavement**

Concrete apparatus approach is broken and failing at one bay, and another will be in the future.



Remedial Action:

Demo concrete drive and repour. Recommend doing two at once if possible.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall Infrastructure

G2020 Parking Lots	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2026	10,000	$4.00	SF	$40,000	$78,336

Deficient Material: **Asphalt Paving**

Some alligatoring and cracks in asphalt. No ADA parking provided.



Remedial Action:

Topcoat recommended to extend the life of the parking lot, restripe, and include ADA parking.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall Infrastructure

G2030 Pedestrian Paving	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	1,200	$15.00	SF	$18,000	$35,251

Deficient Material: **Concrete Sidewalk**

Significant street tree root upheaval is causing significant inconsistency in sidewalk surface, trip hazards, and ADA access issues.

Remedial Action:

Demo sidewalks at trees and repour sidewalks. Consider incorporation of tree root grate systems, and even tree removal and replacement.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall Infrastructure

G2030 Pedestrian Paving	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$12,000.00	LS	$12,000	$23,501

Deficient Material: **Concrete Stairs**

West egress concrete stair is experiencing concrete failure, the concrete has significant spalling and cracking running along the outside edge of the system. The guard rail system is also significantly corroded. Moisture intrusion appears to also be occurring.



Remedial Action:

Remove and replace concrete stair and metal guard rail.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall Infrastructure

G3010 Water Supply	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Water Service**

Aged 1967 water service with reports of rust, corrosion, and debris in the potable water system. There is no apparent backflow prevention.



Remedial Action:

Replace the City water service entry and add backflow prevention.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$7,500.00	LS	$7,500	$14,688

Deficient Material: **Oil/water separator**

No oil/water separator for apparatus bay outside apron trench drains.

Remedial Action:

Install oil/water separator.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall Infrastructure

G4020 Site Lighting	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	18	$750.00	EA	$13,500	$26,438

Deficient Material: **Outside lighting**

Inconsistent and unreliable perimeter lighting, with fixtures and lamps failing regularly with unclear control.

Remedial Action:

Replace all with modern LED lighting and central control system.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall / Station 41
Facility: City Hall Infrastructure

G4030 Site Communications and Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$10,000.00	LS	$10,000	$19,584

Deficient Material: **Fiber-optic**

Mission-critical fiber-optic data to City Hall and/or Annex via semi-temporary overhead lines.



Remedial Action:

Permanent underground fiber-optic service.

Action Type:

Other

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: City Hall / Station 41

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
City Hall / Station 41	C30 Interior Finishes	$120,000	$24,000	$28,800	$62,208	$235,008	$238,480
	D20 Plumbing	$326,380	$65,276	$78,331	$169,195	$639,183	$653,265
	D30 HVAC	$561,480	$112,296	$134,755	$291,071	$1,099,602	$1,133,710
	D40 Fire Protection	$128,000	$25,600	$30,720	$66,355	$250,675	$251,141
	D50 Electrical	$265,000	$53,000	$63,600	$137,376	$518,976	$527,399
	Facility Total	**$1,400,860**	**$280,172**	**$336,206**	**$726,206**	**$2,743,444**	**$2,803,996**
City Hall Infrastructure	G20 Site Improvements	$82,000	$16,400	$19,680	$42,509	$160,589	$165,322
	G30 Site Civil / Mechanical Utilities	$12,500	$2,500	$3,000	$6,480	$24,480	$24,842
	G40 Site Electrical utilities	$23,500	$4,700	$5,640	$12,182	$46,022	$47,100
	Facility Total	**$118,000**	**$23,600**	**$28,320**	**$61,171**	**$231,091**	**$237,264**
	Site Total	**$1,518,860**	**$303,772**	**$364,526**	**$787,377**	**$2,974,535**	**$3,041,260**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: City Hall / Station 41

Total Site Opportunity Cost: $1,923,580

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**City Hall / Station 41**						
System:	**Exterior Closure**	**Total Cost: $45,000**					
B2020	**Exterior Windows**						
		Original energy inefficient single-pane windows in original aluminum frames with added storm.	Replace existing with new high performance windows.	15.00	$3,000.00	EA	$45,000
Facility:	**City Hall / Station 41**						
System:	**Roofing**	**Total Cost: $30,000**					
B3010	**Roof Coverings**						
		No fall restraint system.	Install a fall restraint system for safety and security of maintenance and subcontractors.	1.00	$30,000.00	LS	$30,000
Facility:	**City Hall / Station 41**						
System:	**Vertical Transportation**	**Total Cost: $150,000**					
D1010	**Elevators and Lifts**						
		No elevator, lift, or dumbwaiter.	Install elevator between all levels, especially from main floor City Hall area to basement archives area.	1.00	$150,000.00	LS	$150,000
Facility:	**City Hall / Station 41**						
System:	**Plumbing**	**Total Cost: $33,250**					
D2010	**Plumbing Fixtures**						
		Several makeshift kitchenettes observed.	Install additional kitchenettes such that each major department has a dedicated kitchenette.	2.00	$8,000.00	LS	$16,000
		All manual plumbing fixture trim (faucets and flush valves).	Upgrade to automatic (infrared) trim to reduce water use and improve infection control.	24.00	$500.00	EA	$12,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: City Hall / Station 41

Total Site Opportunity Cost: $1,923,580

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
D2020	Domestic Water Distribution	No submetering between City Hall and fire station use; no apparent deduct meter for the cooling tower.	Install submeters and/or deduct meter to facilitate water conservation and/or reduce water bill.	3.00	$1,750.00	EA	$5,250
Facility:	City Hall / Station 41						
System:	HVAC	Total Cost: $1,042,800					
D3040	HVAC Distribution Systems						
		Increasingly obsolete water-source heat pump system without heat recovery dedicated outside air system (DOAS) for City Hall areas.	Replace HVAC with modern variable refrigerant flow (VRF) system with heat recovery DOAS.	28,080.00	$35.00	SF	$982,800
D3090	Other HVAC Systems and Equipment						
		No apparatus bay vehicle engine exhaust system.	Install engine exhaust system.	4.00	$15,000.00	EA	$60,000
Facility:	City Hall / Station 41						
System:	Fire Protection	Total Cost: $15,000					
D4090	Other Fire Protection Systems						
		No automatic fire protection for the mission critical City data center.	Provide automatic fire protection system for the data center, such as pre-action fire sprinkler or gaseous fire suppression.	1.00	$15,000.00	LS	$15,000
Facility:	City Hall / Station 41						
System:	Electrical	Total Cost: $569,530					
D5010	Electrical Service and Distribution						
		Flat roof with good southern exposure.	Install 50 kW rooftop photovoltaic (PV) system.	50.00	$7,500.00	EA	$375,000
D5020	Lighting and Branch Wiring						
		Approximately 80% of light fixtures with fluorescent lamps; 20% LED.	Upgrade remaining 80% of fixtures to LED.	22,500.00	$2.50	SF	$56,250

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: City Hall / Station 41

Total Site Opportunity Cost: $1,923,580

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
D5032	Low Voltage Communication	Increasingly obsolete 2008 voice over internet protocol (VOIP) telephone system, without video.	Upgrade to modern VOIP telephone system, including video and advanced phone management.	28,080.00	$1.50	SF	$42,120
D5038	Low Voltage Security						
		Only partial card-key access control, with limited CCTV and unclear intrusion detection.	Upgrade to full suite of electronic security.	28,080.00	$1.25	SF	$35,100
D5039	Low Voltage Data						
		Makeshift data center, with unclear Up-time Institute Tier-rating.	Upgrade to appropriately rated data center tier to improve performance, reliability, and data security; including dedicated uninterruptible power supply (UPS).	1.00	$40,000.00	LS	$40,000
D5090	Other Electrical Systems						
		Minimal emergency lighting.	Install combination bug-eye egress and exit signs with on-board battery back-up.	28,080.00	$0.75	SF	$21,060
Facility:	**City Hall Infrastructure**						
System:	**Site Improvements**	**Total Cost: $18,000**					
G2050	Landscaping						
		Aging street trees (maple) are causing significant damage to sidewalks and causing ADA concerns and trip hazards.	Remove and replace street trees with a more urban friendly and appropriate native species.	9.00	$2,000.00	EA	$18,000
Facility:	**City Hall Infrastructure**						
System:	**Site Electrical utilities**	**Total Cost: $10,000**					
G4030	Site Communications and Security						
		Minimal CCTV coverage at building perimeter and parking lot; no blue light system.	Install full CCTV coverage and install blue light system for parking lot area.	2.00	$5,000.00	EA	$10,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: City Hall / Station 41 **Total Site Opportunity Cost: $1,923,580**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**City Hall Infrastructure**						
System:	**Other Site Construction**	**Total Cost: $10,000**					
G9090	**Other Site Systems**						
		Minimal City of Camas celebratory features at City Hall, other than a few interpretive signs and marked time capsule location.	Commission and install public art to celebrate City of Camas community and values.	1.00	$10,000.00	LS	$10,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex

528 NE 4th Ave
Camas, WA 98607

Facility Size - Gross S.F.	10,000
Year Of Original Construction	1960
Facility Use Type	Admin - Low rise
Construction Type	Medium
# of Floors	2
Energy Source	Gas
Year Of Last Renovation	1960
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**3.4**			
Facility Condition Index (FCI)	0.26	**Predicted Renewal Budget 2028 - 2041**	$942,000	$810,000
Current Replacement Value (CRV)	$4,352,000	**Observed Deficiencies 2022 - 2027**	$1,091,000	$1,100,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$294,000	N/A

Facility Condition Summary

Formerly a bank constructed in 1960, with a drive-through teller addition in 1974. The design is an excellent example of mid-century modern bank architecture constructed of brick, with linear canopy overhang leading to the main entry. It is a single-story building with a full basement. Older built-up roofing with ongoing minor leak issues being addressed by maintenance. The facade is brick and exterior windows were replaced with thermally glazed units in a bronze anodized aluminum storefront. Interior finishes are generally in poor condition, and ceilings and floors contain asbestos, including ductwork.

Two HVAC systems; larger to east with air handling equipment in basement and condensing unit on roof, and smaller packaged gas-pack unit to west. Aged plumbing fixtures, and failing potable water and sewer systems. No fire sprinkler or fire alarm. Power is modern three-phase, but may be undersized at 208V, 400A. Lighting is increasingly obsolete fluorescent. Low voltage systems are a mix of mostly older and some newer.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex

528 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**3.0**			
A10 Foundations						
A1010 Standard Foundations	1960	1960	3	TRB	12/01/21	Assumed to be standard concrete footings and stem walls.
A1030 Slab On Grade	1960	1960	3	TRB	12/01/21	Concrete slab on grade. No issues noted.
A20 Basements						
A2020 Basement Walls	1960	1960	3	TRB	12/01/21	Concrete and CMU, no issues noted.
B Shell			**3.0**			
B10 Superstructure						
B1010 Floor Construction	1960	1960	3	TRB	12/01/21	Concrete floor and structure.
B1020 Roof Construction	1960	1960	3	TRB	12/01/21	Wood deck, on wood structure with batt insulation.
B20 Exterior Closure						
B2010 Exterior Walls	1960	1960	3	TRB	12/01/21	Brick masonry walls.
B2020 Exterior Windows	1960	1990	3	TRB	12/01/21	Thermally glazed glass in bronze aluminum storefront (no date evident for replacement).
B2030 Exterior Doors	1960	1990	3	TRB	12/01/21	Aluminum storefront at main entries (assumed replaced around 1990). Steel door at basement well.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex

528 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**3.0**			
B30 Roofing						
B3010 Roof Coverings	1960	2000	3	TRB	12/01/21	Older built-up roof, assume approaching end of life. Numerous leak issues occurring, but being addressed by maintenance. Standing water and debris (where the roof had been designed to slope to a prior drain now blocked off). Active leaks in an internal roof drain at the east lower roof.
B3030 Projections	1960	1974	3	TRB	12/01/21	Original canopy over frontage and entry, 1974 addition of a covered drive-up teller. South entry door missing canopy fabric (minor maintenance to replace).
C Interiors			**3.6**			
C10 Interior Construction						
C1010 Partitions	1960	1960	3	TRB	12/01/21	A mix of gypsum board on studs and concrete walls.
C1020 Interior Doors	1960	1960	3	TRB	12/01/21	A mix of aluminum storefront to IT and the former bank teller area, wood doors, and two steel vault doors (one on the main level, and one on the basement level).
C1030 Fittings	1960	1960	3	TRB	12/01/21	Minimal rubber base, storage shelving, hand rails, built-in counters.
C20 Staircases						
C2010 Stair Construction	1960	1960	3	TRB	12/01/21	Concrete stairs.
C2020 Stair Finishes	1960	1960	4	TRB	12/01/21	Carpet at end of life (assumed asbestos as other tested carpet adhesive also contains asbestos).
C30 Interior Finishes						
C3010 Wall Finishes	1960	2000	3	TRB	12/01/21	Paint.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex

528 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**3.6**			
C30 Interior Finishes						
C3020 Floor Finishes	1960	2000	5	TRB	12/01/21	Carpet finishes are in a variety of conditions and ages, however, adhesives have tested positive for asbestos. Basement level toilet rooms have vintage mid-century ceramic tile. Other areas of exposed concrete in basement.
C3030 Ceiling Finishes	1960	1960	5	TRB	12/01/21	12" square glue-up acoustic tile has tested positive for asbestos.
D Services			**3.8**			
D20 Plumbing						
D2010 Plumbing Fixtures	1960	1960	4	DCS	12/01/21	Mix of mostly older and some newer; many are stained by rust in the water distribution system.
D2020 Domestic Water Distribution	1960	1960	4	DCS	12/01/21	Mostly original galvanized with discolored water, but somewhat newer electric tank-type domestic hot water heater; heater is missing expansion tank - minor maintenance to install.
D2030 Sanitary Waste	1960	1960	3	DCS	12/01/21	Mix of original and newer cast iron; some tested fixtures are slow to drain.
D2040 Rain Water Drainage	1960	1960	4	DCS	12/01/21	Few and undersized roof drains with roof ponding and flooding into the building during heavy rain.
D2090 Other Plumbing Systems	1960	1960	3	DCS	12/01/21	Sump with assumed sump pump at basement main mechanical room; no issues reported.
D30 HVAC						
D3010 Energy Supply	1960	1960	3	DCS	12/01/21	Natural gas piping to furnaces; piping on roof is rusty - minor maintenance to replace.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex

528 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.8**			
D30 HVAC						
D3020 Heat Generating Systems	1960	2009	2	DCS	12/01/21	Two 2009 Trane high-efficiency gas-fired furnaces at basement air handling unit.
D3030 Cooling Generating Systems	1960	2009	3	DCS	12/01/21	2009 rooftop ten-ton condensing unit serving the basement air handing system.
D3040 HVAC Distribution Systems	1960	1960	3	DCS	12/01/21	Mostly original sheet metal duct in ceiling and wall space; excepting 2009 ductwork in basement mechanical room. Airflow balance unclear throughout. Several rooftop and ceiling exhaust fans.
D3050 Terminal and Package Units	1960	1960	4	DCS	12/01/21	One older rooftop gas-pack unit, with no apparent ventilation.
D3060 Controls and Instrumentation	1960	2009	3	DCS	12/01/21	Newer, but not networked controls.
D3090 Other HVAC Systems and Equipment	1960	1960	4	DCS	12/01/21	Abandoned basement incinerator and chimney up to roof - minor maintenance to demolish incinerator as needed.
D40 Fire Protection						
D4030 Fire Protection Specialties	1960	1960	3	DCS	12/01/21	Fire extinguishers in cabinets.
D50 Electrical						
D5010 Electrical Service and Distribution	1960	1960	4	DCS	12/01/21	Aged and obsolete 208V, three-phase, 400A.
D5020 Lighting and Branch Wiring	1960	1960	4	DCS	12/01/21	Old surface-mount fluorescent with relatively poor performance.
D5032 Low Voltage Communication	1960	1960	4	DCS	12/01/21	The original plain-old-telephone service (POTS) is largely abandoned; other legacy commercial bank communication systems are of little use to the City Hall Annex.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex

528 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.8**			
D50 Electrical						
D5038 Low Voltage Security	1960	1960	4	DCS	12/01/21	No apparent card-key access, minimal CCTV, no apparent intrusion detection.
D5039 Low Voltage Data	1960	2020	3	DCS	12/01/21	Mix of abandoned and some newer, including new IDF for west IT office area, but no coverage elsewhere. However, there is modern high-speed fiber-optic service sub-fed from City Hall across the street to east, via temporary overhead line (see G4030 for details).
D5090 Other Electrical Systems	1960	1960	4	DCS	12/01/21	Minimal emergency lighting, no standby generator or uninterruptible power supply (UPS).
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1010 Commercial Equipment	1960	1960	3	DCS	12/01/21	Kitchenette appliances; some office equipment.
E1020 Institutional Equipment	1960	1960	3	DCS	12/01/21	Bank vault on main floor; document vault at basement; teller equipment at teller/drive-through.
E1030 Vehicular Equipment	1960	1960	4	DCS	12/01/21	Teller window drive-through.
E20 Furnishings						
E2010 Fixed Furnishings	1960	1960	3	TRB	12/01/21	Limited built-in furnishings. 1974 era teller casework (assumed will need to be demolished). Excellently preserved time capsule of a mid-century modern kitchen break room integral sink, fridge cook top, and oven with matching upper metal cabinets (if not desired to retain, salvage to preserve).

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$7,000.00	LS	$7,000	$13,709

Deficient Material: **Exterior Doors**

Stormwater from the sidewalk runs into the front entry (currently lined with sandbags).



Remedial Action:

Sawcut slab and install a trench drain/walk-off grate.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	2	$2,500.00	EA	$5,000	$9,792

Deficient Material: **Roof Drains**

Standing water where roof drain was abandoned. Lower roof internal drain undersized and leaking, now abandoned.

Remedial Action:

Reinstall and connect roof drain. Seal internal drain.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

C2020 Stair Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	1	$5,000.00	EA	$5,000	$9,792

Deficient Material: **Stair Finish**

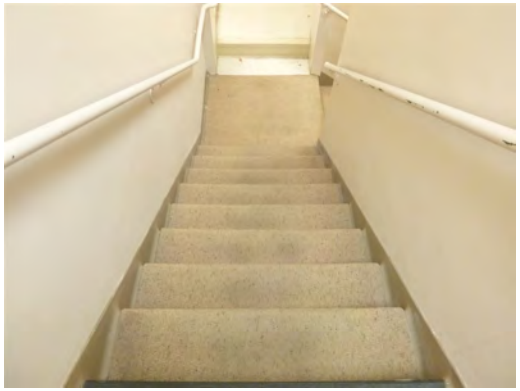
Carpet at end of life (assumed asbestos as other tested carpet adhesive also contains

Remedial Action:

Remove carpet, abate any asbestos, install new finish.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

C3020 Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	5,000	$14.00	SF	$70,000	$137,088

Deficient Material: **Carpet**

Carpet finishes are in a variety of conditions and ages, however, adhesives have tested positive for asbestos.

Remedial Action:

Remove carpet, abate asbestos, reinstall floor finishes.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

C3030 Ceiling Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	7,000	$10.00	SF	$70,000	$137,088

Deficient Material: **Acoustic Ceiling Tile**

12" square glue-up acoustic tile has tested positive for asbestos.



Remedial Action:

Remove and abate ceiling tile, install new acoustic ceiling material.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D2010 Plumbing Fixtures	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10	$2,000.00	EA	$20,000	$39,168

Deficient Material: **Fixtures**
Original damaged, stained, and inefficient fixtures.

Remedial Action:
Replace original fixtures with modern type.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D2020 Domestic Water Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	10,000	$3.00	SF	$30,000	$58,752

Deficient Material: **Galvanized pipe**

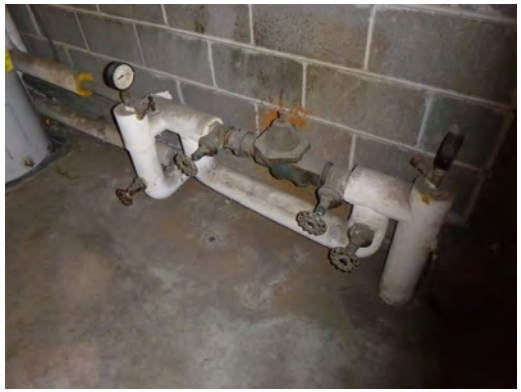
Original galvanized pipe is failing with heavily discolored water at some fixtures, low water pressure at others, and bottled water needed.

Remedial Action:

Replace galvanized piping with copper and/or PEX tubing.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D2030 Sanitary Waste	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10,000	$2.00	SF	$20,000	$39,168

Deficient Material: **DW&V piping**

Some fixtures slow to drain and flush.



Remedial Action:

Clean, test, inspect, and repair or replace original cast iron drain, waste, and vent piping.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D2040 Rain Water Drainage	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	10,000	$1.50	SF	$15,000	$29,376

Deficient Material: **Roof drains**

Few and undersized roof drains with roof ponding and flooding into the building during heavy rain.



Remedial Action:

Install new, larger roof drains.

Action Type:

Code Issue

Copyright MENG Analysis 2022

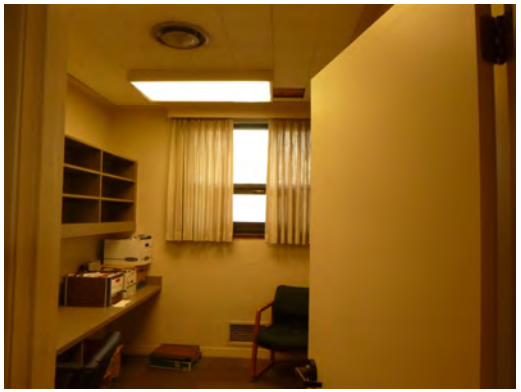
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10,000	$1.50	SF	$15,000	$29,376

Deficient Material: **Test, Adjust, and Balance (TAB) & Commissioning**

Uneven and inconsistent air flows throughout.



Remedial Action:

Conduct Re-TAB (test, adjust, and balance) to measure air flows and restore intended design performance.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D3050 Terminal and Package Units	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$17,500.00	LS	$17,500	$34,272

Deficient Material: **Roof Top Unit**

Rooftop gas-pack unit serving the main floor west is approaching end of life and has no apparent outside air, leaving the served space unventilated, unless the operable windows are opened.



Remedial Action:

Replace rooftop gas-pack with new unit includes full economizer for ventilation and energy efficiency.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	10,000	$7.00	SF	$70,000	$137,088

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D5010 Electrical Service and Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	10,000	$7.00	SF	$70,000	$137,088

Deficient Material: **Electrical distribution**
Obsolete Coast electrical panels.

Remedial Action:
Replace.

Action Type:
Code Issue



Copyright MENG Analysis 2022

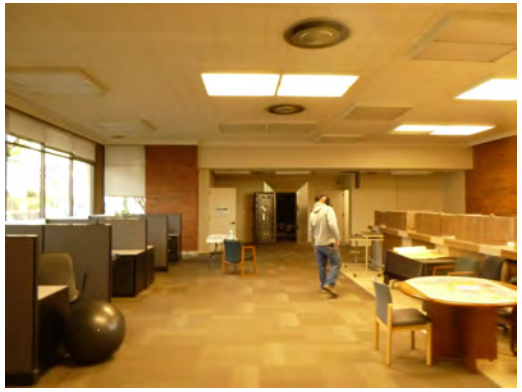
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D5020 Lighting and Branch Wiring	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10,000	$7.00	SF	$70,000	$137,088

Deficient Material: **Lighting**

Poor lighting from aged fixtures with increasingly obsolete fluorescent lamps.



Remedial Action:

Replace with modern LED fixtures.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D5032 Low Voltage Communication	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10,000	$1.50	SF	$15,000	$29,376

Deficient Material: **Communications**

Obsolete and abandoned communications systems including telephone, intercom, and unclear public address.

Remedial Action:

Modernize communication systems throughout to meet City standard.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

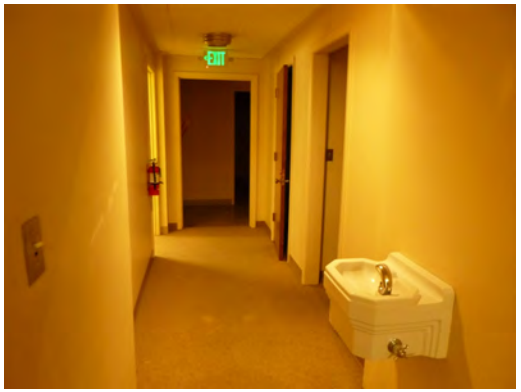
City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	10,000	$2.00	SF	$20,000	$39,168

Deficient Material: **Fire alarm**
No fire alarm.

Remedial Action:
Install fire alarm.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D5038 Low Voltage Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10,000	$1.75	SF	$17,500	$34,272

Deficient Material: **Security**
No apparent card-key access or intrusion detection; minimal CCTV coverage.

Remedial Action:
Install modern electronic security system per City standards.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

D5039 Low Voltage Data	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	7,500	$2.00	SF	$15,000	$29,376

Deficient Material: **Data System**

Newer IDF and cabling serving the main floor IT area to west, but otherwise little or no data service to basement and east spaces; prior data cabling cut and abandoned in place.



Remedial Action:

Renew data service throughout the basement and east work areas to City standards.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex

E2010 Fixed Furnishings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$5,000.00	EA	$5,000	$9,792

Deficient Material: **Casework**

1974 era teller casework (assumed will need to be demolished).

Remedial Action:

Demo teller station casework.

Action Type:

ADA



Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex Infrastructure

528 NE 4th Ave
Camas, WA 98607

Facility Condition Summary

The fully developed site houses a former bank building with a drive-through teller, in addition to a parking lot on the south half of the property, and minimal landscaping.

City water, with irrigation appearing sub-fed from city water; no fire sprinkler; City sewer failing due to tree root intrusion; utility natural gas; modern 208V, three-phase power from Clark PUD. High-speed fiber-optic data extended from City Hall to east via semi-temporary overhead line.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex Infrastructure

528 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1960	1995	3	TRB	12/01/21	Asphalt drive lanes behind building through former drive-through bank teller.
G2020 Parking Lots	1960	1995	3	TRB	12/01/21	Asphalt lots, cracks developing.
G2030 Pedestrian Paving	1960	1960	3	TRB	12/01/21	Primarily only City public sidewalks. Some past (ongoing) street tree root upheaval that has been addressed by regular maintenance.
G2050 Landscaping	1960	1960	3	TRB	12/01/21	Minimal planters street side, some perimeter shrubs, and parking island trees and shrubs.
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1960	1960	4	DCS	12/01/21	Original City water service; no fire sprinkler; the minimal irrigation system appears sub-fed from the building potable water system.
G3020 Sanitary Sewer	1960	1960	4	DCS	12/01/21	The original sanitary side sewer is failing, with back-ups, reportedly from tree root damage.
G3030 Storm Sewer	1960	1960	3	DCS	12/01/21	Several catch basins and assumed roof drain piped to City storm at street to south.
G3060 Fuel Distribution	1960	2009	2	DCS	12/01/21	NW Natural gas meter No. 1147432 with 630 cfh capacity, but no seismic shut-off valve - minor maintenance to install.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
City Hall Annex
City Hall Annex Infrastructure

528 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G40 Site Electrical utilities						
G4010 Electrical Distribution	1960	1960	3	DCS	12/01/21	Power underground from PUD to basement main electrical room service entry with Clark PUD meter No. 76-076-3311 delivered at 208V, three-phase. No standby power or renewable energy.
G4020 Site Lighting	1960	1960	4	DCS	12/01/21	Mostly older building fixtures, and older pole fixtures at the parking lot.
G4030 Site Communications and Security	1960	2020	3	DCS	12/01/21	Semi-temporary fiber-optic data overhead from City Hall to east. No site electronic security other than several CCTV cameras.
G90 Other Site Construction						
G9010 Service and Pedestrian Tunnels	1960	1960	3	DCS	12/01/21	Two basement exit stairwells - one enclosed to east and one exposed to west.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex Infrastructure

G2020 Parking Lots	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	14,000	$4.00	SF	$56,000	$109,670

Deficient Material: **Asphalt**
Cracks and moss/weed growth starting.

Remedial Action:
Seal cracks, sealcoat, and restripe lot.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex Infrastructure

G3020 Sanitary Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$6,500.00	LS	$6,500	$12,730

Deficient Material: **Sanitary Sewer**

The original sanitary side sewer is failing, with back-ups, reportedly from tree root damage.



Remedial Action:

Replace side sewer piping and connections.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: City Hall Annex
Facility: City Hall Annex Infrastructure

G4030 Site Communications and Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Fiber-optic service**

Semi-temporary fiber-optic data service overhead from City Hall to Annex via poles.



Remedial Action:

Install permanent underground fiber-optic data service to City Hall Annex.

Action Type:

Other

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: City Hall Annex

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
City Hall Annex	B20 Exterior Closure	$7,000	$1,400	$1,680	$3,629	$13,709	$13,709
	B30 Roofing	$5,000	$1,000	$1,200	$2,592	$9,792	$9,792
	C20 Staircases	$5,000	$1,000	$1,200	$2,592	$9,792	$9,792
	C30 Interior Finishes	$140,000	$28,000	$33,600	$72,576	$274,176	$274,176
	D20 Plumbing	$85,000	$17,000	$20,400	$44,064	$166,464	$167,623
	D30 HVAC	$32,500	$6,500	$7,800	$16,848	$63,648	$64,590
	D40 Fire Protection	$70,000	$14,000	$16,800	$36,288	$137,088	$137,088
	D50 Electrical	$207,500	$41,500	$49,800	$107,568	$406,368	$413,851
	E20 Furnishings	$5,000	$1,000	$1,200	$2,592	$9,792	$9,792
	Facility Total	**$557,000**	**$111,400**	**$133,680**	**$288,749**	**$1,090,829**	**$1,100,413**
City Hall Annex Infrastructure	G20 Site Improvements	$56,000	$11,200	$13,440	$29,030	$109,670	$111,292
	G30 Site Civil / Mechanical Utilities	$6,500	$1,300	$1,560	$3,370	$12,730	$12,730
	G40 Site Electrical utilities	$5,000	$1,000	$1,200	$2,592	$9,792	$10,084
	Facility Total	**$67,500**	**$13,500**	**$16,200**	**$34,992**	**$132,192**	**$134,105**
	Site Total	**$624,500**	**$124,900**	**$149,880**	**$323,741**	**$1,223,021**	**$1,234,519**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: City Hall Annex

Total Site Opportunity Cost: $159,000

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**City Hall Annex**						
System:	**Roofing**	**Total Cost: $30,000**					
B3010	**Roof Coverings**						
		No fall restraint system.	Install a fall restraint system for safety and security of maintenance and subcontractors.	1.00	$30,000.00	LS	$30,000
Facility:	**City Hall Annex**						
System:	**Vertical Transportation**	**Total Cost: $100,000**					
D1010	**Elevators and Lifts**						
		No elevator to basement.	Install two-stop elevator.	1.00	$100,000.00	LS	$100,000
Facility:	**City Hall Annex**						
System:	**HVAC**	**Total Cost: $20,000**					
D3060	**Controls and Instrumentation**						
		Standalone controls.	Networked controls.	10,000.00	$2.00	SF	$20,000
Facility:	**City Hall Annex Infrastructure**						
System:	**Site Improvements**	**Total Cost: $9,000**					
G2050	**Landscaping**						
		The aging street trees are causing sidewalk damage and roof debris damage as the trees overhang the building. Sidewalk root upheaval is a constant problem for maintenance and with root upheaval of walking services causes tripping and ADA hazards.	Remove old trees and plant urban environment appropriate native species trees.	3.00	$3,000.00	EA	$9,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center

1718 SE 7th Ave
Camas, WA 98607

Facility Size - Gross S.F.	21,420
Year Of Original Construction	1916
Facility Use Type	Community Center
Construction Type	Medium
# of Floors	2
Energy Source	Electric
Year Of Last Renovation	1916
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**3.4**			
Facility Condition Index (FCI)	0.26	**Predicted Renewal Budget 2028 - 2041**	$974,000	$992,000
Current Replacement Value (CRV)	$7,534,000	**Observed Deficiencies 2022 - 2027**	$2,622,000	$2,652,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$985,000	N/A

Facility Condition Summary

The current community center is repurposed from a 1916 school building. The two-story structure (the ground floor is actually a daylight basement) is constructed of timber and wood on brick or concrete walls covered in cement plaster. There was an addition to the length of the south facade of about 12' now housing a kitchen (remodeled in 1995), bathrooms, and offices. The basement level is largely unfinished (and contains an abandoned mechanical room) and is currently used as storage for the City and other community organizations. The upper floor contains large meeting and banquet rooms and a large ball room, as well as small toilet rooms and offices.

The building is functionally inadequate for use as a proper community center. The configuration and spaces make this difficult to house parks and rec and community events, classes, and other functions. It has limited space utilization but is used by groups such as the VFA. The current toilet rooms are a large concern for these user groups, and although there is a kitchen, it is not a commercial kitchen to support functions.

Based on the age of the facility and observed structural construction details, it does not appear that this building has received any seismic safety upgrades. A seismic and structural safety evaluation should be conducted to assess the conditions, and provide recommendations for structural improvements.

HVAC is forced-air heating and cooling on the main floor (upper level) with inefficient electric resistance heat and old split-Dx cooling. There is no apparent ventilation from the mechanical system. Ventilation appears intended from operable windows, some of which are no longer operable - this may be a code violation, especially for a community center, and particularly with ongoing COVID-19 pandemic risk - further investigation is suggested prior to increased public use. The basement (lower level) has no HVAC service, excepting two electric resistance unit heaters in the two spaces at the far west end. Basement areas cannot be used for human occupancy without meeting basic code-required heat and ventilation requirements.

Plumbing is mostly original or older, with undersized children's fixtures for elementary school use; one observed domestic hot water heater; some support for the residential-type kitchen. No fire sprinkler or fire alarm, other than fire pull-stations with unclear functionality. Obsolete residential-style 120/240V, single-phase power. Aged fluorescent lighting. Minimal low voltage systems, but with apparent high-speed fiber-optic data sub-fed from the Public Works site one block to south.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center

1718 SE 7th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**3.0**			
A10 Foundations						
A1010 Standard Foundations	1916	1916	3	TRB	12/02/21	Unknown construction, but no substantial settlement observed or reported, and they have stood the test of time. See B1010 Floor Construction for comments about needed full seismic evaluation.
A1030 Slab On Grade	1916	1916	3	TRB	12/02/21	Basement level slab on grade, no major issues noted, but radon testing advised.
A20 Basements						
A2020 Basement Walls	1916	1916	3	TRB	12/02/21	Plaster on masonry or concrete, no issues observed. See B1010 Floor Construction for comments about needed full seismic evaluation.
B Shell			**3.0**			
B10 Superstructure						
B1010 Floor Construction	1916	1916	3	TRB	12/02/21	Wood on wood joists, on heavy timber, on heavy timber columns. Based on the age of the facility and observed structural construction details, it does not appear that this building has received any seismic safety upgrades. A seismic and structural safety evaluation should be conducted to assess the conditions and provide recommendations for structural improvements.
B1020 Roof Construction	1916	1916	3	TRB	12/02/21	Existing roof structure was not observed, but based on the era, quality of construction, and observation of exposed eave rafters, is expected to be wood framed joist members on timbers. No significant out of plane sagging observed. See B1010 Floor Construction for comments about needed full seismic evaluation.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center

1718 SE 7th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**3.0**			
B20 Exterior Closure						
B2010 Exterior Walls	1916	1916	3	TRB	12/02/21	Cement plaster on concrete or masonry walls in the original structure in fair condition. Wood lap siding on wood framed construction on the south side addition in poor condition. See B1010 Floor Construction for comments about needed full seismic evaluation.
B2020 Exterior Windows	1916	1995	4	TRB	12/02/21	Some large original wood units in poor condition, many large windows replaced with thermal units with operable sections in aluminum frames (1995) at the ballroom and banquet room, and a mix of other older aluminum and vinyl replacement windows in poor condition elsewhere.
B2030 Exterior Doors	1916	1995	3	TRB	12/02/21	Aluminum storefront replacement doors in original fenestrations, and garage overhead door in fair condition. A mix of other original exterior doors with old egress hardware.
B30 Roofing						
B3010 Roof Coverings	1916	2010	2	TRB	12/02/21	Composite shingle roofing.
B3030 Projections	1916	1916	3	TRB	12/02/21	Covered entries and painted extended eaves.
C Interiors			**3.3**			
C10 Interior Construction						
C1010 Partitions	1916	1916	3	TRB	12/02/21	Plaster on lath, on wood studs. In good condition on the upper floor. Basement level is in a variety of conditions from fair to poor.
C1020 Interior Doors	1916	1916	4	TRB	12/02/21	Wood doors and frames, worn from years of service and long past expected useful life.
C1030 Fittings	1916	1916	3	TRB	12/02/21	Miscellaneous base, display cabinets, picture rails.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center

1718 SE 7th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**3.3**			
C20 Staircases						
C2010 Stair Construction	1916	1916	4	TRB	12/02/21	Wood stair to basement, worn treads, rails, and posts, not code-compliant, and no ADA access.
C2020 Stair Finishes	1916	1990	4	TRB	12/02/21	Non-slip tread surface worn, minor maintenance to replace.
C30 Interior Finishes						
C3010 Wall Finishes	1916	2009	3	TRB	12/02/21	Upper level paint in fair condition. See C1010 Partitions for issues at basement level. Note, based on age lead-based paint is expected.
C3020 Floor Finishes	1916	2004	3	TRB	12/02/21	Carpet and ballroom hardwood replaced in 2004 and in fair condition with some areas of torn and worn carpet. Basement level a combination of exposed concrete, and very poor condition wood floor in west wing classroom.
C3030 Ceiling Finishes	1916	1995	4	TRB	12/02/21	Upper floor textured plaster on gypsum ceilings in good condition. Roughly 60% of ceilings in poor condition; cracked gypsum in office addition and unfinished gypsum in basement level.
D Services			**3.9**			
D20 Plumbing						
D2010 Plumbing Fixtures	1916	1916	4	DCS	12/02/21	Many original and some newer, but children's fixtures; some newer fixtures, but most aged and inefficient.
D2020 Domestic Water Distribution	1916	1916	4	DCS	12/02/21	Mix of older lead and galvanized steel, and some newer copper and PEX tubing; one abandoned hot water heater and one aging operating hot water heater. Reported pipe leaks in several locations.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center

1718 SE 7th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.9**			
D20 Plumbing						
D2030 Sanitary Waste	1916	1916	3	DCS	12/02/21	Mix of older cast iron and newer ABS drain, waste, and vent piping; most tested fixtures on the upper floor flush and drain well; fixtures on the lower level were not operable.
D2040 Rain Water Drainage	1916	2010	2	DCS	12/02/21	Newer metal gutter and downspout to grade; however, some downspouts are damaged - minor maintenance to repair.
D2090 Other Plumbing Systems	1916	1916	4	DCS	12/02/21	Sump pump in basement mechanical room appears failed - minor maintenance to replace.
D30 HVAC						
D3010 Energy Supply	1916	1916	5	DCS	12/02/21	Abandoned fuel oil piping - minor maintenance to demolish and remediate as needed.
D3020 Heat Generating Systems	1916	1916	4	DCS	12/02/21	Abandoned steam boiler in basement. Three electric resistance heat furnaces; two on main floor, one in attic with difficult access.
D3030 Cooling Generating Systems	1985	1990	4	DCS	12/02/21	Three aged outside condensing units and inside evaporator cooling coils.
D3040 HVAC Distribution Systems	1916	1916	4	DCS	12/02/21	Forced-air heating and cooling for upper level with no ventilation air and mostly fixed windows; unclear supply and return paths and balance. No HVAC service for lower level (basement), except for two unit heaters to west.
D3050 Terminal and Package Units	1916	1916	4	DCS	12/02/21	Several aged electric wall heaters at upper level corridors and some offices; two aging electric resistance unit heaters at west end of basement (lower level) area.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center

1718 SE 7th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.9**			
D30 HVAC						
D3060 Controls and Instrumentation	1916	1916	4	DCS	12/02/21	Standalone controls; mix of older and somewhat newer - minor maintenance to replace upon failure or with associated equipment replacement.
D3090 Other HVAC Systems and Equipment	1916	1916	4	DCS	12/02/21	Kitchen exhaust is failing - minor maintenance to replace.
D40 Fire Protection						
D4030 Fire Protection Specialties	1916	1995	3	DCS	12/02/21	Fire extinguishers on hooks and AED in cabinet.
D50 Electrical						
D5010 Electrical Service and Distribution	1916	1916	4	DCS	12/02/21	Obsolete single-phase 120/240V power with several panels in basement.
D5020 Lighting and Branch Wiring	1916	1916	4	DCS	12/02/21	Aged wiring and older fluorescent lighting.
D5032 Low Voltage Communication	1916	2008	3	DCS	12/02/21	Aging voice over internet protocol (VOIP) telephone. Opportunity to upgrade to City standard as minor maintenance. Newer audio system in ballroom.
D5037 Low Voltage Fire Alarm	1916	1916	4	DCS	12/02/21	Pull-stations with unclear operability.
D5038 Low Voltage Security	1916	1916	4	DCS	12/02/21	Minimal electronic security.
D5039 Low Voltage Data	1916	2015	3	DCS	12/02/21	Somewhat newer data; assume minor maintenance to expand, especially WiFi service for guest use.
D5090 Other Electrical Systems	1916	1916	4	DCS	12/02/21	Minimal emergency lighting; no standby generator; some emergency lighting fixtures damaged. Minor maintenance to repair, replace, or add several emergency lighting fixtures.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center

1718 SE 7th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1010 Commercial Equipment	1916	1916	3	DCS	12/02/21	Aging kitchen appliance and office equipment.
E20 Furnishings						
E2010 Fixed Furnishings	1916	1995	3	TRB	12/02/21	Miscellaneous built-in window seats with cushions, window curtains, window blinds, kitchen casework (1995), and other built-ins on upper floor in good condition. Basement level remaining elements in poor condition (but minor maintenance to demolish).

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

B1010 Floor Construction	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	1	$25,000.00	LS	$25,000	$48,960

Deficient Material: **Structural Evaluation**

Based on the age of the facility and observed structural construction details, it does not appear that this building has received any seismic safety upgrades.

Remedial Action:

A seismic and structural safety evaluation should be conducted for the entire structure to assess the conditions, and provide recommendations for structural improvements.

Estimate provided is for structural evaluation and design only. Actual construction work to provide seismic and structural upgrades cannot be quantified at this time, but likely will be substantial.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

B2010 Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	4,000	$18.00	SF	$72,000	$141,005

Deficient Material: **Wood Siding**

Wood lap siding on wood framed construction on the south side addition: peeling paint exposing weathered lap siding, some known to be rotten. Note, based on age lead-based paint is expected.

Remedial Action:

Test for lead, remove lap siding, install new flashings and building wrap, install new cladding, prime, and paint.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

B2020 Exterior Windows	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	18	$4,000.00	EA	$72,000	$141,005

Deficient Material: **Exterior Windows**

A mix of original large windows in poor condition, and a mix of other older aluminum and vinyl replacement windows in poor condition.



Remedial Action:

Replace existing older window frames and glass with new thermal units with historic-looking frames, mullions, and muntin grids (consider fiberglass for efficiency, longevity, blend, and paintability).

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	2	$3,000.00	EA	$6,000	$11,750

Deficient Material: **Doors and Frames**

A mix of other original exterior doors with old egress hardware out of ballroom and basement.



Remedial Action:

Replace door frames, doors, and hardware with modern code-compliant doors.

Action Type:

Life Safety

Copyright MENG Analysis 2022

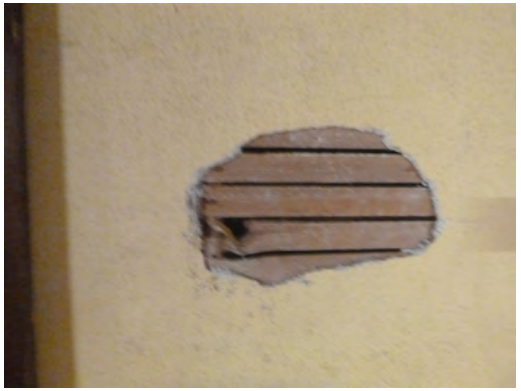
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

C1010 Partitions	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$50,000.00	LS	$50,000	$97,920

Deficient Material: **Gypsum**

Basement level is in a variety of conditions from fair to poor and some areas of exposed lath.



Remedial Action:

Install gypsum, prime and paint, and repaint other walls.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

C1020 Interior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	20	$2,000.00	EA	$40,000	$78,336

Deficient Material: **Doors and Frames**

Wood doors and frames, worn from years of service and long past expected useful life.



Remedial Action:

Refinish or replace all doors, frames, and hardware.

Action Type:

ADA

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

C2010 Stair Construction	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$40,000.00	EA	$40,000	$78,336

Deficient Material: **Stair**

Wood stair to basement, worn treads, rails, and posts, not code-compliant, and no ADA access. Head height clearance not compliant with current code.

Remedial Action:

Replace stair and treads and add code-compliant handrails. Remove recently added "head knocker" gypsum assembly at base of stairs.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

C3030 Ceiling Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	12,000	$5.00	SF	$60,000	$117,504

Deficient Material: **Ceiling Finishes**

Roughly 60% of ceilings in poor condition; cracked gypsum in office addition and unfinished gypsum in basement level.



Remedial Action:

Finish unfinished ceilings.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D2010 Plumbing Fixtures	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	21,420	$6.00	SF	$128,520	$251,694

Deficient Material: **Fixtures**
Many aged and obsolete plumbing fixtures.

Remedial Action:
Replace and add per code.

Action Type:
Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D2010 Plumbing Fixtures	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Fixtures**
No handwash sink in kitchen.

Remedial Action:
Install sink per health code.

Action Type:
Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D2020 Domestic Water Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	21,420	$5.00	SF	$107,100	$209,745

Deficient Material: **Domestic water**

Older lead and galvanized piping; aging water heater.



Remedial Action:

Replace all older piping with modern copper and/or PEX; replace aged hot water heater.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D2030 Sanitary Waste	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10,000	$5.00	SF	$50,000	$97,920

Deficient Material: **DW&V piping**

Aged drain, waste, and vent (DW&V) piping at lower level.



Remedial Action:

Replace DW&V piping.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D3020 Heat Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$10,000.00	LS	$10,000	$19,584

Deficient Material: **Boiler**

Abandoned steam boiler in basement.



Remedial Action:

Demolish boiler and remediate any hazardous materials.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D3020 Heat Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	3	$13,500.00	EA	$40,500	$79,315

Deficient Material: **Furnace**
Aged and inefficient electric resistance heat furnace.

Remedial Action:
Replace with heat pump heat.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D3030 Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	3	$7,500.00	EA	$22,500	$44,064

Deficient Material: **Condensing unit**
Aged condensing units.

Remedial Action:
Replace upon failure.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	11,000	$15.00	SF	$165,000	$323,136

Deficient Material: **Ductwork**

No apparent mechanical ventilation (outside air); no economizer (free cooling); apparent unbalanced air flows with uneven heating and cooling.

Remedial Action:

Re-engineer and modernize the HVAC air supply and return system, including adding outside air with economizer.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D3050 Terminal and Package Units	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	7	$850.00	EA	$5,950	$11,652

Deficient Material: **Unit Heaters**
Aging and aged electric resistance unit heaters.

Remedial Action:
Replace upon failure.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	21,420	$6.00	SF	$128,520	$251,694

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D5010 Electrical Service and Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	21,420	$4.00	SF	$85,680	$167,796

Deficient Material: **Electrical distribution**
Obsolete single-phase power.

Remedial Action:
Install modern three-phase 208V power system.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D5020 Lighting and Branch Wiring	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	21,420	$7.00	SF	$149,940	$293,643

Deficient Material: **Light fixtures and branch wiring**
Aged circuiting and older fluorescent light fixtures.



Remedial Action:
Modernize wiring and fixtures.

Action Type:
Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	21,420	$2.50	SF	$53,550	$104,872

Deficient Material: **Fire alarm**

No fire alarm system, excepting several pull-stations with unclear operability.

Remedial Action:

Install modern fire alarm system.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center

D5038 Low Voltage Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	21,420	$1.00	SF	$21,420	$41,949

Deficient Material: **Security**
Minimal electronic security.

Remedial Action:
Upgrade to City standard.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center Infrastructure

1718 SE 7th Ave
Camas, WA 98607

Facility Condition Summary

Roughly half of the property houses a community center building, and the southern side is comprised of a tight parking lot with tree island geometry that makes maintenance difficult. The landscaping around the west and north of the building is overgrown. An ADA ramp was constructed on the south side in 2008. There is an adjacent gravel overflow lot across the street to the west that is in need to vegetation removal.

City water and sewer, but no fire sprinkler or apparent irrigation. Clark PUD power, but no natural gas to this all-electric building. High-speed fiber-optic data appears sub-fed from Public Works Operations Center to south. Apparent abandoned underground fuel oil storage tank in yard to southeast.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center Infrastructure

1718 SE 7th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1916	1916	4	TRB	12/02/21	Concrete curb cut aprons are cracked and broken.
G2020 Parking Lots	1916	1990	3	TRB	12/02/21	Asphalt lot, including ADA stalls, but no access isle striping, and missing one sign, including van stall. Some cracking, settlement, and surface weathering observed. Adjacent overflow gravel lot is under-maintained with significant vegetative growth.
G2030 Pedestrian Paving	1916	2008	3	TRB	12/02/21	2008 concrete ADA ramp and stairs to parking lot in good condition. Original front entry plaza and monument stairs in fair to poor condition with areas of breakage and settlement. East wood emergency egress stair is rotting.
G2040 Site Development	1916	1916	4	TRB	12/02/21	Monument sign. Concrete retaining wall to lower level garage is collapsing. Former play equipment has been removed.
G2050 Landscaping	1916	1916	4	TRB	12/02/21	Tree canopy encroaching roof. Other landscaping is overgrown and creating maintenance and safety and security issues (see crime prevention through environmental design (CPTED) standards). Landscaping in the parking islands is overgrown, making adjacent stalls unusable. Lawn surfaces are uneven with mole holes.
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1916	1916	3	DCS	12/02/21	City water with no issues reported; no fire service; no apparent irrigation system.
G3020 Sanitary Sewer	1916	1916	3	DCS	12/02/21	City sewer with no issues reported.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Community Center
Community Center Infrastructure

1718 SE 7th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3030 Storm Sewer	1916	1916	4	DCS	12/02/21	Sheet flow to street from parking lot; roof drain discharge to grade at building foundation.
G3060 Fuel Distribution	1916	1916	4	DCS	12/02/21	Signs of underground fuel oil storage tank outside the abandoned basement boiler room.
G40 Site Electrical utilities						
G4010 Electrical Distribution	1916	1916	4	DCS	12/02/21	Obsolete 120/240V, overhead residential-type single-phase 120/240V power with Clark PUD meter No. 81-464-067.
G4020 Site Lighting	1916	1916	4	DCS	12/02/21	Minimal site lighting - minor maintenance to install several additional building-mounted LED fixtures.
G4030 Site Communications and Security	1916	2015	3	DCS	12/02/21	Apparent newer fiber-optic high-speed data from public works facility one block south; aged plain-old-telephone service (POTS) with unclear operability; minimal site electronic security.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center Infrastructure

G2010 Roadways	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	2	$5,000.00	EA	$10,000	$19,584

Deficient Material: **Concrete Pavement**

Concrete curb cut aprons are cracked and broken.



Remedial Action:

Demo and repour driveway entrances.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center Infrastructure

G2020 Parking Lots	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	10,000	$4.00	SF	$40,000	$78,336

Deficient Material: **AC Paving**

Cracks in asphalt, dirt, moss growth.



Remedial Action:

Seal cracks. Sealcoat recommended to preserve and extend lot life, restripe and provide code-compliant ADA parking striping and signage.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center Infrastructure

G2030 Pedestrian Paving	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	800	$25.00	SF	$20,000	$39,168

Deficient Material: **Concrete Paving**

Original front entry plaza and monument stairs in fair to poor condition with areas of breakage and settlement.

Remedial Action:

Demo, re-compact, and repave entry plaza flatwork. Demo, re-compact, and repour new concrete entry stairs. Consider also adding ADA ramp in a revised design.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center Infrastructure

G2030 Pedestrian Paving	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	1	$10,000.00	EA	$10,000	$19,584

Deficient Material: **Wood Stairs**

East emergency egress landing and stairs are rotting.

Remedial Action:

Remove and replace egress stairs.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center Infrastructure

G2040 Site Development	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	40	$250.00	LF	$10,000	$19,584

Deficient Material: **Retaining Walls**

Concrete retaining wall to lower level garage is collapsing.

Remedial Action:

Remove and replace retaining walls to garage.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Community Center

Facility: Community Center Infrastructure

G2050 Landscaping	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	1	$8,000.00	LS	$8,000	$15,667

Deficient Material: **Landscaping**

Landscaping is overgrown and creating maintenance and safety and security issues (numerous hiding places with evidence of human activity). Lawn surfaces are uneven with mole holes.

Remedial Action:

Prune trees away from building. Remove large overgrown shrubs around building perimeter and plant with new landscaping. Smooth lawn areas and reseed or plant with alternative ground cover.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$15,000.00	LS	$15,000	$29,376

Deficient Material: **Storm**

No site storm drain connection to roof drains.

Remedial Action:

Install storm drain system to collect roof drains and convey away from the building.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center Infrastructure

G3060 Fuel Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$10,000.00	LS	$10,000	$19,584

Deficient Material: **Underground fuel oil tank**
Signs of abandoned underground fuel oil storage tank.

Remedial Action:
Remove or decommission the underground fuel oil storage tank.

Action Type:
Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Community Center
Facility: Community Center Infrastructure

G4010 Electrical Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	1	$15,000.00	LS	$15,000	$29,376

Deficient Material: **Electrical service**
Obsolete overhead residential type single-phase power service.

Remedial Action:
Install modern 208V, three-phase underground power service.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Community Center

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Community Center	B10 Superstructure	$25,000	$5,000	$6,000	$12,960	$48,960	$48,960
	B20 Exterior Closure	$150,000	$30,000	$36,000	$77,760	$293,760	$297,959
	C10 Interior Construction	$90,000	$18,000	$21,600	$46,656	$176,256	$176,256
	C20 Staircases	$40,000	$8,000	$9,600	$20,736	$78,336	$78,336
	C30 Interior Finishes	$60,000	$12,000	$14,400	$31,104	$117,504	$117,504
	D20 Plumbing	$290,620	$58,124	$69,749	$150,657	$569,150	$577,562
	D30 HVAC	$243,950	$48,790	$58,548	$126,464	$477,752	$481,402
	D40 Fire Protection	$128,520	$25,704	$30,845	$66,625	$251,694	$251,694
	D50 Electrical	$310,590	$62,118	$74,542	$161,010	$608,259	$622,618
	Facility Total	**$1,338,680**	**$267,736**	**$321,283**	**$693,972**	**$2,621,671**	**$2,652,291**
Community Center Infrastructure	G20 Site Improvements	$98,000	$19,600	$23,520	$50,803	$191,923	$194,546
	G30 Site Civil / Mechanical Utilities	$25,000	$5,000	$6,000	$12,960	$48,960	$49,685
	G40 Site Electrical utilities	$15,000	$3,000	$3,600	$7,776	$29,376	$30,251
	Facility Total	**$138,000**	**$27,600**	**$33,120**	**$71,539**	**$270,259**	**$274,482**
	Site Total	**$1,476,680**	**$295,336**	**$354,403**	**$765,511**	**$2,891,930**	**$2,926,772**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Community Center

Total Site Opportunity Cost: $991,340

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Community Center**						
System:	**Vertical Transportation**	**Total Cost: $35,000**					
D1010	**Elevators and Lifts**						
		No elevator, lift, or dumbwaiter between upper and lower levels.	Install lift.	1.00	$35,000.00	LS	$35,000
Facility:	**Community Center**						
System:	**HVAC**	**Total Cost: $342,840**					
D3040	**HVAC Distribution Systems**						
		No HVAC for most the basement (lower level) area.	Install HVAC service for basement.	10,000.00	$30.00	SF	$300,000
D3060	**Controls and Instrumentation**						
		No networked controls.	Install networked controls per City standard.	21,420.00	$2.00	SF	$42,840
Facility:	**Community Center**						
System:	**Equipment**	**Total Cost: $125,000**					
E1010	**Commercial Equipment**						
		Light-duty kitchen without grease hood, limiting the types of events at this community center.	Upgrade to commercial kitchen appliances, hoods, grease interceptor, and related.	1.00	$125,000.00	LS	$125,000
Facility:	**Community Center Infrastructure**						
System:	**Site Improvements**	**Total Cost: $40,000**					
G2040	**Site Development**						
		Former play equipment was removed due to age and safety concerns.	Redevelop play equipment area and install modern play equipment.	1.00	$40,000.00	LS	$40,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Community Center

Total Site Opportunity Cost: $991,340

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Community Center Infrastructure**						
System:	**Site Civil / Mechanical Utilities**	**Total Cost: $22,500**					
G3010	**Water Supply**						
		No observed irrigation system.	Install irrigation system.	1.00	$15,000.00	LS	$15,000
G3060	**Fuel Distribution**						
		All electric building, with natural gas presumed available in the vicinity.	Install natural gas service for building use.	1.00	$7,500.00	LS	$7,500
Facility:	**Community Center Infrastructure**						
System:	**Site Electrical utilities**	**Total Cost: $426,000**					
G4010	**Electrical Distribution**						
		No electric vehicle (EV) charging stations.	Install two EV double charging stations with rough-in for two more.	2.00	$8,000.00	EA	$16,000
		South-facing roof with good solar access.	Install 50 kW photovoltaic (PV) system.	50.00	$8,000.00	EA	$400,000
G4030	**Site Communications and Security**						
		Minimal site electronic security.	Upgrade to City standard.	1.00	$10,000.00	LS	$10,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42

4321 NW Parker Street
Camas, WA 98607

Facility Size - Gross S.F.	12,069
Year Of Original Construction	2001
Facility Use Type	Fire Station
Construction Type	Light
# of Floors	1
Energy Source	
Year Of Last Renovation	2001
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.8**			
Facility Condition Index (FCI)	0.13	**Predicted Renewal Budget 2028 - 2041**	$1,301,000	$1,494,000
Current Replacement Value (CRV)	$4,868,000	**Observed Deficiencies 2022 - 2027**	$558,000	$572,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$773,000	N/A

Facility Condition Summary

Single-story fire station (with a small mezzanine for storage, MDF, self-contained breathing apparatus (SCBA) tank room, and workout equipment), offices, a large Emergency Operation Center/training/conference room, and a three-bay pull-through apparatus bay. The building is generally in good condition. The roofing is standing seam on pitched wood trusses. Exterior walls are brick veneer base and cement lap siding above on gable ends on wood frame exterior walls. Windows are thermal glazed units in aluminum frames.

HVAC includes three gas furnaces with split-Dx cooling for station house, and overhead gas-fired infrared heat for the apparatus bays. Plumbing is conventional with support for apparatus bay equipment. Fire sprinkler and alarm throughout. Power is 208V, three-phase to the separate generator building, then underground to the main fire station building. Lighting is increasingly obsolete fluorescent with all manual control. Low voltage systems are minimal and aging.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.6**			
A10 Foundations						
A1010 Standard Foundations	2001	2001	3	TRB	11/05/21	Assumed to be standard concrete footings and stem walls. No issues reported.
A1030 Slab On Grade	2001	2001	2	TRB	11/05/21	Standard slab on grade, no issues reported.
B Shell			**2.6**			
B10 Superstructure						
B1010 Floor Construction	2001	2001	2	TRB	11/05/21	Plywood on wood frame at mezzanine.
B1020 Roof Construction	2001	2001	3	TRB	11/05/21	Plywood on wood trusses, no issues noted, although some reoccurring minor past roof leaks have been reported.
B20 Exterior Closure						
B2010 Exterior Walls	2001	2001	3	TRB	11/05/21	Brick veneer base walls in good condition, with painted cement composite plank siding at gable and dormer elements.
B2020 Exterior Windows	2001	2001	3	TRB	11/05/21	Thermally glazed low-emissivity operable windows in aluminum frames.
B2030 Exterior Doors	2001	2001	3	TRB	11/05/21	Aluminum storefront at vestibule entry. Painted hollow metal door and frames at other person doors. Aluminum sliders at outdoor BBQ area. Overhead high-bay roll-up doors at apparatus bays (original doors, but lifters, rails, and rollers have been replaced). Metal doors and frames are fading with some paint pealing on western exposure doors.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**2.6**			
B30 Roofing						
B3010 Roof Coverings	2001	2001	3	TRB	11/05/21	Standing seam metal roof, generally in fair condition, however, flashing at dormers was incorrectly installed and is a source of ongoing intermittent leaks, especially during east wind events. Significant repairs over training room dormer have occurred, however, other area leaks persist.
B3030 Projections	2001	2001	2	TRB	11/05/21	Vented metal soffits. Radio tower.
C Interiors			**2.9**			
C10 Interior Construction						
C1010 Partitions	2001	2001	3	TRB	11/05/21	Gypsum on wood stud walls (one office wall was installed and does not provide acoustical separation). CMU at apparatus bay separation. Plastic laminate toilet partitions. Movable stacking dividing wall at the conference/training room.
C1020 Interior Doors	2001	2001	2	TRB	11/05/21	Wood doors in light gauge metal frames.
C1030 Fittings	2001	2001	3	TRB	11/05/21	Misc. storage racks for fire department gear and equipment. Blackout shades at bedrooms, regular blinds elsewhere with some wear and tear.
C20 Staircases						
C2010 Stair Construction	2001	2001	2	TRB	11/05/21	Small wood stair to mezzanine.
C2020 Stair Finishes	2001	2001	3	TRB	11/05/21	Rubber treads and risers.
C30 Interior Finishes						
C3010 Wall Finishes	2001	2001	2	TRB	11/05/21	Paint.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**2.9**			
C30 Interior Finishes						
C3020 Floor Finishes	2001	2001	4	TRB	11/05/21	Original broadloom carpet is nearing end of life with wear and stains. Restroom and shower sheet good flooring is delaminating near showers and staining under urinals. Kitchen flooring has deep gouges. Entry hall quarry tile finish is blistering uneven (either original fired glaze is wearing off or wax finish issue). Strip and refinish entry.
C3030 Ceiling Finishes	2001	2001	3	TRB	11/05/21	Suspended 2x4 acoustic tile. Some minor areas of water stained tile from roof leaks. Some areas of gypsum.
D Services			**2.8**			
D20 Plumbing						
D2010 Plumbing Fixtures	2001	2001	3	DCS	11/05/21	Restrooms with tank-type water closets, flush valve urinals, and manual faucet lavatories; bathrooms with same plus one-piece fiberglass showers; janitor closet with mop sink; stainless steel kitchen sinks with disposals, and dual-height drinking fountain. Water closets nearly all flush slowly, suspected due to gravity tank-type operation. All manual plumbing fixture trim (faucets and flush valves).
D2020 Domestic Water Distribution	2001	2001	3	DCS	11/05/21	City water to 1.5-inch reduced pressure backflow preventer (RPBP) to copper distribution to station house and apparatus bays; including hose reels in apparatus bays, and exterior utility wall hydrants. One gas-fired domestic hot water heater with recirculation pump on the apparatus bay mezzanine. Multiple filtered water dispensers assumed due to poor water quality. While there are reports of poor water quality fouling plumbing fixture trim, the piping itself shows minimal signs of corrosion and premature failure - hence assume ten to fifteen years remaining useful life for domestic water distribution system.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.8**			
D20 Plumbing						
D2030 Sanitary Waste	2001	2001	3	DCS	11/05/21	Cast iron drain, waste, and vent (DW&V) piping where observed. Most tested flushing fixtures are slow to flush, assume mostly due to fixtures, not the DW&V piping. Two apparatus bay trench drains, assumed to drain to the exterior oil/water separator with no issues reported.
D2040 Rain Water Drainage	2001	2001	3	DCS	11/05/21	Metal gutter and downspout pipe to cast iron storm where observed; no issues reported, however, cast iron storm drainage is typically problematic - expect shortened life, compared to modern non-metallic storm drain piping; see G3030 for opportunity to collect roof rain water for drill use.
D2090 Other Plumbing Systems	2001	2001	2	DCS	11/05/21	Self-contained breathing apparatus (SCBA) charging with interconnecting high-pressure piping; apparatus and shop air compressor with refrigerated air drier and distribution; equipment is on the apparatus bay mezzanine.
D30 HVAC						
D3010 Energy Supply	2001	2001	2	DCS	11/05/21	Natural gas piping to station house furnaces, apparatus bay infrared heaters and mezzanine domestic hot water heater, kitchen range, and patio BBQ; opportunity to submeter; solenoid shut-off valve(s) interlocked with the station tone alarm call system.
D3020 Heat Generating Systems	2001	2001	3	DCS	11/05/21	Apparatus bay overhead gas-fired low-intensity infrared heaters - aging but functional; expect five to ten years remaining life with continued good maintenance. Combustion air is from the apparatus bay area, exhaust if via B-vent flue up to roof via attic space. Aging Lennox station house high-efficiency, condensing gas-fired furnaces.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.8**			
D30 HVAC						
D3030 Cooling Generating Systems	2001	2001	3	DCS	11/05/21	Aging station house Lennox condensing units; one 4-ton and two 5-ton units; all with increasingly obsolete R-22 refrigerant.. Dedicated through-wall packaged terminal air conditioning (PTAC) unit for the for main distribution frame (MDF) room on the apparatus bay mezzanine; this unit rejects heat directly to the mezzanine space.
D3040 HVAC Distribution Systems	2001	2001	3	DCS	11/05/21	Apparent uneven air distribution, based on occupant reports and many portable heaters and fans in use. No apparent access to attic space to service HVAC distribution ductwork, variable air flow dampers, and associated controls. No high/low exhaust in apparatus bay, with unclear make-up air. With the station house HVAC system approaching end-of-life, consider upgrading to a variable refrigerant flow (VRF) system with heat recovery dedicated outside air system (DOAS) ventilation.
D3050 Terminal and Package Units	2001	2001	3	DCS	11/05/21	Aging electric wall heaters with five to ten years remaining life with continued good maintenance. Portable HEPA filters for COVID-19 - ensure HEPA filter media is replaced as recommended by manufacturer.
D3060 Controls and Instrumentation	2001	2001	4	DCS	11/05/21	Aged, obsolete, and unclear controls. Signs of uncomfortable occupants throughout, with observed thermostat programming bypassed in manual "hold" override temperature control mode, and portable heaters and fans in multiple spaces. No apparent nitrogen oxides (NOx) monitoring or control in the apparatus bays.
D3090 Other HVAC Systems and Equipment	2001	2001	3	DCS	11/05/21	Apparatus ventilation unclear, but some appears present. No vehicle engine exhaust system.
D40 Fire Protection						
D4010 Fire Protection Sprinkler Systems	2001	2001	3	DCS	11/05/21	Wet and dry risers in station house main corridor - investigate high pressures ASAP; otherwise no issues reported.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.8**			
D40 Fire Protection						
D4030 Fire Protection Specialties	2001	2010	2	DCS	11/05/21	Extinguishers, AED, and first aid kits.
D50 Electrical						
D5010 Electrical Service and Distribution	2001	2001	2	DCS	11/05/21	Power underground from the site main distribution panel (MDP) at the generator building to three Siemens 208V, 400A panels in the main entry corridor, with all spaces full; no submetering; no transient voltage surge suppression (TVSS). At least one additional smaller panel at the apparatus bay mezzanine.
D5020 Lighting and Branch Wiring	2001	2001	3	DCS	11/05/21	Original fixtures with increasingly obsolete T8 fluorescent lighting and all-manual control.
D5032 Low Voltage Communication	2001	2001	3	DCS	11/05/21	Apparent older plain-old-telephone system (POTS) or aged voice-over-internet-protocol (VOIP) handsets. Station public address (PA) system. Need intercom at main entry with remote control door latch - minor maintenance to install. Radio systems.
D5037 Low Voltage Fire Alarm	2001	2001	4	DCS	11/05/21	Old fire alarm control panel (FACP); no direct detection in occupied spaces.
D5039 Low Voltage Data	2001	2010	3	DCS	11/05/21	Main distribution frame (MDF) at mezzanine, with high-speed fiber; but no WiFi, and not connected to City network.
D5090 Other Electrical Systems	2001	2001	3	DCS	11/05/21	Back-up power from remote generator and automatic transfer switch (ATS), but most tested egress and exit sign batteries are weak or dead - minor maintenance to replace.
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1010 Commercial Equipment	2001	2001	3	DCS	11/05/21	Aging appliances and office equipment.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1020 Institutional Equipment	2001	2001	3	DCS	11/05/21	SCBA, bunker-gear drying racks, etc.; all with no issues reported.
E1030 Vehicular Equipment	2001	2001	3	DCS	11/05/21	Two newer and four older garage door openers; while older garage door openers are aging, they should have five to ten years remaining life with continued good maintenance,
F Special Construction			**3.0**			
F10 Special Construction						
F1050 Special Controls and Instrumentation	2001	2001	3	DCS	11/05/21	Tone alarm programmable logic controller (PLC) for building call response - appears much better than reported. Consider City-wide standard and upgrade throughout all stations.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Roof Flashings**

Ongoing leaks attributed to poor flashing conditions at dormers.



Remedial Action:

Remove and repair flashing at roof transitions and dormers.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

C3020 Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	5,000	$11.00	SF	$55,000	$107,712

Deficient Material: **Carpet**

Original broadloom carpet is nearing end of life with wear and stains.



Remedial Action:

Remove and replace carpet (consider carpet tile in lieu of broadloom).

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

C3020 Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1,000	$13.00	SF	$13,000	$25,459

Deficient Material: **Sheet Goods**

Sheet goods at restrooms stained and delaminating at shower areas. Deep gouges at kitchen/dining.

Remedial Action:

Remove and replace sheet goods with new seam welded sheet goods.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D2010 Plumbing Fixtures	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10	$700.00	EA	$7,000	$13,709

Deficient Material: **Water closets**

Nearly all water closets are slow to flush, with signs of regular back-ups.



Remedial Action:

Replace with pressure-assist-type water closets.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D2020 Domestic Water Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	1	$6,500.00	EA	$6,500	$12,730

Deficient Material: **Domestic Hot Water Heater**

Aging domestic hot water heater.



Remedial Action:

Budget to replace upon failure.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D3020 Heat Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	3	$12,500.00	EA	$37,500	$73,440

Deficient Material: **Furnace**
Aging gas-fired station house furnaces.

Remedial Action:
Budget to replace upon failure.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D3030 Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	3	$8,000.00	EA	$24,000	$47,002

Deficient Material: **Condensing unit**

Aging condensing units with increasingly obsolete R-22 refrigerant.

Remedial Action:

Replace upon failure with modern high-efficiency condensing units.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	3	$4,500.00	EA	$13,500	$26,438

Deficient Material: **Air distribution**

Apparent uneven air distribution and dirty ductwork, based on significant use of portable heaters and fans, and dirty ceiling supply air grilles.

Remedial Action:

Clean ductwork, then retest, adjust, and balance (TAB) the HVAC distribution system, ideally in conjunction with replacement of associated furnaces and controls.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Attic HVAC access**

No apparent access to HVAC ductwork and equipment in the station house attic.



Remedial Action:

Develop station house attic access to allow HVAC ductwork, equipment, and controls to be maintained and operated.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	4,400	$10.00	SF	$44,000	$86,170

Deficient Material: **Industrial ventilation**

No high-low general exhaust for apparatus bays; only high exhaust.



Remedial Action:

Retrofit modern code high-low exhaust, and ensure adequate interlocked make-up air.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D3060 Controls and Instrumentation	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	11,422	$3.00	SF	$34,266	$67,107

Deficient Material: **Controls**

Aged control system with observed thermostats manually bypassed in "hold" mode; portable heaters and fans in use throughout; no apparent NOx monitoring or control in apparatus bay space. No apparent communication with City-wide network.

Remedial Action:

Replace apparent standalone controls with modern networked controls; ideally in conjunction with HVAC equipment renewal. Add NOx monitoring and/or control to apparatus bay space.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D5032 Low Voltage Communication	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	10,000	$1.50	SF	$15,000	$29,376

Deficient Material: **Telephone system**

Aging plain-old-telephone system (POTS) or voice-over-internet-protocol (VOIP) telephone handsets.

Remedial Action:

Upgrade to modern VOIP phone system and handsets.

Action Type:

Other



Copyright MENG Analysis 2022

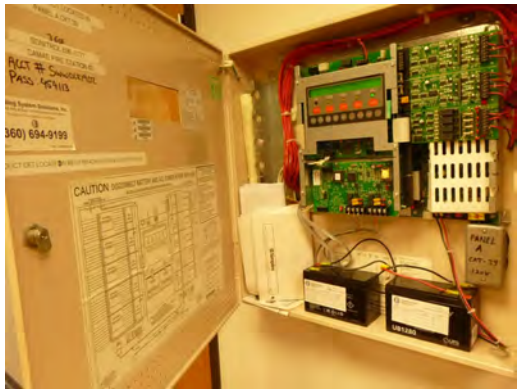
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	10,000	$2.50	SF	$25,000	$48,960

Deficient Material: **Fire alarm**

Old apparent analog fire alarm control panel with minimal detection.



Remedial Action:

Upgrade to modern addressable fire alarm system, including detection in most spaces.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42 Infrastructure

4321 NW Parker Street
Camas, WA 98607

Facility Condition Summary

The property houses Fire Station 42, parking for private vehicles, approach aprons for fire fighting apparatus, and a large paved training area which houses a multi-story concrete fire training tower, and yard for practicing vehicular fire and rescue activities. Storm water treatment is a concern as it does not appear to meet modern standards for storm water containment and treatment before being released.

City water, irrigation, and fire; City sewer but via on-site septic tank with pump station to forced main to street. Utility power and natural gas, including a site-wide diesel generator in separate building. Newer high-speed fiber data and communications, plus older plain-old-telephone service (POTS) for legacy systems. Site lighting recently upgraded to LED. No site electronic security. The Camus Fire Department training tower and pumper truck drafting station is at this site, but the tower is excluded from the 2021 FCA scope. Domestic water quality is causing a variety of problems with plumbing piping, valves, and fixtures. The aging septic system is of increasing concern, despite recent pump replacement. The storm water system provides marginal drainage for several landscape areas and has lost integrity for spill containment. The generator building is overly full of combustible, flammable, and/or hazardous material, requiring removal ASAP.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42 Infrastructure

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	2001	2001	3	TRB	11/05/21	Entry concrete curb cut and small length of asphalt drive into parking area. Concrete apron at apparatus bay. Minor cracking at asphalt drive.
G2020 Parking Lots	2001	2001	3	TRB	11/05/21	Minor alligator cracks. Sheet flow of runoff bypasses storm water quality treatment into pond, which is especially problematic at the training yard where contaminants from training on vehicles and burning can potentially enter water system.
G2030 Pedestrian Paving	2001	2001	3	TRB	11/05/21	Concrete sidewalks. Reseal joint at sidewalk adjacent to northeast corner of building.
G2040 Site Development	2001	2001	3	TRB	11/05/21	Flag pole and monument sign. Small brick enclosed patio with BBQ, smoker, brick storage room, and picnic table. Other picnic tables under awning adjacent to training room.
G2050 Landscaping	2001	2001	3	TRB	11/05/21	Mature landscaping, generally well maintained, but does need to be cut away where overgrowing bicycle rack and cut all plant materials away from building facade a minimum of twelve inches and cut tree limbs off roof (eliminate potential for pest vectors). Irrigation system is original, some spray heads are buried in the landscape and according to users, irrigation system appears to be over irrigating, creating marshy conditions in lawn and perimeter of building. Vaults are full of mud.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42 Infrastructure

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	2001	2001	3	DCS	11/05/21	City water includes separate domestic and irrigation water services with estimated 1.5-inch meter for domestic and 1-inch for irrigation; irrigation backflow preventer (BP) in hand-vault outside, domestic BP inside apparatus bay. Reportedly poor City water quality is damaging piping, valves, equipment, and fixtures. Site fire loop with multiple hydrants, with fire sprinkler service to building via an in-ground vault with double-detector check valve assembly (DDCVA) and fire department connection (FDC) adjacent to vault. The vault includes a sump pump. A large underground fire truck pump test drafting vault is present north of the generator building with no issues reported; assume drafting vault make-up water is from the fire loop. Irrigation controller is in the meeting room storage closet - needs work.
G3020 Sanitary Sewer	2001	2001	3	DCS	11/05/21	Building sewer to septic tank to south; the tank is pumped via force-main to City sewer at the street. Reportedly, the system is original other than one of the pumps that was recently replaced. The control panel appears deteriorated. An oil/water separator is located at the apparatus bay south apron and assumed to serve the two apparatus bay trench drains, and further assumed to drain to the septic system.
G3030 Storm Sewer	2001	2001	3	DCS	11/05/21	Several paved area catch basins assume to drain to one of the bioswales, in turn draining to one of the three on-site storm water ponds, which in turn appear to flow to the larger City vicinity storm water pond north of the site. Significant portions of the paved areas sheet flow to swales via curb cuts. The vehicle fueling area appears to include a containment area draining to a treatment system, but this is currently blocked; the fire training fixture and car fire training areas drain to the triangular storm water pond via curb cuts, which have been blocked with apparent oil-absorbent rolls, but nearly all appear saturated.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42 Infrastructure

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3060 Fuel Distribution	2001	2001	3	DCS	11/05/21	Convault double-contained 1,000-gallon diesel fuel oil storage tank adjacent to the generator building, including fuel dispenser and Gasboy meter - all well aged. NW Natural gas meter No. 1154821 with 630 cfh capacity and including seismic shut-off valve adjacent to station house BBQ patio.
G40 Site Electrical utilities						
G4010 Electrical Distribution	2001	2001	2	DCS	11/05/21	Clark PUD power underground from street to utility pad-mounted 208V three-phase transformer adjacent to the generator building, with meter No. 83-580-267, with 208V power to the main distribution panel (MDP) inside the generator building via a 600A disconnect to a Generac automatic transfer switch (ATS), then to the Square D 208V, 600A-rated MDP, with 400A breaker supplying power to the main building Panels A, B & C, and smaller breakers supplying smaller site loads and out-buildings. The Generac 100 kW diesel generator is located in the generator building, with 350A breaker supplying standby power to the ATS; generator fuel is drawn from the site Convault storage tank via a fuel oil day tank with transfer pump inside the generator building. The generator building generator room has excessive combustible, flammable, or hazardous materials - minor maintenance to remove this material ASAP (reported to on-site fire station staff during field survey).
G4020 Site Lighting	2001	2001	2	DCS	11/05/21	Original pole lights upgraded to LED heads. Station staff complain of exterior lighting illuminating dormitory rooms through the windows.
G4030 Site Communications and Security	2001	2001	3	DCS	11/05/21	Newer high-speed fiber-optic data and older plain-old-telephone service (POTS) for legacy systems; radio antennas on fire station for tone alarm and radio communications. No site electronic security.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 42
Fire Station 42 Infrastructure

4321 NW Parker Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G90 Other Site Construction						
G9010 Service and Pedestrian Tunnels	2001	2001	3	DCS	11/05/21	Substantial concrete culvert at main access road to site - minor maintenance to clean and inspect.
G9090 Other Site Systems	2001	2001	3	DCS	11/05/21	Newer historic apparatus display building adjacent to main entry - no power or other utilities observed - minor maintenance to add metal gutter and downspout to storm and power to illuminate display. Substantial multi-story drill tower (not evaluated). Various training fixtures and vehicles in burn training area. Permanent generator building housing the site main power distribution panel, diesel generator, and generator day tank in one room, and fire hose storage in the second room. At least one connex storage unit.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Fire Station 42

Facility: Fire Station 42 Infrastructure

G2020 Parking Lots	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	1	$50,000.00	LS	$50,000	$97,920

Deficient Material: **Stormwater**

Sheet flow of runoff bypasses storm water quality treatment into pond, which is especially problematic at the training yard where contaminants from training on vehicles and burning can potentially enter water system.



Remedial Action:

Assess opportunity to direct/divert storm water runoff from curb cuts, and convey to a new cartridge filter vault to pre-treat runoff prior to release and entering wetland.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42 Infrastructure

G3010 Water Supply	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$7,500.00	LS	$7,500	$14,688

Deficient Material: **Irrigation**

The damaged irrigation system reportedly floods landscaped areas; observed control vaults are mostly full of mud, covering control devices and wiring.



Remedial Action:

Clean, test, repair, and replace irrigation heads, piping, power, and controls as needed.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42 Infrastructure

G3020 Sanitary Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$6,500.00	LS	$6,500	$12,730

Deficient Material: **Septic system**

Aged septic system; while pump is reportedly recently replaced, the tank, piping, and controls are aging and of increasing concern.

Remedial Action:

Clean, test, and renew the septic system.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42 Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	2	$4,500.00	EA	$9,000	$17,626

Deficient Material: **Containment**

Vehicle fueling area spill containment feature appears blocked and/or failed. Vehicle and training fixture burn area, which drains to triangular storm water pond, has makeshift spill control being overrun by heavy rains, with visible petroleum products appearing to flow relatively untreated to the pond.



Remedial Action:

Clean, test, and repair the vehicle fueling area spill containment system; provide engineered drill water contaminant removal system for training burn area.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42 Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	3	$3,000.00	EA	$9,000	$17,626

Deficient Material: **Detention pond**

Detention ponds filling with debris and vegetation.



Remedial Action:

Fully maintain the storm water ponds and related swales, culverts, and open channels.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42 Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	2	$3,500.00	EA	$7,000	$13,709

Deficient Material: **Storm drain**

Storm drain is insufficient for several landscape areas, resulting in localized flooding during heavy rain.

Remedial Action:

Install additional storm water drainage capacity for excessively wet landscape areas.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42 Infrastructure

G3060 Fuel Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$6,500.00	LS	$6,500	$12,730

Deficient Material: **Fuel oil storage tank**

Aging diesel fuel oil storage tank is discolored and stained, with rusted fuel dispenser, rusty piping to and from diesel generator day tanks, and apparently failed fuel metering subsystem.



Remedial Action:

Clean, test, and renew the fuel oil storage tank, fuel dispenser, and fuel metering system.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 42
Facility: Fire Station 42 Infrastructure

G4020 Site Lighting	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Exterior lighting**

Exterior lighting reportedly illuminates multiple dormitory rooms, reducing staff sleep effectiveness.

Remedial Action:

Install cut-off shield, remote controls and/or window blackout shades to allow station staff to sleep in the dormitories during night hours.

Action Type:

Other



Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Fire Station 42

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Fire Station 42	B30 Roofing	$5,000	$1,000	$1,200	$2,592	$9,792	$9,792
	C30 Interior Finishes	$68,000	$13,600	$16,320	$35,251	$133,171	$138,018
	D20 Plumbing	$13,500	$2,700	$3,240	$6,998	$26,438	$27,212
	D30 HVAC	$158,266	$31,653	$37,984	$82,045	$309,948	$317,453
	D50 Electrical	$40,000	$8,000	$9,600	$20,736	$78,336	$79,934
	Facility Total	**$284,766**	**$56,953**	**$68,344**	**$147,623**	**$557,686**	**$572,409**
Fire Station 42 Infrastructure	G20 Site Improvements	$50,000	$10,000	$12,000	$25,920	$97,920	$97,920
	G30 Site Civil / Mechanical Utilities	$45,500	$9,100	$10,920	$23,587	$89,107	$89,945
	G40 Site Electrical utilities	$5,000	$1,000	$1,200	$2,592	$9,792	$9,937
	Facility Total	**$100,500**	**$20,100**	**$24,120**	**$52,099**	**$196,819**	**$197,802**
	Site Total	**$385,266**	**$77,053**	**$92,464**	**$199,722**	**$754,505**	**$770,211**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Fire Station 42 **Total Site Opportunity Cost: $772,780**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Fire Station 42**						
System:	**Plumbing**	**Total Cost: $19,600**					
D2010	**Plumbing Fixtures**						
		All manual plumbing fixture trim (faucets and flush valves).	Upgrade to hardwired, automatic (infrared) trim for improved infection control and reduced water use.	16.00	$600.00	EA	$9,600
D2020	**Domestic Water Distribution**						
		Hard city water staining fixtures and reportedly shortening life of plumbing piping, valves, devices, and fixture trim.	Install whole-building water softener.	1.00	$10,000.00	LS	$10,000
Facility:	**Fire Station 42**						
System:	**HVAC**	**Total Cost: $255,180**					
D3030	**Cooling Generating Systems**						
		No cooling for the apparatus bay than natural ventilation with doors open and apparent mechanical ventilation.	Install ceiling fans.	6.00	$850.00	EA	$5,100
D3040	**HVAC Distribution Systems**						
		Old apparent variable air volume & temperature (VVT) system with marginal comfort and energy efficiency, with furnaces and condensing units approaching end of life.	Replace with modern variable refrigerant flow (VRF) system with heat recovery dedicated outside air system (DOAS).	6,836.00	$30.00	SF	$205,080
D3090	**Other HVAC Systems and Equipment**						
		No vehicle engine exhaust system, other than opening apparatus bay doors when fire apparatus engines are operated.	Install vehicle engine exhaust system.	6.00	$7,500.00	EA	$45,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Fire Station 42 **Total Site Opportunity Cost: $772,780**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Fire Station 42**						
System:	**Electrical**	**Total Cost: $105,000**					
D5010	**Electrical Service and Distribution**						
		All distribution panel circuits full, no transient voltage surge suppression (TVSS), no submetering.	Install subpanels to support reportedly needed new loads; retrofit TVSS and submetering.	10,000.00	$2.00	SF	$20,000
D5020	**Lighting and Branch Wiring**						
		Increasingly obsolete T8 fluorescent lighting with manual control.	Upgrade to LED lighting with automatic control.	10,000.00	$5.00	SF	$50,000
D5038	**Low Voltage Security**						
		No electronic security.	Add per City standard (access control, CCTV, and intrusion detection).	10,000.00	$2.00	SF	$20,000
D5039	**Low Voltage Data**						
		No connection to City network; no WiFi for staff and guests.	Connect to City network and provide secure WiFi for occupant use.	10,000.00	$1.50	SF	$15,000
Facility:	**Fire Station 42**						
System:	**Special Construction**	**Total Cost: $15,000**					
F1050	**Special Controls and Instrumentation**						
		Reportedly no standardized City fire-department-wide tone alarm call interface and interlocks with fire station systems.	Develop City-wide tone alarm response standard and implement at Fire Station 42 to begin this process.	1.00	$15,000.00	LS	$15,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Fire Station 42 **Total Site Opportunity Cost: $772,780**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Fire Station 42 Infrastructure**						
System:	**Site Improvements**	**Total Cost: $10,000**					
G2050	**Landscaping**						
		Irrigation system is original, some spray heads are buried in the landscape. According to users, irrigation system appears to be over irrigating, creating marshy conditions in lawn and perimeter of building. Also, the number of irrigation heads appears to be excessive, especially for established landscape.	Remove and replace irrigation controller with modern water-efficient system tied to soil moisture meters and weather conditions. Evaluate head location and cap unnecessary irrigation heads.	1.00	$10,000.00	LS	$10,000
Facility:	**Fire Station 42 Infrastructure**						
System:	**Site Civil / Mechanical Utilities**	**Total Cost: $8,000**					
G3030	**Storm Sewer**						
		Metal roof with piped roof drains.	Harvest roof rain water for training and testing drafting tank fill.	1.00	$8,000.00	LS	$8,000
Facility:	**Fire Station 42 Infrastructure**						
System:	**Site Electrical utilities**	**Total Cost: $360,000**					
G4010	**Electrical Distribution**						
		Metal roof with several south- and west-facing sloping sections, and with good solar exposure.	Install 50 kW photovoltaic (PV) power system to generate renewable energy.	50.00	$7,000.00	EA	$350,000
G4030	**Site Communications and Security**						
		No site electronic security system, with planned development of adjacent property.	Budget to conduct crime prevention through environmental design (CPTED) analysis and provide appropriate electronic security in conjunction with development of the adjacent site.	1.00	$10,000.00	LS	$10,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43

1400 A Street
Washougal, WA 98671

Facility Size - Gross S.F.	8,496
Year Of Original Construction	1974
Facility Use Type	Fire Station
Construction Type	Medium
# of Floors	1
Energy Source	Gas
Year Of Last Renovation	1974
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.8**			
Facility Condition Index (FCI)	0.13	**Predicted Renewal Budget 2028 - 2041**	$1,720,000	$1,959,000
Current Replacement Value (CRV)	$3,843,000	**Observed Deficiencies 2022 - 2027**	$440,000	$447,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$688,000	N/A

Facility Condition Summary

Single-story fire station (with a mezzanine and hose tower). Originally a combined Fire / Police Station, including fire administration, the building has been adapted and now dedicated to fire station operations only after 2003 (the former police sally port garage is now a storage and work out area, jail cells have been adapted as storage). Roofing is pitched metal, exterior cladding is metal, some locations over a CMU base, windows are thermal insulated operable vinyl. Several code issues identified should be addressed: fire/smoke separation at apparatus bay from living areas, auto shut off of oven/cook top and BBQ with alarm call, egress compliance from sleeping/dorm, among others.

HVAC is forced-air heating and cooling from gas furnaces with split-Dx cooling for the station house area, excepting the southeast dorm rooms which are electric split-Dx heat pump; the apparatus bays have gas-fired unit heaters. There no apparent mechanical ventilation for the station house, other than operable windows for some areas. There are small exhaust fans for the large apparatus bay area. City water with gas-fired hot water heater. No fire sprinkler, but a modern fire alarm system is present. Power is light commercial 120/240V, single-phase from Clark PUD with propane-fired generator back-up. Lighting is fluorescent with manual control. High-speed fiber and cable is present for telecommunications. A large cell tower antenna with modular equipment building is present at the back of fire station, with assumed ground-lease to AT&T.

As the fire station approaches 50 years of age, it is due modernization, with sub-optimal site traffic flow, difficult wildlife (bird) issues, marginal site storm drainage with repeated flooding at the main entry and ongoing water damage at much of the building perimeter, deteriorating hardscape and softscape, inefficient space configuration, poor thermal envelope, increasingly obsolete single-phase power, fluorescent lighting, and R-22 refrigerant HVAC equipment, minimal apparatus bay ventilation with no vehicle engine exhaust, unheated and unvented hose tower, dispersed bunker and turn-out gear management, aging plumbing fixtures and failing appliances, no fire sprinkler system, and other concerns. The site, building, and building systems should be fully modernized. The underlying pre-engineered metal building (PEMB) structure appears sound, but is typically considered sub-standard for modern permanent public safety buildings.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.0**			
A10 Foundations						
A1010 Standard Foundations	1974	1974	2	TRB	01/11/22	Standard concrete strip footings and stem walls.
A1030 Slab On Grade	1974	1974	2	TRB	01/11/22	Concrete slab on grade, no issues observed or reported. Minor cracking at apparatus bay.
B Shell			**2.7**			
B10 Superstructure						
B1010 Floor Construction	1974	1974	2	TRB	01/11/22	Wood deck on wood framing at mechanical and equipment mezzanines.
B1020 Roof Construction	1974	1974	3	TRB	01/11/22	Metal deck with supersaver insulation (assumed to be only R-10 value batt insulation with integral vapor barrier) on a pre-engineered steel building structure.
B20 Exterior Closure						
B2010 Exterior Walls	1974	1974	3	TRB	01/11/22	Pre-finished metal cladding and some CMU wainscot veneer. Generally in fair condition with some fading of finish, and areas of algae growth that should be cleaned up to protect materials and improve appearance.
B2020 Exterior Windows	1974	2003	3	TRB	01/11/22	Insulated glazing in vinyl operable frames. Window at sleeping room is not code-compliant for emergency egress, two other sleeping rooms do not even have the code-required second egress.
B2030 Exterior Doors	1974	2003	3	TRB	01/11/22	Hollow metal doors and frames (paint fading, repainting recommended). Glazing seals of overhead vehicle apparatus doors have failed. South side apparatus door has some impact damage.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**2.7**			
B30 Roofing						
B3010 Roof Coverings	1974	1974	3	TRB	01/11/22	Standing seam metal roofing, algae and moss growth, in need of washing to preserve life and appearance. One water stain in south side of training room may be a roof or flashing leak, but no known roof leaks reported by firefighters.
B3030 Projections	1974	1974	3	TRB	01/11/22	Hose drying tower. Interior insulation vapor barrier failing exposing insulation to moisture.
C Interiors			**2.9**			
C10 Interior Construction						
C1010 Partitions	1974	1974	3	TRB	01/11/22	Gypsum on wood studs. The 1-hr smoke fire separation between the apparatus bay and living quarters has been compromised with an opening cut in the drywall at the mezzanine.
C1020 Interior Doors	1974	1974	3	TRB	01/11/22	A combination of wood and metal interior doors, high-traffic area doors showing wear and could use repainting.
C1030 Fittings	1974	1974	3	TRB	01/11/22	Rubber base, toilet and bath accessories, equipment racks, kitchen accessories.
C20 Staircases						
C2010 Stair Construction	1974	1974	2	TRB	01/11/22	Open wood stair to mezzanine.
C30 Interior Finishes						
C3010 Wall Finishes	1974	2003	3	TRB	01/11/22	Paint, some areas of wear. Areas actively being repaired where drywall has been removed due to recent plumbing flood issues - repair price not included as it is assumed work to repair is already covered and will continue.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**2.9**			
C30 Interior Finishes						
C3020 Floor Finishes	1974	2003	3	TRB	01/11/22	Carpet is stained, worn, and at end of life. VCT and sheet good areas in fair condition except for area in kitchen where flooring removed due to water damage.
C3030 Ceiling Finishes	1974	2003	3	TRB	01/11/22	Suspended acoustical tile, spot areas of water damage. Others painted hard lid.
D Services			**3.0**			
D20 Plumbing						
D2010 Plumbing Fixtures	1974	2000	3	DCS	01/11/22	Multiple restrooms and locker rooms with mostly newer water closets, urinals, and lavatories, but older showers. Failed and damaged kitchen cabinets and sink, with temporary deep sink - minor maintenance to replace sink as kitchen is rebuilt, following water damage from leaking dishwasher. Stainless steel double-basin decontamination sink in the main apparatus bay. No observed hydration station or decontamination shower. At least one water closet removed to allow repair of general construction following recent dishwasher leak - minor maintenance to reinstall or replace.
D2020 Domestic Water Distribution	1974	1974	3	DCS	01/11/22	Original 1.5-inch water service entry with galvanized steel pipe, to newer copper tubing where newer fixtures were installed about 2000; gas-fired domestic hot water heater - aging but functional with five to ten years remaining life with good maintenance. Staff report long wait times for hot water at station house fixtures, given remote domestic hot water heater in apparatus bay utility room and no apparent recirculation pump - minor maintenance to install a recirc line and pump.
D2030 Sanitary Waste	1974	1974	4	DCS	01/11/22	Cast iron drain, waste, and vent (DW&V) piping, with some fixtures flushing or draining somewhat slow, with increasing back-ups. No apparent grease interceptor for the kitchen, despite presence of a Type 1 grease hood.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.0**			
D20 Plumbing						
D2040 Rain Water Drainage	1974	1974	3	DCS	01/11/22	Metal gutter and downspout, some to grade, some to storm, some to flexible pipe, with multiple overflows and damage to exterior wall, hardscape, and softscape below.
D2090 Other Plumbing Systems	1974	1974	3	DCS	01/11/22	Air compressor at base of hose tower with distribution to apparatus bay and support spaces, with 5-hp motor. No apparent grease interceptor for kitchen - minor maintenance to install point-of-use grease interceptor during upcoming kitchen renewal following dishwasher leak.
D30 HVAC						
D3010 Energy Supply	1974	1974	3	DCS	01/11/22	Natural gas to two gas-fired furnaces, one domestic hot water heater, kitchen range, outside BBQ, standby generator, and apparatus bay unit heaters - no submetering. No tone alarm interlock to shut-down cooking equipment (range and BBQ) upon alarm - minor maintenance to install.
D3020 Heat Generating Systems	1974	2000	3	DCS	01/11/22	Two gas-fired high-efficiency condensing furnaces serving station house areas; one older Bryant, one newer Payne. Four gas-fired unit heaters serving the main and auxiliary apparatus bays; all appear older, but functional with five to ten years remaining life with good maintenance. No hose tower heat.
D3030 Cooling Generating Systems	1974	2000	3	DCS	01/11/22	Three outside condensing units, two serving split-Dx forced air cooling for the station house to west, and one serving the split-Dx heat pump for the southeast dormitory area; two older Goodman, one newer Payne. No apparent cooling for the telecom/data closet, but no issues reported.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.0**			
D30 HVAC						
D3040 HVAC Distribution Systems	1974	2000	3	DCS	01/11/22	Forced-air heating and cooling for station house and dormitory areas, with two sets of gas furnaces with split-Dx cooling serving the west office, day-room, and kitchen areas, and one split-Dx heat pump system serving the southeast dormitory area. All with fully ducted supply and return, but without any apparent outside ventilation air, and with no apparent economizer - but further investigation is suggested in the ceiling space and on the roof. Some spaces, including dormitory rooms, have no apparent return air path. Bathroom exhaust and utility space ceiling exhaust fans. Two ducted sidewall exhaust fans serving the main apparatus bay area, but with no apparent make-up air path.
D3050 Terminal and Package Units	1974	2000	2	DCS	01/11/22	Several electric wall heaters in newer (2000) renovated areas; at least one original electric baseboard heater (in vehicle sally port garage).
D3060 Controls and Instrumentation	1974	2000	3	DCS	01/11/22	Standalone programmable thermostats controlling the three station house forced-air systems. Manual thermostats controlling apparatus bay unit heaters, electric wall heaters, and baseboard heater.
D3090 Other HVAC Systems and Equipment	1974	1974	3	DCS	01/11/22	Small commercial kitchen grease hood above kitchen range with assume rooftop up-blast exhaust fan, and apparent evaporative cooler make-up air unit - minor maintenance to verify and service as needed. No vehicle engine exhaust system. No make-up air for apparatus bays.
D40 Fire Protection						
D4030 Fire Protection Specialties	1974	2000	2	DCS	01/11/22	Fire extinguishers on hooks.
D4090 Other Fire Protection Systems	1974	2000	3	DCS	01/11/22	Fire suppression system for kitchen Type 1 grease hood.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.0**			
D50 Electrical						
D5010 Electrical Service and Distribution	1974	1974	3	DCS	01/11/22	Utility power with gutter-type supply to two 120/240V distribution panels A & B, each with 200A capacity; plus one ASCO automatic transfer switch (ATS) supplying standby power loads via one 200A disconnect. All aging but functional, noting ATS appears newer (assume 1995 to match generator age).
D5020 Lighting and Branch Wiring	1974	2000	3	DCS	01/11/22	T8 fluorescent lay-in or industrial pendent in most areas, with mix of manual line-voltage and low-voltage "scene" control in some station house areas.
D5032 Low Voltage Communication	1974	2000	3	DCS	01/11/22	Original abandoned plain-old-telephone system (POTS) wiring in cabinet in storage room, behind hose tower - minor maintenance to demolish abandoned POTS wiring and devices. Aged voice over internet protocol (VOIP) handsets - minor maintenance to upgrade to City standard video VOIP handsets. Obsolete and abandoned in place fire alarm siren at roof level behind the hose tower - minor maintenance to demolish or repurpose.
D5037 Low Voltage Fire Alarm	1974	2000	3	DCS	01/11/22	2000 Silent Knight SK-5208 fire alarm control panel (FACP) with remote annunciator, and detection and notification devices - aging but functional with no issues reported.
D5039 Low Voltage Data	1974	2010	2	DCS	01/11/22	Modern high-speed fiber-optic data, plus apparent cable data service with IDF in closet - without dedicated cooling, but no issues reported.
D5090 Other Electrical Systems	1974	1995	3	DCS	01/11/22	Generac natural-gas-fired 120/240V, 35 kVA standby generator with 175A capacity under canopy to southwest, aging but functional, and recently completed load testing to 80% capacity with no issues reported. Automatic transfer switch (ATS) inside the former vehicle sally port garage. Mix of lighted and placard exit signs, plus some egress pathway lighting - minor maintenance to add additional for full coverage.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1010 Commercial Equipment	1974	2000	3	DCS	01/11/22	Mostly residential-grade kitchen appliances, plus light-duty office equipment, such as copier and desktop computers. Two heavy-duty residential-grade laundry washers, and one medium-duty commercial-grade dryer.
E1020 Institutional Equipment	1974	2000	3	DCS	01/11/22	Fire department specialized equipment - mix of older and newer; minor maintenance to better organize storage. SCBA tank charging equipment in the makeshift gym in the former police vehicle sally port. Exercise equipment in makeshift fitness area in former police sally port garage, with unclear ventilation - minor maintenance to improve ventilation.
E1030 Vehicular Equipment	1974	2000	3	DCS	01/11/22	Mix of older and newer garage door openers, with seven openers: 1) Four at the main apparatus bays, 2) Two at the east addition, and 3) One at the former police sally port garage.
E20 Furnishings						
E2010 Fixed Furnishings	1974	1974	3	TRB	01/11/22	Built-in casework for lockers, shop benches, storage, and equipment. Kitchen casework generally in fair condition with wear from use, and base cabinets missing from recent dishwasher flood. Blinds in good condition.
F Special Construction			**3.0**			
F10 Special Construction						
F1050 Special Controls and Instrumentation	1974	2000	3	DCS	01/11/22	Tone alarm call system and radio communications integrated into the station public address system, but with unclear integration with lighting, garage door, apparatus bay ventilation, and other systems.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

B2020 Exterior Windows	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	3	$4,000.00	EA	$12,000	$23,501

Deficient Material: **Exterior Openings**

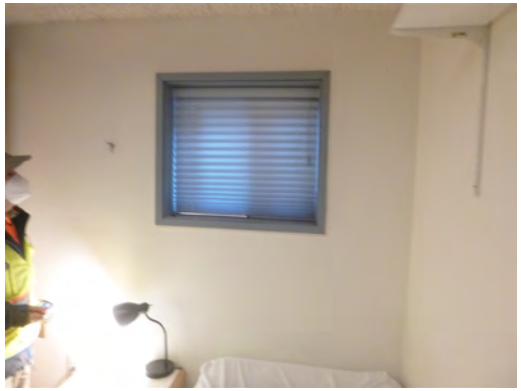
Window at sleeping room is not code-compliant for emergency egress, two other sleeping dorm rooms do not even have a code-required second egress.

Remedial Action:

Replace window with code-compliant egress window. Add second emergency egress doors from remaining landlocked sleeping rooms into adjacent bay.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	16	$600.00	EA	$9,600	$18,801

Deficient Material: **Sectional Overhead Doors**

Seals of glazed overhead vehicle apparatus doors have failed (fogging and moisture inside glazing sandwich).

Remedial Action:

Replace glazing units in overhead doors.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

B3030 Projections	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	1	$8,000.00	LS	$8,000	$15,667

Deficient Material: **Tower**

Interior insulation vapor barrier failing exposing insulation to moisture.



Remedial Action:

Provide mechanical exhaust venting of tower. Remove and reinstall insulation and sealed vapor barrier.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

C1010 Partitions	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	1	$5,000.00	EA	$5,000	$9,792

Deficient Material: **Fire/Smoke Assembly**

The 1-hr smoke fire separation between the apparatus bay and living quarters has been compromised with an opening cut in the drywall at the mezzanine.



Remedial Action:

Add fire/smoke access door to attic space (or replace and repair drywall).

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

C3020 Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	4,000	$10.00	SF	$40,000	$78,336

Deficient Material: **Flooring**

Carpet is stained, worn, and at end of life. VCT removed in area in kitchen where water damage flood occurred.

Remedial Action:

Remove and replace all carpet (carpet tile recommended over replacing with broadloom). Repair missing VCT.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

D2030 Sanitary Waste	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	8,496	$3.00	SF	$25,488	$49,916

Deficient Material: **DW&V piping**

Aged cast iron drain, waste, and vent (DW&V) piping, with increasing back-ups.



Remedial Action:

Replace DW&V piping.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

D2040 Rain Water Drainage	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	250	$30.00	LF	$7,500	$14,688

Deficient Material: **Gutter & downspouts**

Clogged, leaking, damaged, and/or misdirected gutter and downspout, damaging building and site materials below and creating slip hazards and rusting or corroding utility service entries.

Remedial Action:

Renew gutter and downspout and direct all to storm.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

D3020 Heat Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2025	1	$10,000.00	LS	$10,000	$19,584

Deficient Material: **Furnace**

One older Bryant gas-fired condensing furnace serving the kitchen area.



Remedial Action:

Budget to replace furnace upon failure.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

D3030 Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2025	2	$9,500.00	EA	$19,000	$37,210

Deficient Material: **Condensing unit**
Aging condensing units with increasingly obsolete R-22 refrigerant.

Remedial Action:
Budget to replace upon failure, including obsolete R-22 inside coils.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

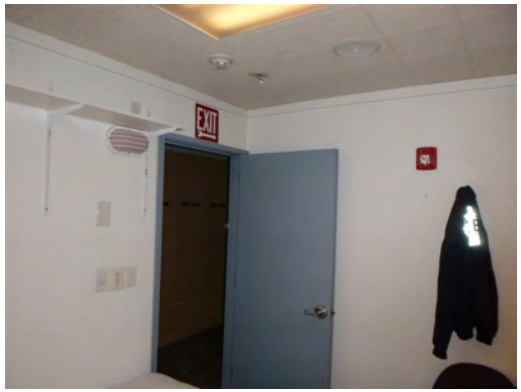
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	10	$650.00	EA	$6,500	$12,730

Deficient Material: **Return air**

No apparent return air path from dormitory rooms and potentially other small spaces.



Remedial Action:

install return air path for space missing same.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	3	$4,000.00	EA	$12,000	$23,501

Deficient Material: **Ventilation**

No apparent ventilation air for station house including office, day-room, and dormitory areas; additionally no economizer for free cooling during shoulder seasons, as required by code.



Remedial Action:

Install full economizer with relief air path for each of the three forced-air HVAC systems, to improve indoor air quality and increase energy efficiency.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	8,496	$7.00	SF	$59,472	$116,470

Deficient Material: **Fire Sprinkler**
No fire sprinkler system.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43

E2010 Fixed Furnishings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2022	1	$10,000.00	LS	$10,000	$19,584

Deficient Material: **Casework**

Kitchen base cabinets missing from recent dishwasher flood. Countertop worn, plastic laminate edge surface broken.

Remedial Action:

Replace kitchen base cabinets. Replace kitchen countertop.

Action Type:

Other



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43 Infrastructure

1400 A Street
Washougal, WA 98671

Facility Condition Summary

Property contains the fire station, but is also the access for a very small public park to the south that includes a concrete half basketball court, and lawn area. There are also a number of connex storage containers for Fire, Police, and Parks Departments.

Just to the south of the building there is an area leased to a communications company (AT&T) and contains a fenced in cell tower and adjacent portable controls building.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43 Infrastructure

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1974	1974	3	TRB	01/11/22	Concrete drive aprons at sidewalks in good condition. Asphalt perimeter drive in fair condition with various levels of cracking (worse condition on the south lot). Apparatus bay asphalt generally in good condition except right at garage entry where asphalt sinking from vehicle tile loading.
G2020 Parking Lots	1974	1974	3	TRB	01/11/22	Asphalt parking. Aging wheel stops.
G2030 Pedestrian Paving	1974	1974	3	TRB	01/11/22	Concrete walks and brick pavers at main entry. Pavers should be cleaned of moss to not be a slip hazard. Street storm event flooding is directed straight down the front entry walk into the building.
G2040 Site Development	1974	1974	3	TRB	01/11/22	Flag pole, covered display shed for historic fire fighting apparatus, BBQ area.
G2050 Landscaping	1974	1974	3	TRB	01/11/22	Well established trees, perimeter with minimal landscaping, some grass.
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1974	1974	3	DCS	01/11/22	City water with estimated 1.5-inch meter by flag pole, leading to main shut-off valve inside at the base of the hose tower. No fire service; no apparent irrigation system.
G3020 Sanitary Sewer	1974	1974	4	DCS	01/11/22	City sewer with failing side sewer and increasing back-ups and damage.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Fire Station 43
Fire Station 43 Infrastructure

1400 A Street
Washougal, WA 98671

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3030 Storm Sewer	1974	1974	4	DCS	01/11/22	Flooding from street at main entry; standing water, dirt, mold, and mildew along the building foundation in multiple locations, and at several other hardscape locations. Fouled trench drain to southeast - minor maintenance to clean-out. Small storm water swale at southeast corner of south paved area.
G3060 Fuel Distribution	1974	1974	3	DCS	01/11/22	NW Natural gas meter No. 1058611 with 630 cfh capacity and including seismic shut-off valve; supplying two gas furnaces, standby generator, domestic hot water heater, one gas-fired BBQ, and four gas-fired unit heaters in the apparatus bays.
G40 Site Electrical utilities						
G4010 Electrical Distribution	1974	1974	3	DCS	01/11/22	Aging Clark PUD power underground to southeast former police vehicle sally port bay distribution panels via PUD meter No. 81-464-04; while meter indicates four-wire, the two panels are 120/240V single-phase, each with 200A capacity. Separate PUD meter No. 78-449-755 to the AT&T cell tower equipment building adjacent to the base of the tower; reportedly ground-leased to AT&T.
G4020 Site Lighting	1974	1974	4	DCS	01/11/22	No site lighting, except at building perimeter, mostly above apparatus bay main entries - minor maintenance to install additional wall-packs to better illuminate the rear service yard; also minor maintenance to upgrade to LED lamps at existing fixtures. Many exterior lights are on during the day - minor maintenance to adjust controls to turn off exterior lighting during daylight hours.
G4030 Site Communications and Security	1974	2010	2	DCS	01/11/22	High-speed fiber-optic telecom, plus apparent high-speed cable-service; aged plain-old-telephone service (POTS) appears abandoned in place. No apparent site electronic security - minor maintenance to install exterior perimeter CCTV monitoring cameras. AT&T cell tower immediately south of the fire station building, with adjacent cell equipment building adjacent to the fenced tower base.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43 Infrastructure

G2010 Roadways	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2027	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **AC Paving**

Apparatus bay asphalt generally in good condition except right at garage entry where asphalt sinking from vehicle tile loading. other areas of cracking and degradation beginning.

Remedial Action:

Saw cut and replace asphalt with heavy-duty pavement at apparatus bay (consider concrete in lieu of asphalt for durability). Seal other cracks and slurry coat.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43 Infrastructure

G2030 Pedestrian Paving	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2023	2	$2,500.00	EA	$5,000	$9,792

Deficient Material: **Concrete Sidewalk**

Street storm event flooding is directed straight over the ADA curb cut and is funneled down the front entry walk into the building.

Remedial Action:

Saw cut entry walk adjacent to public sidewalk and at face of entry foyer, install trench drains to divert additional storm flow from the street.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Fire Station 43
Facility: Fire Station 43 Infrastructure

G3020 Sanitary Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1	$8,000.00	LS	$8,000	$15,667

Deficient Material: **Sanitary Sewer**

City sewer with failing side sewer and increasing back-ups and damage.



Remedial Action:

Replace side sewer.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Fire Station 43

Facility: Fire Station 43 Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1	$17,500.00	LS	$17,500	$34,272

Deficient Material: **Storm**

Flooding from street at main entry; standing water, dirt, mold, and mildew along the building foundation in multiple locations, and at several other hardscape locations.



Remedial Action:

Reslope site hardscape and softscape, add new catch basins, trench drains, and roof downspout conveyance to drain rain water away from the building and prevent standing water at hardscape and public park use area.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Fire Station 43

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Fire Station 43	B20 Exterior Closure	$21,600	$4,320	$5,184	$11,197	$42,301	$42,580
	B30 Roofing	$8,000	$1,600	$1,920	$4,147	$15,667	$15,898
	C10 Interior Construction	$5,000	$1,000	$1,200	$2,592	$9,792	$9,792
	C30 Interior Finishes	$40,000	$8,000	$9,600	$20,736	$78,336	$80,668
	D20 Plumbing	$32,988	$6,598	$7,917	$17,101	$64,604	$66,308
	D30 HVAC	$47,500	$9,500	$11,400	$24,624	$93,024	$96,114
	D40 Fire Protection	$59,472	$11,894	$14,273	$30,830	$116,470	$116,470
	E20 Furnishings	$10,000	$2,000	$2,400	$5,184	$19,584	$19,584
	Facility Total	**$224,560**	**$44,912**	**$53,894**	**$116,412**	**$439,778**	**$447,414**
Fire Station 43 Infrastructure	G20 Site Improvements	$10,000	$2,000	$2,400	$5,184	$19,584	$20,475
	G30 Site Civil / Mechanical Utilities	$25,500	$5,100	$6,120	$13,219	$49,939	$51,426
	Facility Total	**$35,500**	**$7,100**	**$8,520**	**$18,403**	**$69,523**	**$71,901**
	Site Total	**$260,060**	**$52,012**	**$62,414**	**$134,815**	**$509,302**	**$519,315**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Fire Station 43 **Total Site Opportunity Cost: $361,456**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Fire Station 43**						
System:	**Superstructure**	**Total Cost: $50,976**					
B1020	**Roof Construction**						
		1974 era minimal insulation assumed to be only R-10.	Upgrade building thermal envelope to at least current code for energy efficiency and thermal comfort.	8,496.00	$6.00	SF	$50,976
Facility:	**Fire Station 43**						
System:	**Exterior Closure**	**Total Cost: $200,000**					
B2020	**Exterior Windows**						
		Three sleeping rooms are not code-compliant (no second egress) and the fourth space ("the leper room") is in a circulation route, interrupting privacy and sleep when others circulate through the room to access other portions of the building.	Remodel the west side of the building to provide functional, private, and code-compliant sleeping rooms. Remodel and relocate entertainment room to unused conference room adjacent to kitchen and BBQ. Remodel current sleeping area into new workout room.	2,000.00	$100.00	SF	$200,000
Facility:	**Fire Station 43**						
System:	**Plumbing**	**Total Cost: $7,000**					
D2010	**Plumbing Fixtures**						
		No hydration station or decontamination shower.	Add hydration station and decontamination shower.	2.00	$3,500.00	EA	$7,000
Facility:	**Fire Station 43**						
System:	**HVAC**	**Total Cost: $36,000**					
D3020	**Heat Generating Systems**						
		No heat or vent for hose tower.	Install heat and vent for hose tower.	1.00	$9,000.00	LS	$9,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Fire Station 43

Total Site Opportunity Cost: $361,456

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
D3090	Other HVAC Systems and Equipment	No apparatus bay vehicle engine exhaust system.	Install vehicle engine exhaust system such as Nederman or Plymovent.	6.00	$4,500.00	EA	$27,000
Facility:	**Fire Station 43**						
System:	**Electrical**	**Total Cost: $42,480**					
D5020	Lighting and Branch Wiring						
		Fluorescent lighting with manual control.	Upgrade to LED lighting with automatic control.	8,496.00	$5.00	SF	$42,480
Facility:	**Fire Station 43**						
System:	**Equipment**	**Total Cost: $15,000**					
E1020	Institutional Equipment						
		Bunker and turn-out gear drying and storage spread out among the far apparatus bay addition, mezzanine, main apparatus bay, and other locations.	Consolidate bunker and turn-out gear drying, laundry, and storage into one cohesive area for improved operational efficiency.	1.00	$15,000.00	LS	$15,000
Facility:	**Fire Station 43 Infrastructure**						
System:	**Site Improvements**	**Total Cost: $10,000**					
G2030	Pedestrian Paving						
		Street catch basin is inadequate to collect storm event runoff, and stormwater overflows the curb straight into the ADA curb cut, and is funneled straight down into the building, causing repeated structure damage.	Increase storm catch basin capacity to accommodate storm events, possibly also modify roadway asphalt to divert water flow away from the ADA curb-cut.	1.00	$10,000.00	EA	$10,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge

227 NW Lake Road
Camas, WA 98607

Facility Size - Gross S.F.	4,615
Year Of Original Construction	2014
Facility Use Type	Community Center
Construction Type	Light
# of Floors	1
Energy Source	Gas
Year Of Last Renovation	2014
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.2**			
Facility Condition Index (FCI)	0.07	**Predicted Renewal Budget 2028 - 2041**	$356,000	$421,000
Current Replacement Value (CRV)	$1,517,000	**Observed Deficiencies 2022 - 2027**	$184,000	$185,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$20,000	N/A

Facility Condition Summary

Single-story community center with several meeting rooms, a large main hall, office, and prep kitchen. Roofing is a pitched composition shingle roof with daylight dormers, exterior cladding consists of a combination of fiber cement composite board and batten and lap siding, and areas of basalt stone base and column elements. Exposed stained timber frame look trusses and columns. Windows are thermal units in composite aluminum and wood.

HVAC is four gas furnaces in attic mezzanine with split-Dx cooling including economizer; one gas-fired fireplace, plumbing support for warming kitchen and men's and women's restrooms; no fire sprinkler, but modern fire alarm; light commercial 120/240V, single-phase power; mix of fluorescent and LED lighting; modern low-voltage systems.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge

227 NW Lake Road
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.0**			
A10 Foundations						
A1010 Standard Foundations	2014	2014	2	TRB	01/12/22	Standard concrete footings and stem walls.
A1030 Slab On Grade	2014	2014	2	TRB	01/12/22	Concrete slab on grade.
B Shell			**2.3**			
B10 Superstructure						
B1010 Floor Construction	2014	2014	2	TRB	01/12/22	Mechanical mezzanine is wood sheathing on wood joists.
B1020 Roof Construction	2014	2014	3	TRB	01/12/22	Wood sheathing on wood trusses. Batt insulation is suspended by the vapor barrier off the bottom of trusses, and appears to be falling away onto the gypsum ceiling below, leaving the thermal envelope compromised (observed in at least one location, and is assumed to be occurring elsewhere).
B20 Exterior Closure						
B2010 Exterior Walls	2014	2014	2	TRB	01/12/22	Exterior cladding consists of a combination of fiber cement composite board and batten and lap siding, and areas of basalt stone base and column elements on insulated wood walls. Exposed stained timber frame look trusses and columns.
B2020 Exterior Windows	2014	2014	2	TRB	01/12/22	Pre-finished aluminum exterior clad composite windows (stained wood interior), with thermal low-emissivity glazing.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge

227 NW Lake Road
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**2.3**			
B20 Exterior Closure						
B2030 Exterior Doors	2014	2014	3	TRB	01/12/22	Oversize pairs of hollow metal doors and frames with thermally insulated glass. Door closers, locks, and latches are reported to be problematic, and daylight is visible with significant gaps at the thresholds. Installing new seal/sweep hardware is recommended to reduce energy use and thwart insect infiltration.
B30 Roofing						
B3010 Roof Coverings	2014	2014	3	TRB	01/12/22	Composition shingle roofing. Moss growth beginning which should be treated and removed. It appears that snow/ice guards have been removed from roofing.
B3030 Projections	2014	2014	2	TRB	01/12/22	Stained wood timber framed entry canopy with tongue and groove wood deck, and stained timber frame expression back covered porch with painted soffit board.
C Interiors			**1.9**			
C10 Interior Construction						
C1010 Partitions	2014	2014	2	TRB	01/12/22	Gypsum on wood stud walls.
C1020 Interior Doors	2014	2014	2	TRB	01/12/22	Wood doors in hollow metal frames. Overhead counter door at kitchen. A vinyl accordion door was installed after occupancy to segregate the hall from the main hall to reduce disruption to other meetings and building occupants, it has been flagged by the fire marshal for non-compliance and removal.
C1030 Fittings	2014	2014	2	TRB	01/12/22	Wood base, trim, and miscellaneous.
C30 Interior Finishes						
C3010 Wall Finishes	2014	2021	1	TRB	01/12/22	Recently repainted interiors.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge

227 NW Lake Road
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**1.9**			
C30 Interior Finishes						
C3020 Floor Finishes	2014	2014	2	TRB	01/12/22	Vinyl plank floors in the main hall. Carpet in hallways, office, and meeting rooms. Vinyl sheet goods in the kitchen, custodial, and toilet rooms.
C3030 Ceiling Finishes	2014	2014	2	TRB	01/12/22	Painted gypsum, suspended acoustical tile, and small areas of accent wood at dormer clerestory vaulted ceiling areas.
D Services			**2.3**			
D20 Plumbing						
D2010 Plumbing Fixtures	2014	2014	2	DCS	01/12/22	Men's and women's restrooms flushing fixtures and lavatories; commercial warning kitchen with sinks and support for several appliances; drinking fountain.
D2020 Domestic Water Distribution	2014	2014	2	DCS	01/12/22	City water to copper distribution, with two Bradford-White high-efficiency (condensing) gas-fired domestic hot water heaters with recirculation pumps.
D2030 Sanitary Waste	2014	2014	2	DCS	01/12/22	Non-metallic ABS drain, waste, and vent piping where observed, with point-of-use grease interceptor at commercial warming kitchen pot-wash sink; no issues reported.
D2040 Rain Water Drainage	2014	2014	2	DCS	01/12/22	Metal gutter and downspout to storm, but snow and ice guards are missing or damaged - minor maintenance to replace to protect gutters, plus equipment in southwest service yard.
D2090 Other Plumbing Systems	2014	2014	2	DCS	01/12/22	Point-of-use grease interceptor in warming kitchen.
D30 HVAC						
D3010 Energy Supply	2014	2014	2	DCS	01/12/22	Natural gas to four furnaces, two water heaters, two kitchen ranges, and one fireplace.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge

227 NW Lake Road
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.3**			
D30 HVAC						
D3020 Heat Generating Systems	2014	2014	2	DCS	01/12/22	Four high-efficiency (condensing) Lennox gas-fired furnaces all located at the attic mezzanine; two larger and two smaller. The associated leak detection system is reportedly to generator false alarms, however, signs of past moisture leakage were observed - regardless, minor maintenance to correct leakage and/or repair or replace leak detection sensors.
D3030 Cooling Generating Systems	2014	2014	2	DCS	01/12/22	Four exterior split-Dx condensing units; one 2-ton, one 1.5-ton, and two 5-ton; providing service to four inside evaporator coils connected to the attic mezzanine furnaces and including condensate drainage - see D3020 for moisture detection alarm issue.
D3040 HVAC Distribution Systems	2014	2014	2	DCS	01/12/22	Forced-air heating, cooling, and ventilation with four systems (zones), each with apparent full economizer, but with unclear economizer operation - minor maintenance to investigate and correct as needed. Restroom ceiling exhaust fans, plus telecom/fire alarm control panel room ventilation cooling ceiling exhaust fan. Most or all windows are non-operable.
D3060 Controls and Instrumentation	2014	2014	3	DCS	01/12/22	Four standalone programmable thermostats with unclear economizer cycle control. The Lacamas Lake Lodge is one of the highest energy using facilities in the City building inventory; suspected due to: 1) High-use, including after hours and weekends, 2) Damaged or missing insulation in the attic space, 3) Economizer (free cooling) malfunction, and/or 4) Sub-optimized HVAC and lighting controls.
D3090 Other HVAC Systems and Equipment	2014	2014	4	DCS	01/12/22	Warming kitchen recirculating hoods - may not meet code for service above commercial gas ranges; plus limits use of the otherwise functional kitchen. Sealed combustion gas-fired fireplace in the main event space.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge

227 NW Lake Road
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.3**			
D40 Fire Protection						
D4030 Fire Protection Specialties	2014	2014	2	DCS	01/12/22	Fire extinguishers in cabinets, some blocked for storage material or furniture - minor maintenance to keep clear access.
D50 Electrical						
D5010 Electrical Service and Distribution	2014	2014	2	DCS	01/12/22	Two 120/240V, single-phase panels; 1) Panel A is 200A serving most receptacle and lighting loads, and 2) Panel B is 225A serving most HVAC loads, plus septic system pump(s).
D5020 Lighting and Branch Wiring	2014	2014	3	DCS	01/12/22	Mix of fluorescent in core areas, and LED in perimeter areas, with occupancy sensors and limited scene control; no dimming in core areas, specifically in the main event space, hampering event production. Minor maintenance to upgrade all LED and add dimming capability to core area of the main event space.
D5032 Low Voltage Communication	2014	2014	3	DCS	01/12/22	City standard voice over internet protocol (VOIP) handsets - minor maintenance to upgrade to modern video phone handsets.
D5037 Low Voltage Fire Alarm	2014	2014	2	DCS	01/12/22	Modern fire alarm system with Notifier fire alarm control panel (FACP) and remote annunciator with pull stations, detectors, and notification devices throughout.
D5038 Low Voltage Security	2014	2014	2	DCS	01/12/22	Card-key access, perimeter monitoring, and intrusion detection, but no CCTV - minor maintenance to install several CCTV cameras.
D5039 Low Voltage Data	2014	2014	2	DCS	01/12/22	High-speed data to small MDF in the telecom closet, which includes dedicated ventilation cooling.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge

227 NW Lake Road
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.3**			
D50 Electrical						
D5090 Other Electrical Systems	2014	2014	2	DCS	01/12/22	Lighted egress pathway bug-eye fixtures and exit signs, both with battery back-up. Some batteries are weak or failed - minor maintenance to test and replace when needed. Some ceiling light fixtures also have battery back-up, but are problematic - minor maintenance to correct.
E Equipment and Furnishings			**2.0**			
E10 Equipment						
E1010 Commercial Equipment	2014	2014	2	DCS	01/12/22	Office equipment.
E1020 Institutional Equipment	2014	2014	2	DCS	01/12/22	Commercial kitchen equipment. Parks program equipment, but with insufficient storage - minor maintenance to install a Tuff Shed outside for additional storage.
E20 Furnishings						
E2010 Fixed Furnishings	2014	2014	2	TRB	01/12/22	Fixed furnishings include built-in office desk counters, casework, built-in perimeter window benches in the main hall, miscellaneous storage shelving.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Lacamas Lake Lodge
Facility: Lacamas Lake Lodge

B1020 Roof Construction	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2022	4,615	$8.00	SF	$36,920	$72,304

Deficient Material: **Insulation**

Insulation has fallen away from bottom of trusses. Could be the reason this facility reports significant energy use. (Only observable in at least one location, and is assumed to be occurring elsewhere.)



Remedial Action:

Reinstall and reseal vapor barrier and insulation, and upgrade to meet current energy code.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Lacamas Lake Lodge
Facility: Lacamas Lake Lodge

D3090 Other HVAC Systems and Equipment	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1	$20,000.00	LS	$20,000	$39,168

Deficient Material: **Hood**

Recirculating hoods above both gas-fired ranges, limiting use of kitchen to warming only.

Remedial Action:

Install grease hood system to allow cooking in the kitchen.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Lacamas Lake Lodge
Facility: Lacamas Lake Lodge

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	4,615	$8.00	SF	$36,920	$72,304

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge Infrastructure

227 NW Lake Road
Camas, WA 98607

Facility Condition Summary

Community center lodge set in Lacamas Lake Park, housing a parking lot for the lodge, and access to the water, and includes a floating fishing dock.

City water and sewer, but via a septic tank with ejector pump assumed; no fire sprinkler service. Several bioswale and rain garden areas, with treatment vault prior to apparent discharge to lake. NW Natural gas service. Power from Clark PUD; no site electronic security.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge Infrastructure

227 NW Lake Road
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1940	2014	2	TRB	01/12/22	Asphalt with concrete curbs.
G2020 Parking Lots	1940	2014	2	TRB	01/12/22	Asphalt with precast concrete curb stops.
G2030 Pedestrian Paving	1940	2014	2	TRB	01/12/22	Concrete walkways (recommend power washing very slick algae growth off south-facing walk near kitchen).
G2040 Site Development	1940	2014	2	TRB	01/12/22	Monument sign, bollards, bicycle racks, fixed wood benches. Lakefront bank stabilization with large basalt boulders.
G2050 Landscaping	1940	2014	2	TRB	01/12/22	Mature and well maintained landscaping, and irrigation system.
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1940	2014	2	DCS	01/12/22	City water to building, plus apparent separate irrigation service. No fire sprinkler service to building.
G3020 Sanitary Sewer	1940	2014	2	DCS	01/12/22	Building sanitary waste to septic tank with assumed pump to force-main to assume City sewer at street - no issues reported. No exterior grease interceptor for kitchen.
G3030 Storm Sewer	1940	2014	3	DCS	01/12/22	Several bioswales - reportedly overflowing and partially flooding the parking lot during heavy rains; one Convault filtration vault for paved area.
G3060 Fuel Distribution	2014	2014	2	DCS	01/12/22	NW Natural gas meter No. 1090147 with 630 cfh capacity and no seismic shut-off valve - minor maintenance to install.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Lacamas Lake Lodge
Lacamas Lake Lodge Infrastructure

227 NW Lake Road
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G40 Site Electrical utilities						
G4010 Electrical Distribution	2014	2014	3	DCS	01/12/22	Power underground to service entry at southwest corner of the building in small fenced service yard area; Clark PUD meter No. 75-417-279, delivering 120/240V, single-phase power to two inside panels via two 200A exterior breakers A & B; noting inside Panel B is a larger 225A panel - minor maintenance to upsize the Panel B exterior supply breaker if needed. No standby generator, renewable energy, or electric vehicle charging stations.
G4020 Site Lighting	1940	2014	2	DCS	01/12/22	About ten parking lot and roadway light poles with box-type luminaires. About 24 hardscape pedestrian pathway lights along north and east side of the lodge. Recessed lighting under east patio canopy.
G4030 Site Communications and Security	1940	2014	2	DCS	01/12/22	High-speed data to telecom room north center of building; reported rough-in for site electronic security (CCTV).
G90 Other Site Construction						
G9090 Other Site Systems	1940	2014	2	TRB	01/12/22	Floating fishing dock, wood deck at dock weathering, aluminum ramp to dock in good condition.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Lacamas Lake Lodge
Facility: Lacamas Lake Lodge Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Storm**

Parking lot bioswale flooding during heavy rain.



Remedial Action:

Expand bioswale and/or storm water detention capacity to reduce flooding.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Lacamas Lake Lodge

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Lacamas Lake Lodge	B10 Superstructure	$36,920	$7,384	$8,861	$19,139	$72,304	$72,304
	D30 HVAC	$20,000	$4,000	$4,800	$10,368	$39,168	$40,335
	D40 Fire Protection	$36,920	$7,384	$8,861	$19,139	$72,304	$72,304
	Facility Total	**$93,840**	**$18,768**	**$22,522**	**$48,647**	**$183,776**	**$184,943**
Lacamas Lake Lodge Infrastructure	G30 Site Civil / Mechanical Utilities	$5,000	$1,000	$1,200	$2,592	$9,792	$10,084
	Facility Total	**$5,000**	**$1,000**	**$1,200**	**$2,592**	**$9,792**	**$10,084**
	Site Total	**$98,840**	**$19,768**	**$23,722**	**$51,239**	**$193,568**	**$195,027**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Lacamas Lake Lodge

Total Site Opportunity Cost: $20,250

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Lacamas Lake Lodge**						
System:	**Interior Construction**	**Total Cost: $10,000**					
C1020	**Interior Doors**						
		Provide acoustic separation, securement, and egress from the main hall into the hallway.	At the entrance from the hallway to the main hall, consider constructing a 1-hr alcove into the main hall, with a pair of outswinging 20-min fire rated egress doors (for acoustic separation and securement of the main hall, while maintaining egress).	1.00	$10,000.00	LS	$10,000
Facility:	**Lacamas Lake Lodge Infrastructure**						
System:	**Site Electrical utilities**	**Total Cost: $10,250**					
G4010	**Electrical Distribution**						
		No electric vehicle (EV) charging stations.	Install one double EV charging station, with rough-in for one future additional.	1.00	$5,000.00	LS	$5,000
G4030	**Site Communications and Security**						
		Reported rough-in for parking lot CCTV security.	Install CCTV cameras to improve security in the parking lot area.	3.00	$1,750.00	EA	$5,250

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Size - Gross S.F.	36,500
Year Of Original Construction	1940
Facility Use Type	Library
Construction Type	Medium
# of Floors	3
Energy Source	Gas
Year Of Last Renovation	2002
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.7**			
Facility Condition Index (FCI)	0.12	**Predicted Renewal Budget 2028 - 2041**	$3,593,000	$4,233,000
Current Replacement Value (CRV)	$12,839,000	**Observed Deficiencies 2022 - 2027**	$1,714,000	$1,761,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$1,692,000	N/A

Facility Condition Summary

A two-story municipal library building with a basement. The building was originally constructed in 1940 with a substantial addition and remodel in 2002. Roofing is at end of life and there are constant leak issues related to roofing and flashings. Many of the windows are 2002 thermally glazed, but there are original ornamental doors and windows that are at end of life with rot and decay. Overall, the building is generally in fair to good condition with the exceptions of roofing, exterior doors, some windows, and HVAC controls which are driving the volume of maintenance issues.

HVAC is a four-pipe system with two boilers in the basement and one air-cooled chiller on roof. The four-pipe hydronic system serves five variable air volume (VAV) air handling units, in turn each supplying a network of VAV boxes with hot water reheat; full economizer for free cooling and mechanical ventilation is included. Plumbing for restroom, kitchens, drinking fountains, and utility use. Modern fire sprinkler and alarm. Power is modern 3-phase 208V, but without standby power generation. Lighting is a mix of original fluorescent, with some fixtures upgraded to LED lamps. Somewhat newer communications and data systems, but aged and failing electronic security.

While there are many complaints and problems with the HVAC system, it appears most the issues are related to obsolete and out-of-tune controls.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.8**			
A10 Foundations						
A1010 Standard Foundations	1940	2002	3	TRB	12/03/21	Assumed to be standard concrete footings and concrete stem walls. No issues noted or reported.
A1030 Slab On Grade	1940	2002	3	TRB	12/03/21	Concrete slab on grade in basement. Staff noted the slab slopes to a low spot at the hall intersection, but on investigation, this was by design in the original basement floor to drain to the center of the basement.
A20 Basements						
A2020 Basement Walls	1940	2002	2	TRB	12/03/21	Board formed cast-in-place concrete.
B Shell			**2.6**			
B10 Superstructure						
B1010 Floor Construction	1940	2002	2	TRB	12/03/21	Original floor appears to be concrete on metal mesh, on metal open web joists and concrete beams. New addition assumed to be composite concrete on steel pan on steel.
B1020 Roof Construction	1940	2002	3	TRB	12/03/21	Original tongue and groove deck on framed wood roof trusses with blown-in insulation over the ceiling, new addition appears to be plywood on wood trusses with batt insulation and vapor barrier stapled to underside of cords.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**2.6**			
B20 Exterior Closure						
B2010 Exterior Walls	1940	2002	3	TRB	12/03/21	Brick masonry at original building. Brick veneer on studs and cement stucco (at west "back" facade). Cement plaster is cracking and experiencing moisture intrusion. Emergency overflow also has been draining down the face of the wall, also discovered the overflow inlet pipe was incorrectly installed (see D2040 Rain Water Drainage for further information).
B2020 Exterior Windows	1940	2002	3	TRB	12/03/21	2002 thermally glazed windows in wood windows with metal exterior replaced existing windows and set in existing wood frames. Some sills were not replaced and are rotting.
B2030 Exterior Doors	1940	2002	4	TRB	12/03/21	Three 1940 wood doors and ornamental wood frame trim and single-pane ornamental glass panels and transom in poor condition. 2002 aluminum storefront entry vestibule doors at main entrance with oversized doors that are causing functional operation and maintenance issues.
B30 Roofing						
B3010 Roof Coverings	1940	2002	4	TRB	12/03/21	Cementitious tiles on sloped roofs, white membrane on low-slope roofs, rock ballast over membrane, and copper over dormers and the cupola. Roofing systems are at end of life and, combined with improper flashing and drainage, have been causing constant leak problems. The underlayment below the cementitious tiles has completely degraded, and there is a large hole in the sub-roofing at the intersection of a roof to a wall that is currently leaking. No fall restraint system.
B3020 Roof Openings	1940	2002	3	TRB	12/03/21	Long central spine gable form skylight, no issues reported. Single roof access hatch.
B3030 Projections	1940	2002	3	TRB	12/03/21	Copper clad cupola, entry canopies, east side steel sunshade (in need of cleaning).

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**2.4**			
C10 Interior Construction						
C1010 Partitions	1940	2002	3	TRB	12/03/21	Gypsum on stud walls, concrete walls in basement. Minor areas of water damage. Toilet partitions are painted steel.
C1020 Interior Doors	1940	2002	2	TRB	12/03/21	Wood doors and frames.
C1030 Fittings	1940	2002	2	TRB	12/03/21	Base wood trim and paneling, rubber base, ADA toilet room grab bars, display cases, and display objects and art.
C20 Staircases						
C2010 Stair Construction	1940	2002	2	TRB	12/03/21	Stair 1: Public stair, wood (to second floor) Stair 2: Internal staff circulation, steel stair with concrete treads Stair 3: Emergency egress, steel stair with concrete treads Stair 4: Emergency egress, not observed, assumed steel egress access stair with concrete treads (contemporary to stairs 2 & 3) Stair 5: Public stair, wood (to balcony) Stair 6: Concrete exterior (from fire riser / mechanical)
C2020 Stair Finishes	1940	2002	2	TRB	12/03/21	Stair 1: Carpet runner on wood. Stair 2: Exposed concrete on painted steel. Stair 3: Exposed concrete on painted steel. Stair 4: Not observed, assumed exposed concrete on painted steel. Stair 5: Wood. Stair 6: Exterior exposed concrete.
C30 Interior Finishes						
C3010 Wall Finishes	1940	2002	2	TRB	12/03/21	Paint.
C3020 Floor Finishes	1940	2002	3	TRB	12/03/21	Mostly broadloom carpet from 2002, original worn and dated VCT in the non-fiction wing, ceramic tile in restrooms, and a combination of VCT and exposed concrete in basement.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**2.4**			
C30 Interior Finishes						
C3030 Ceiling Finishes	1940	2002	2	TRB	12/03/21	Suspended acoustical tile (minor areas of water leak stained tile), some areas of painted gypsum soffits.
D Services			**2.8**			
D10 Vertical Transportation						
D1010 Elevators and Lifts	1940	2002	2	DCS	12/03/21	Two Schindler 3,500-lb capacity, 30-hp hydraulic elevators; one two-stop for public use, and one three-stop for staff use. Dedicated Sanyo ductless split-Dx cooling for each elevator machinery room (EMR).
D1090 Other Conveying Systems	1940	2002	4	DCS	12/03/21	Removed, but hole to patch as minor maintenance. Reportedly, there is no longer any need for book or other material conveyance, other than via the full-size elevators.
D20 Plumbing						
D2010 Plumbing Fixtures	1940	2002	2	DCS	12/03/21	Restrooms, event warming kitchen, staff kitchenette, custodial mop sink, and dual-height (ADA) drinking fountain with minor issues reported, needing minor maintenance from time to time. Some fixtures exhibit minor water-hammer, assumed due to sticky plumbing fixture trim (faucets and flush valves). Reportedly, some flush valves have been recently replaced; all observed trim is manual (not automatic infrared type).

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.8**			
D20 Plumbing						
D2020 Domestic Water Distribution	1940	2002	2	DCS	12/03/21	City water with 2.5-inch service enters basement mechanical room without any apparent backflow prevention, but with an inside pressure reducing valve (PRV) that appears to duplicate function of outside PRV. The inside PRV and associated strainer is bypassed, hence unstrained water is distributed throughout the building, potentially fouling piping, fixtures, and especially trim - minor maintenance to reconfigure this system for proper operation. There have been several recent copper piping failures - further investigation is required as minor maintenance to determine the cause of failure and take action to reduce future failure risk. The City water system provides make-up water to the heating hot water and chilled water systems via a common small reduced pressure backflow preventer (RPBP), with separate PRVs for each. One A.O. Smith 80-gal electric domestic hot water (DHW) heater in the boiler room, with Taco recirc pump.
D2030 Sanitary Waste	1940	2002	2	DCS	12/03/21	Cast iron drain, waste, and vent (DW&V) piping where observed. Tested fixtures flush and drain well, but multiple spaces have sewer gas odor complaints - these may be due to malfunctioning floor drain trip primers - further investigation and maintenance is needed as minor maintenance.
D2040 Rain Water Drainage	1940	2002	3	DCS	12/03/21	Mix of metal gutter and downspout to storm at sloped roof, and roof and overflow roof drains at flat roof. All observed overflow roof drains are missing their code-required two-inch dams, hence the overflow roof drains flow frequently, damaging building walls and landscaping. Several gutters and/or roof drains are reportedly not piped to the site storm system. Some of the metal gutters are difficult to clean due to no roof access, and no practical access through overhanging tress. There are occupant complaints on plumbing piping water flow noises, that may be from the drain, waste, and vent and/or roof drain system - minor maintenance to further investigate and develop mitigation plan.
D30 HVAC						
D3010 Energy Supply	1940	2002	2	DCS	12/03/21	Natural gas piping to boilers and fireplace.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.8**			
D30 HVAC						
D3020 Heat Generating Systems	1940	2002	3	DCS	12/03/21	Two aging but functional Weil McClain standard-efficiency (80%) boilers, each with 641 mbh capacity; two constant-speed 1.5-hp hot water pumps; and insulated heating water supply and return piping. The boilers should provide ten to fifteen years of additional service with continued good maintenance.
D3030 Cooling Generating Systems	1940	2002	3	DCS	12/03/21	One rooftop McQuay air-cooled chiller with two 2016 compressors, and one 2- or 3-hp constant-speed chilled water pump.
D3040 HVAC Distribution Systems	1940	2002	3	DCS	12/03/21	Four-pipe hydronic distribution piping to five McQuay variable air volume (VAV) air handling units (AHUs), each with variable-speed driven (VFD) supply and return air fans, two-stage filtration, heating coil, and cooling coil. The AHUs supply downstream VAV box terminal units. Exhaust fans for restrooms and kitchen areas. The VAV system needs re-TAB (test, adjust, and balance), as air flows were observed to be inconsistent in multiple areas.
D3050 Terminal and Package Units	1940	2002	3	DCS	12/03/21	Variable air volume (VAV) terminal units with hot water reheat coils. Five electric wall heaters in lobbies, stairwells, and utility spaces.
D3060 Controls and Instrumentation	1940	2002	4	DCS	12/03/21	Aged direct digital control (DDC) HVAC control system, with reported and observed piecemeal repairs and partial upgrades over time, but reportedly has never worked correctly. While there is an original construction TAB report, a Commissioning Report was not observed. There are many occupant comfort and noise complaints, with portable heaters and fans in use throughout, especially in staff areas. The energy use intensity (EUI) is 34, which is good for this nearly 20-year-old library, but could likely be better (lower) with improved controls.
D3090 Other HVAC Systems and Equipment	1940	2002	2	DCS	12/03/21	Gas log set fireplace with brick chimney.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.8**			
D40 Fire Protection						
D4010 Fire Protection Sprinkler Systems	1940	2002	2	DCS	12/03/21	Four risers, three wet and one dry; pressure at base of riser is 130 psig. The larger (4-inch) dry pipe system is marked as supplying the lobby; the three wet-pipe risers are smaller 2.5- or 3-inch risers.
D4030 Fire Protection Specialties	1940	2002	2	DCS	12/03/21	Fire extinguishers and AED.
D50 Electrical						
D5010 Electrical Service and Distribution	1940	2002	2	DCS	12/03/21	Cutler-Hammer (CH) 208V main switchboard with 1,600A capacity feeding seven distribution panels, two sub-panels, and the rooftop chiller. The two 208V, 800A sub-panels are primarily for larger HVAC loads. Several panels includes integral TVSS (surge suppressors). No standby generator, but assume no need, as the library is a reportedly non-essential facility.
D5020 Lighting and Branch Wiring	1940	2002	3	DCS	12/03/21	2002 fixtures with mix of T8 fluorescent and some upgraded to LED. Poor lighting in some stack and reading areas. Two lighting control panels, with reportedly problematic and obsolete hardware and especially software.
D5032 Low Voltage Communication	1940	2002	3	DCS	12/03/21	2008 voice over internet protocol (VOIP) telephone system, but no issues reported. A/V support in several spaces.
D5037 Low Voltage Fire Alarm	2002	2002	3	DCS	12/03/21	Aging, but functional EST-2 addressable fire alarm control panel, with no issues reported. Assume five to ten years remaining service with continued good maintenance.
D5038 Low Voltage Security	2002	2002	4	DCS	12/03/21	2002 card-key access system is failing.
D5039 Low Voltage Data	1940	2002	3	DCS	12/03/21	High-speed fiber-optic to MDF, but insufficient WiFi converge.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.8**			
D50 Electrical						
D5090 Other Electrical Systems	1940	2002	3	DCS	12/03/21	Battery back-up egress and exit signs, but no standby power system.
E Equipment and Furnishings			**2.0**			
E10 Equipment						
E1010 Commercial Equipment	1940	2002	3	DCS	12/03/21	Aging kitchen appliances and office equipment.
E1020 Institutional Equipment	1940	2002	2	DCS	12/03/21	Specialty library equipment, such as digital patron service kiosks.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

B2010 Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	2,000	$10.00	SF	$20,000	$39,168

Deficient Material: **Cement Plaster**

Cement plaster on the west wall area is cracking and moisture intrusion is evident.



Remedial Action:

Repair, seal, and recoat cement plaster walls.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

B2020 Exterior Windows	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	20	$1,000.00	EA	$20,000	$39,168

Deficient Material: **Wood Windows**

Windows set in original wood frames, some sills were replaced or capped, but estimate about 20 are not and the wood sills are now rotting.

Remedial Action:

Replace sills, reseal, and provide finish cap.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	4	$4,000.00	EA	$16,000	$31,334

Deficient Material: **Aluminum Storefront**

Aluminum storefront doors are very tall and heavy and settlement is causing wear between leaves. These doors require constant adjustment, are difficult to operate as the leaves jamb together, and sometimes prevent securement of the facility.

Remedial Action:

Remove doors from existing frames, and replace with standard-sized storefront doors with a transom light above set into the existing frame.

Action Type:

ADA



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	3	$10,000.00	EA	$30,000	$58,752

Deficient Material: **Wood Doors and Wood Frames**

Original wood doors, ornamental wood frame trim, and single-pane ornamental glass panels and transom. Wood elements are beginning to show signs of dry rot. During fire smoke season, smoke enters the library through the air gaps.



Remedial Action:

Replicate and replace ornamental entry features, replace doors and windows with similar aesthetic, but provide modern thermal insulated glass, seals, and hardware.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	18,500	$17.00	SF	$314,500	$615,917

Deficient Material: **Roof Coverings**

Roofing systems are at end of life and, combined with improper flashing, geometry, and drainage installation, have been causing systemic leak problems.

Remedial Action:

Remove all roof systems, repair and replace damaged wood substrate, repair substandard roof drain systems, provide emergency overflow (inlet 2" above main drain) where missing, and install new membrane roofing systems (extend proper height up perimeter walls in wells and seal with masonry regrets). On pitched roofs, install self-adhered and healing membrane and ice and water shield sub-roofing systems (integrated with side wall counter and kick flashings) and install new durable roofing tiles. Add drainage to all canopies, avoid internal drains where possible (like over entry canopies), and provide scupper and tightline downspouts.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

C3020 Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	3,500	$12.00	SF	$42,000	$82,253

Deficient Material: **VCT**

Original VCT in fiction section is at end of life, seams cupping, and discolored.



Remedial Action:

Remove and replace (consider replacement with carpet tile).

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D2040 Rain Water Drainage	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	36,500	$0.75	SF	$27,375	$53,611

Deficient Material: **Roof drains**

Overflow roof drains missing dams; ballasted roof area drains not clear - may be fouled; gutters adjacent to trees are full of leaves and difficult to access; some roof drains not piped to site storm.



Remedial Action:

Install overflow roof drain dams; locate, clean, and mark ballasted roof drains; clean all fouled gutters and provide gutter-guards adjacent to overhanging trees (alternate remove or cut back trees); pipe all roof drains to storm.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	5	$3,500.00	EA	$17,500	$34,272

Deficient Material: **AHUs**

Air handling units (AHUs) are nearing 20 years old.



Remedial Action:

Thoroughly clean and fully service AHUs.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	36,500	$1.00	SF	$36,500	$71,482

Deficient Material: **Test, Adjust, and Balance (TAB)**

Inconsistent air flows throughout.



Remedial Action:

Re-TAB (test, adjust, and balance) per plans; considering any modifications since original construction.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D3050 Terminal and Package Units	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	25	$350.00	EA	$8,750	$17,136

Deficient Material: **Terminal units**
Aging variable air volume (VAV) terminal units and reheat coils.

Remedial Action:
Fully clean and service VAV terminal units.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D3060 Controls and Instrumentation	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	36,500	$5.00	SF	$182,500	$357,408

Deficient Material: **Controls**

Mix of older and newer control elements, with obsolete user interface; collectively resulting in many occupant thermal comfort and some noise complaints. No sign of original commissioning.



Remedial Action:

Retro-commission (R-Cx) the library HVAC system, and upgrade the control system to current standards; repair or replace HVAC system components as need to restore full function.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D5020 Lighting and Branch Wiring	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	5,000	$5.00	SF	$25,000	$48,960

Deficient Material: **Lighting**
Insufficient lighting in some stack area.

Remedial Action:
Add fixtures and/or task lighting to dark areas.

Action Type:
Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D5020 Lighting and Branch Wiring	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	36,500	$1.50	SF	$54,750	$107,222

Deficient Material: **Lighting Controls**
Obsolete and problematic lighting controls.



Remedial Action:
Upgrade to current technology; potentially in conjunction with HVAC system upgrade.

Action Type:
Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D5032 Low Voltage Communication	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	36,500	$1.00	SF	$36,500	$71,482

Deficient Material: **Telephone**

Aging telephone system.



Remedial Action:

Upgrade to current (video-enabled) telephone technology.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D5038 Low Voltage Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	36,500	$0.70	SF	$25,550	$50,037

Deficient Material: **Security**
2002 card-key access systems is failing.

Remedial Action:
Renew per City standard.

Action Type:
Other



Copyright MENG Analysis 2022

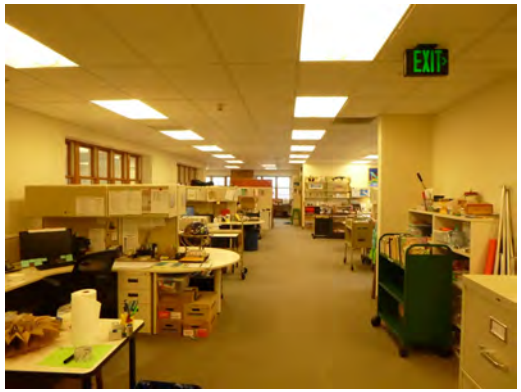
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library

D5039 Low Voltage Data	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	36,500	$0.50	SF	$18,250	$35,741

Deficient Material: **WiFi**

Poor WiFi coverage - no signal in multiple staff and patron areas.



Remedial Action:

Add WiFi WAPs to provide full coverage.

Action Type:

Other

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library Infrastructure

625 NE 4th Ave
Camas, WA 98607

Facility Condition Summary

The site is completely dedicated to the library and contains the library building and related amenities including plazas, seating areas, ornamental fencing, and mature landscaping.

City water, fire, sewer, irrigation and storm; Clark PUD power, NW Natural gas, and telecom from purveyors; most site lighting from City municipal street and sidewalk lighting; one electric vehicle charging station.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library Infrastructure

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1940	2002	3	TRB	12/03/21	Small asphalt drive ramp to the basement level loading.
G2030 Pedestrian Paving	1940	2002	3	TRB	12/03/21	City street sidewalks with root upheaval (City regularly grinding pavement slabs to thwart trip hazard).
G2040 Site Development	1940	2002	3	TRB	12/03/21	Flag pole, Library Honey Bee hive, courtyard seating amenities (central area tiles have been removed, leaving a two-inch trip hazard well). Other retaining walls (recommend moss removal). Recent past street flooding entered the exterior stair to the fire riser and mechanical rooms, and flooded the basement. Vaults also flood and drain into the building.
G2050 Landscaping	1940	2002	3	TRB	12/03/21	Mature landscaping includes trees, rose bushes, and other shrubs, bushes, and lawn areas. Landscaping on the east, south, and west were well manicured at the time of observation, but trees and shrubs on the north are significantly overgrown and provide places for hiding (safety and security issue). Cut all branches of trees away from the building, and trim back shrubs and bushes well away from the facade. A number of irrigation system heads are buried under bark and mud.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library Infrastructure

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1940	2002	2	DCS	12/03/21	City water with two-inch meter; City fire with six-inch service; and City irrigation meter. All water services enter from east; water pressure is at 130 psig at fire sprinkler riser base, but there appears to be a pressure reducing valve (PRV) in the domestic water service hand-vault - this should be removed, as there is a newer PRV inside the basement. A backflow prevention device also appears needed - minor maintenance to make these changes. The fire service includes a six-inch fire department connection (FDC).
G3020 Sanitary Sewer	1940	2002	2	DCS	12/03/21	City sewer with no issues reported.
G3030 Storm Sewer	1940	2002	4	DCS	12/03/21	Mix of older and newer storm with multiple site and especially roof drain conveyance issues; past basement flooding from overwhelmed City street storm system uphill - City Public Works should address this as a separate project to reduce risk of flooding to the community. In the meantime, a makeshift one-foot-high piece of wood "protects" the library basement from repeat flooding.
G3060 Fuel Distribution	1940	2002	2	DCS	12/03/21	NW Natural gas rotary meter No. 626834592 with 1500 cfh capacity delivered at 2 psig; includes a mechanical seismic shut-off valve. Assume any original underground fuel oil storage tank was removed during the 2002 modernization.
G40 Site Electrical utilities						
G4010 Electrical Distribution	1940	2002	2	DCS	12/03/21	Clark PUD power down from pole to north, underground to 300 kVA utility pad-mounted 208V, three-phase transformer to north, then underground to the basement main electrical room; PUD meter No. 81-464-092; no standby generator or renewable energy, but one electric vehicle (EV) charging station to southeast.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Library
Library Infrastructure

625 NE 4th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G40 Site Electrical utilities						
G4020 Site Lighting	1940	2002	3	DCS	12/03/21	Minimal pedestrian paving landscape and step lighting; lighting at entries; some pedestrian paving lamps appear failed; controls leave lights on during daylight hours - minor maintenance to repair failed lamps and set outside light controller. Most site lighting is from City street lighting.
G4030 Site Communications and Security	1940	2010	2	DCS	12/03/21	High-speed fiber-optic data service, plus original plain-old-telephone service (POTS) for legacy systems. Minimal site electronic security.
G90 Other Site Construction						
G9010 Service and Pedestrian Tunnels	1940	2002	3	DCS	12/03/21	Stairwell down to basement from outside to east, with makeshift flood protection, and opportunity to add additional stair from outside to basement to west for new basement program use. Basement ventilation and light-wells are covered with security and safety grates; well heights are too low and some are partially blocked by landscaping.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library Infrastructure

G2030 Pedestrian Paving	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	6	$2,500.00	EA	$15,000	$29,376

Deficient Material: **Concrete Sidewalk**

Sidewalks with root upheaval. City regularly grinding pavement slabs to thwart trip hazard, but upheaval continues.



Remedial Action:

Remove full sections of sidewalk impacted by roots, repair, compact, and repour.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library Infrastructure

G2040 Site Development	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	400	$60.00	SF	$24,000	$47,002

Deficient Material: **Paving**

Courtyard plaza pavers were loose and have been removed, creating a trip hazard.



Remedial Action:

Provide area drain. Replace pavers (or consider converting recess into a soft play area).

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library Infrastructure

G2040 Site Development	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	2	$3,000.00	EA	$6,000	$11,750

Deficient Material: **Reader Board**

Both of the monument sign electronic reader boards are not functioning.



Remedial Action:

Remove and replace and update system.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library Infrastructure

G2040 Site Development	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	1	$8,000.00	EA	$8,000	$15,667

Deficient Material: **Stairwell**

Recent past street flooding entered the exterior stair to the fire riser and mechanical rooms, and flooded the basement, area drain at base of stair is insufficient to handle storm event capacity.

Remedial Action:

Retain board dam installed at top of stair, sawcut and demo top landing, and install trench drain system with grate. Hard pipe to storm sewer to capture and remove storm event water from the top of the stairwell.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	12	$750.00	EA	$9,000	$17,626

Deficient Material: **Storm**

Multiple roof drain downspouts not fully connected to site storm water conveyance piping; several locations where heavy rains result in standing water immediately adjacent to the basement foundation.

Remedial Action:

Fully connect roof drains to site storm drain system; provide additional storm water catch basins and connect to the storm water system to eliminate localized flooding, including at overflow roof drain point of discharge locations. Provide additional roof drain downspout connections as needed by roof drain modifications under D2040.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library Infrastructure

G9010 Service and Pedestrian Tunnels	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$12,000.00	LS	$12,000	$23,501

Deficient Material: **Basement stairwell**

Basement subject to flooding due to marginal City street storm system; semi-temporary protection in place by a one-foot-high piece of wood.

Remedial Action:

Raise east basement stairwell wall several feet with permanent step-up/down over permanent flood protection well wall.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Library
Facility: Library Infrastructure

G9010 Service and Pedestrian Tunnels	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	12	$2,500.00	EA	$30,000	$58,752

Deficient Material: **Basement wells**

Basement ventilation and light well shaft curbs are too low - only a few inches above grade; some are partially blocked by landscaping and other obstructions; weeds or small trees are growing in several wells; the heavy security and safety grates make shaft maintenance difficult.

Remedial Action:

Clear landscaping well away from basement wells; clean the wells and remove plants growing in the wells; provide drainage for the wells, such as with drywells or integrated with site storm drain improvements; cover base of well with drain rock; raise wells at least to code minimum height to protect air quality and reduce rodent and insect entry; modify grates to facilitate access.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Library

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Library	B20 Exterior Closure	$86,000	$17,200	$20,640	$44,582	$168,422	$170,802
	B30 Roofing	$314,500	$62,900	$75,480	$163,037	$615,917	$643,628
	C30 Interior Finishes	$42,000	$8,400	$10,080	$21,773	$82,253	$85,954
	D20 Plumbing	$27,375	$5,475	$6,570	$14,191	$53,611	$54,404
	D30 HVAC	$245,250	$49,050	$58,860	$127,138	$480,298	$487,395
	D50 Electrical	$160,050	$32,010	$38,412	$82,970	$313,442	$318,618
	Facility Total	**$875,175**	**$175,035**	**$210,042**	**$453,691**	**$1,713,943**	**$1,760,801**
Library Infrastructure	G20 Site Improvements	$53,000	$10,600	$12,720	$27,475	$103,795	$104,230
	G30 Site Civil / Mechanical Utilities	$9,000	$1,800	$2,160	$4,666	$17,626	$17,626
	G90 Other Site Construction	$42,000	$8,400	$10,080	$21,773	$82,253	$83,467
	Facility Total	**$104,000**	**$20,800**	**$24,960**	**$53,914**	**$203,674**	**$205,323**
	Site Total	**$979,175**	**$195,835**	**$235,002**	**$507,604**	**$1,917,616**	**$1,966,124**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Library **Total Site Opportunity Cost: $951,625**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Library**						
System:	**Roofing**	**Total Cost: $60,000**					
B3010	**Roof Coverings**						
		No fall restraint system.	Install a fall restraint system for safety and security of maintenance and subcontractors.	1.00	$60,000.00	LS	$60,000
Facility:	**Library**						
System:	**Plumbing**	**Total Cost: $107,375**					
D2010	**Plumbing Fixtures**						
		All observed plumbing fixture trim (faucets and flush valves) is manually operated, and no water bottle fillers.	Upgrade to automatic (hardwired infrared) trim and replace drinking fountains with hydration stations, which include water filtering and bottle filling.	36,500.00	$0.75	SF	$27,375
D2040	**Rain Water Drainage**						
		Multiple roof drains.	Collect already piped roof drains to a basement cistern to form a rain water harvesting system for free flushing water.	1.00	$45,000.00	LS	$45,000
D2090	**Other Plumbing Systems**						
		Desire to offer specialty programs, such as cooking classes.	Construct a small commercial kitchen for cooking classes.	1.00	$35,000.00	LS	$35,000
Facility:	**Library**						
System:	**HVAC**	**Total Cost: $85,000**					
D3020	**Heat Generating Systems**						
		Existing boilers are aging and only 80% efficient.	Upgrade to high-efficiency (90%) boilers.	2.00	$35,000.00	EA	$70,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Library **Total Site Opportunity Cost: $951,625**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
D3090	Other HVAC Systems and Equipment	One basement space appears to include older leather-bound books and semi-special collections.	Provide a special collections space with enhanced temperature, humidity, and air cleanliness control.	1.00	$15,000.00	LS	$15,000
Facility:	**Library**						
System:	**Electrical**	**Total Cost: $611,750**					
D5010	Electrical Service and Distribution						
		Failing roof to be replaced in the near future; portions of the roof slope to south with good solar exposure, excepting tall tress to south of south wing.	Install 50 kW photovoltaic (PV) renewable energy system.	50.00	$8,000.00	EA	$400,000
D5020	Lighting and Branch Wiring						
		Mostly original fluorescent lighting.	Upgrade to LED throughout using retrofit kits.	36,500.00	$3.50	SF	$127,750
D5032	Low Voltage Communication						
		Temporary green screen area in basement.	Construct video studio with green screen capability.	1.00	$25,000.00	LS	$25,000
		Minimal small group/team collaboration space.	Develop small group/team collaboration space, including modern technology features, such as large touch screens.	3.00	$13,000.00	EA	$39,000
		Weak cell phone signal in basement.	Install cell phone signal amplification system.	10,000.00	$2.00	SF	$20,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Library **Total Site Opportunity Cost: $951,625**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Library Infrastructure**						
System:	**Site Improvements**	**Total Cost: $20,500**					
G2040	**Site Development**						
		Courtyard seating is underutilized (and not visible to patrons).	Consider relocating existing concrete benches to other more visible locations around the property (near entries), and add additional seating furnishings in the courtyard for a face lift.	1.00	$10,000.00	LS	$10,000
		Storm events often flood water vault boxes and vent well in the northeast corner of the property and runs into the building.	To thwart future flooding, consider building a landscape seating wall along the lawn adjacent to the sidewalk (to prevent stormwater from flooding the vault boxes and vent well).	35.00	$300.00	LF	$10,500
Facility:	**Library Infrastructure**						
System:	**Site Electrical utilities**	**Total Cost: $17,000**					
G4010	**Electrical Distribution**						
		Just one single-connection electric vehicle (EV) charging station; aged with failed display.	Replace the existing EV charging station and replace with two double charging stations, plus rough-in for two more.	2.00	$8,500.00	EA	$17,000
Facility:	**Library Infrastructure**						
System:	**Other Site Construction**	**Total Cost: $50,000**					
G9010	**Service and Pedestrian Tunnels**						
		No direct access or egress to/from the large basement area planned for patron program use.	Install new stairwell to large basement program area.	1.00	$35,000.00	LS	$35,000
G9090	**Other Site Systems**						
		No children's physical play area.	Provide play area inside or more likely outside at east courtyard.	1.00	$15,000.00	LS	$15,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station

2100 NE 3rd Ave
Camas, WA 98607

Facility Size - Gross S.F.	23,100
Year Of Original Construction	1997
Facility Use Type	Police Station
Construction Type	Light
# of Floors	1
Energy Source	Gas
Year Of Last Renovation	1997
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.5**			
Facility Condition Index (FCI)	0.11	**Predicted Renewal Budget 2028 - 2041**	$2,099,000	$2,465,000
Current Replacement Value (CRV)	$8,077,000	**Observed Deficiencies 2022 - 2027**	$531,000	$539,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$963,000	N/A

Facility Condition Summary

A single-story police station constructed in 1997 in good to fair condition overall. The membrane roof was replaced in 2017. The exterior walls are clad in split-face CMU with precast concrete, and are in need of cleaning and resealing. Exterior windows are insulated glazing set in aluminum frames and aluminum storefront entries, in addition to hollow metal doors and frames. The facility also includes a pull-through sally port garage with overhead coiling doors on each end.

HVAC is two rooftop multi-zone units with gas furnace heat and on-board Dx cool, with supply and return duct in the ceiling space; approximately twelve exhaust fans. Plumbing is original copper piping, with newer tankless gas-fired water heater; fixtures are all manual. Fire sprinkler throughout, with mostly concealed sprinkler heads; aged fire alarm system. Power is 480/208V three-phase including both generator-backed automatic transfer switch (ATS), plus uninterruptible power supply (UPS) for critical systems. Low voltage systems include communications, data and security; with mix of older and newer.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.0**			
A10 Foundations						
A1010 Standard Foundations	1997	1997	2	TRB	11/30/21	Standard concrete footings and foundations, no settlement or cracking observed, no issues reported.
A1030 Slab On Grade	1997	1997	2	TRB	11/30/21	Concrete slab on grade, no issues observed or reported.
B Shell			**2.4**			
B10 Superstructure						
B1020 Roof Construction	1997	1997	2	TRB	11/30/21	Insulation on steel deck on steel joists on steel columns.
B20 Exterior Closure						
B2010 Exterior Walls	1997	1997	3	TRB	11/30/21	Split-faced CMU and precast concrete elements are in need of cleaning and resealing. Interior facing studs assumed to be light gauge metal with batt insulation in cavity. Cast-in-place concrete entry facade feature.
B2020 Exterior Windows	1997	1997	3	TRB	11/30/21	Thermal glazed units in aluminum storefront frames.
B2030 Exterior Doors	1997	1997	3	TRB	11/30/21	Aluminum storefront entry systems at primary entry access areas (the front doors have problems closing and locking due to fit and air pressure imbalance, investigate adjusting close force of door hardware to assure proper closing and securement). Other doors include heavy duty hollow metal doors and frames (in need of repainting due to faded finish), and overhead coiling doors for large evidence and the sally port access and egress.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**2.4**			
B30 Roofing						
B3010 Roof Coverings	1997	2017	2	TRB	11/30/21	2017 white membrane roof. Some leaks reported, but recently fixed. The roof is slick with dirt and algae and needs to be cleaned. Minor areas of standing water observed and debris to be cleaned. Maintenance access walk pads only extend from hatch to mechanical units, and no fall restraint connections provided.
B3020 Roof Openings	1997	1997	3	TRB	11/30/21	Pyramidal skylights, moss growth beginning to accumulate in frames (see B3010 Roof Coverings for cleaning). Roof access hatch in fair condition (but with a bent operator arm), recommend installing safety extension post at hatch.
B3030 Projections	1997	1997	3	TRB	11/30/21	Canvas entry protection canopy, in need of cleaning.
C Interiors			**2.3**			
C10 Interior Construction						
C1010 Partitions	1997	1997	2	TRB	11/30/21	A combination of light-gauge steel, and wood stud walls with gypsum wallboard. Some areas of CMU. Painted metal toilet partitions.
C1020 Interior Doors	1997	1997	2	TRB	11/30/21	Wood doors in hollow metal frames. Steel doors in detention area. Numerous doors and relites with wire glass (now not allowed by code in new construction due to safety issues).
C1030 Fittings	1997	1997	3	TRB	11/30/21	Fittings are generally in good condition, but there are some minor issues in some locations with chair rails and loose trim. Corner guards are light-duty stick-on plastic. Other miscellaneous fittings relating to police station functions.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**2.3**			
C30 Interior Finishes						
C3010 Wall Finishes	1997	1997	3	TRB	11/30/21	A mix of paint, vinyl wall coverings, and wood panel accent. Areas of gypsum walls in circulation areas are seeing wear and tear.
C3020 Floor Finishes	1997	2019	1	TRB	11/30/21	2019 carpet squares, and 95% of the VCT replaced. Ceramic tile in locker and restrooms, rubber mat flooring in weight room. Areas of exposed concrete (including detention area).
C3030 Ceiling Finishes	1997	1997	3	TRB	11/30/21	Suspended acoustical tile in fair condition with some minor areas of water staining. Gypsum soffits and areas of hard lid in good condition.
D Services			**2.9**			
D20 Plumbing						
D2010 Plumbing Fixtures	1997	1997	2	DCS	11/30/21	Traditional plumbing fixtures at restrooms, locker rooms including showers, dual-height (ADA) drinking fountains, kitchens with stainless steel sinks and disposals, and janitor mop sink; all with manual trim (faucets and flush valves). At least one makeshift kitchenette in detective area.
D2020 Domestic Water Distribution	1997	1997	2	DCS	11/30/21	Two-inch city water service entry to strainer and pressure reducing valve (PRV) with copper distribution piping. The original temperature mixing valves (TMVs) appear to have been bypassed, when the new tankless gas-fired hot water heater with recirculation pump was installed. The strainer is somewhat rusty - minor maintenance to replace. The bypassed TMVs cut-off the pressure gauge - minor maintenance to relocate.
D2030 Sanitary Waste	1997	1997	3	DCS	11/30/21	Cast iron drain, waste, & vent (DW&V) piping where observed, with most tested fixtures flushing and draining slowly, reportedly due to aged waste piping.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.9**			
D20 Plumbing						
D2040 Rain Water Drainage	1997	1997	3	DCS	11/30/21	Roof perimeter scupper and downspouts to storm, with scupper boxes; overflow roof drain openings through parapets as well. While the scuppers and downspouts are working well, the roof slope has multiple low spots with standing water and debris - see B3010 Roof Coverings.
D2090 Other Plumbing Systems	1997	2015	3	DCS	11/30/21	Portable air compressor in the gun cleaning shop; consider a permanent system as minor maintenance. Stainless steel combination water closet and lavatory units in two holding cells. The associated Acorn valves controlling lavatory water flow need adjustment as minor maintenance.
D30 HVAC						
D3010 Energy Supply	1997	1997	3	DCS	11/30/21	Natural gas piping to two rooftop units and the domestic hot water (DHW) heater; no issues reported, noting no submetering between HVAC and DHW loads.
D3040 HVAC Distribution Systems	1997	1997	3	DCS	11/30/21	Two Seasons-4 multi-zone rooftop units with gas furnace heat and on-board R-410A direct expansion (Dx) refrigerant cooling, with variable speed supply and powered exhaust fans, and apparent full economizer (free cooling); including MERV-13 filters at time of field survey. The two rooftop units should have ten to fifteen years remaining life with continued good maintenance. Insulated sheet metal duct distribution in ceiling space to grilles, registers, and diffusers, with apparent ducted return from larger spaces and open plenum return from smaller spaces, and smoke/fire dampers where passing through rated walls. At least twelve exhaust fans; five larger on the roof and approximately seven ceiling exhaust fans discharging up to roof jacks with gravity backdraft dampers.
D3050 Terminal and Package Units	1997	1997	3	DCS	11/30/21	Two ceiling-mounted electric resistance cabinet unit heaters at the front and rear entry vestibules. Three electric resistance ceiling-hung unit heaters at the vehicle sally port and storage garage.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.9**			
D30 HVAC						
D3060 Controls and Instrumentation	1997	1997	4	DCS	11/30/21	Reportedly, all original (1997) Automated Logic direct digital control (DDC) system with observed mix of "Bapi" and Automated Logic thermostats (T-stats) in each temperature control zone. While overall energy efficiency is good for this 24x7 operation facility, with energy use intensity (EUI) of 49 kBtu/sf-yr, there are staff comfort, indoor air quality, and building pressurization complaints. Reportedly the Bapi T-stats have no programmed control of zone temperatures, despite having control buttons and display on-board. Reportedly, there is no remote monitoring of the DDC from outside the police station itself; however, there is an operator workstation set up in one of the storage rooms.
D3090 Other HVAC Systems and Equipment	1997	1997	3	DCS	11/30/21	Fume hood in crime lab, reportedly no longer used, but appears functional. Insufficient exhaust at the gun cleaning room - minor maintenance to increase capacity and ensure adequate make-up air is provided.
D40 Fire Protection						
D4010 Fire Protection Sprinkler Systems	1997	1997	2	DCS	11/30/21	Six-inch service to four-inch riser with 130 psig water pressure; concealed heads in most spaces, with some concealing caps falling down - minor maintenance to replace; no issues reported other than the caps.
D4030 Fire Protection Specialties	1997	1997	2	DCS	11/30/21	Fire extinguishers in cabinets; AED in cabinet.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.9**			
D50 Electrical						
D5010 Electrical Service and Distribution	1997	1997	2	DCS	11/30/21	GE 480V, 3-phase, 600A main distribution panel (MDP) appears to serve the east half (office) of the building, plus RTU-1, and sub-feeds the 480V, 400A E-panel, via the 480V, 400A automatic transfer switch (ATS). The E-panel in turn appears to supply the west half of the building including RTU-2. Both the MDP and E-panel in turn appear to sub-feed 480V, 225A distribution panels, which in turn each feed a 480/208V transformer, each in turn powering a 208V, 225A distribution panel. Additionally, a special critical 208V panel is backed by an uninterruptable power supply (UPS). Most the panels include a LineMASTER transient voltage surge suppression (TVSS) device; one in the main electrical room has failed Phase A protection - minor maintenance to repair or replace.
D5020 Lighting and Branch Wiring	1997	1997	3	DCS	11/30/21	Mostly original fixtures with mix of original fluorescent an estimated 25% upgraded LED lamps, but all with manual control; some wall switch devices are failing - minor maintenance to replace. A few receptacles are loose or damaged - minor maintenance to repair or replace. At least one space has floor receptacles, but these were not in use at time of field survey.
D5032 Low Voltage Communication	1997	1997	3	DCS	11/30/21	Original plain old telephone service (POTS) and handsets. Several police radio systems with roof and exterior wall-mounted antennas and interconnecting cabling. Audio/video (A/V) support at meeting, training, and conference rooms.
D5037 Low Voltage Fire Alarm	1997	1997	4	DCS	11/30/21	1997 Radionics zoned (analog) fire alarm control panel; includes interface with fire door hold-open devices and HVAC smoke/fire dampers.
D5038 Low Voltage Security	1997	1997	3	DCS	11/30/21	Aging 1997 Sonitrol electronic security system including card-key access control, intrusion detection and closed-circuit television (CCTV).

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.9**			
D50 Electrical						
D5039 Low Voltage Data	1997	2010	2	DCS	11/30/21	High-speed fiber-optic data service to the dedicated main distribution frame (MDF) room, which appears cooled by the general building HVAC system. Opportunity to install a one- to two-ton ductless mini-split dedicated cooling system as minor maintenance. Several wireless fidelity (WiFi) antennas are present, but not properly installed, such as at ceiling versus hanging from data jacks on side-walls - minor maintenance to properly install.
D5090 Other Electrical Systems	1997	1997	3	DCS	11/30/21	Diesel generator outside supplies automatic transfer switch (ATS) inside, in turn powering priority loads after ten-second generator start-up delay - no observed egress lighting; however, apparent non-battery-backed exit signs are present. A modest uninterruptible power supply (UPS) powers the critical load panel at the main electrical room.
E Equipment and Furnishings			**2.7**			
E10 Equipment						
E1010 Commercial Equipment	1997	1997	3	DCS	11/30/21	Kitchen appliances and light office equipment aging but functional with no issues reported.
E1020 Institutional Equipment	1997	1997	3	DCS	11/30/21	Fume hood in crime lab. Gun cleaning equipment in gun cleaning room. Gun racks in armory. Exercise equipment in fitness room.
E1030 Vehicular Equipment	1997	1997	3	DCS	11/30/21	Garage door openers - two at vehicle sally port and one at the vehicle storage garage.
E20 Furnishings						
E2010 Fixed Furnishings	1997	1997	2	TRB	11/30/21	Plastic laminate casework at reception, office work room, break room, and bath and locker lavatory counters. Window blinds in fair condition, but replacement needed in detective office area.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

B2010 Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	11,400	$2.00	SF	$22,800	$44,652

Deficient Material: **CMU walls**

Algae and mildew growth (with some areas of moss growth) are beginning to appear on the facade, and will continue to degrade the materials if left untreated.



Remedial Action:

Professionally clean exterior CMU and concrete facade and reseal to protect and thwart moisture penetration into wall systems.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	3	2021	2026	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Membrane Roofing**

Moss growth in the skylight frames, algae growth on roof membrane, and dirt are creating a slick fall hazard. Accumulated debris (including seedling growth) in areas.



Remedial Action:

Clean skylights and roof.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

C1020 Interior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	10	$1,000.00	EA	$10,000	$19,584

Deficient Material: **Wire Glass**

Numerous doors and associated relites and interior windows with wire glass (now not allowed by code in new construction due to safety issues).

Remedial Action:

Remove wire glass and replace with modern safety glass.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

C3010 Wall Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1,300	$4.00	SF	$5,200	$10,184

Deficient Material: **Gypsum Wall**

Circulation areas (especially high-traffic and equipment abrasion areas near the door to the police parking lot), are experiencing significant wear.

Remedial Action:

Remove plastic corner guards, patch and repair drywall, and repaint circulation areas with damage. Replace corner guards. Consider upgrade to stainless steel corner guards, and even veneer plaster for greater abuse resistance.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D2030 Sanitary Waste	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	23,100	$0.75	SF	$17,325	$33,929

Deficient Material: **DW&V piping**

Many fixtures somewhat slow to drain or flush, some worse than others.



Remedial Action:

Clean, jet, inspect, and repair or replace waste lines as needed to restore full function to all flushing and draining plumbing fixtures.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	23,100	$1.25	SF	$28,875	$56,549

Deficient Material: **Ductwork**

Building reportedly over-pressurized, with little or no apparent return air path from multiple spaces, especially smaller spaces. Signs of uneven air distribution with occupants using portable space heaters in winter and box fans in summer.



Remedial Action:

Conduct test, adjust, and balance (TAB) to determine existing air flows. Compare to original design and modify ductwork, set balancing devices, and adjust controls to supply and return air to improve thermal comfort and indoor air quality throughout.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	5	$1,000.00	EA	$5,000	$9,792

Deficient Material: **Exhaust**

Multiple tested exhaust fans not working, especially ceiling exhaust fans in utility and storage spaces.



Remedial Action:

Service, test, and repair or replace currently failed exhaust fans.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	23,100	$1.00	SF	$23,100	$45,239

Deficient Material: **HVAC distribution**

HVAC ductwork reportedly never cleaned, with dirt streaks at some supply air diffusers and adjacent finishes.



Remedial Action:

Clean HVAC equipment air-sides, ductwork, grilles, registers, and diffusers (GRDs), and adjacent dirty finish surfaces.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	23,100	$0.50	SF	$11,550	$22,620

Deficient Material: **Smoke/fire dampers**

Smoke/fire dampers reportedly never serviced or tested.



Remedial Action:

Service and test smoke/fire dampers per new code requirements; several dozen dampers are assumed.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D3060 Controls and Instrumentation	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	23,100	$1.50	SF	$34,650	$67,859

Deficient Material: **Controls**

Aged and sub-optimized DDC controls, with occupant comfort, indoor air quality, and building pressurization issues.

Remedial Action:

Update the DDC system hardware and software to include occupant thermal comfort control adequate to eliminate the use of portable unit heaters and box fans.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D5032 Low Voltage Communication	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	23,100	$1.25	SF	$28,875	$56,549

Deficient Material: **Telephone**

Obsolete analog plain old telephone service (POTS) telephone system and handsets.



Remedial Action:

Upgrade to modern voice over internet protocol (VOIP) telephone technology.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	23,100	$2.00	SF	$46,200	$90,478

Deficient Material: **Fire alarm control panel and devices**

Increasingly obsolete original non-addressable fire alarm control panel and devices, with reported increase in supervisory and false alarms.

Remedial Action:

Replace with modern fully addressable (digital) fire alarm system.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D5038 Low Voltage Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	23,100	$1.20	SF	$27,720	$54,287

Deficient Material: **Electronic security**

Aging electronic security systems with increasing false and supervisory alarms.



Remedial Action:

Upgrade to modern electronic security throughout.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Police Station
Facility: Police Station

D5090 Other Electrical Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **UPS**

Uninterruptible power supply (UPS) batteries marked as last replaced in 2013, with reports of recent alarms.



Remedial Action:

Replace UPS batteries.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station Infrastructure

2100 NE 3rd Ave
Camas, WA 98607

Facility Condition Summary

The site contains a single-story police station constructed in 1997, public parking on the north street front portion of the property, a vehicular gate secured police vehicle parking area to the east, and the sally port access drive loops through to the south and exits via a back drive street. Landscape materials (including tree limbs) should be pruned away from the facility. Generally, the site is in fair condition.

Site utilities include City water for domestic, irrigation, and fire sprinkler; City sewer; City storm; Washington Gas; Clark County PUD power; and local telecom purveyors for communications and data.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station Infrastructure

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1997	1997	3	TRB	11/30/21	Limited on-site asphalt drive entry, and loop drive to sally port on south side.
G2020 Parking Lots	1997	1997	3	TRB	11/30/21	Asphalt parking (both a public front lot and a secured police vehicle lot on the east side).
G2030 Pedestrian Paving	1997	1997	3	TRB	11/30/21	Concrete sidewalk with minor areas of settlement and separation from curbs, and accent entry brick. The brick is beginning to accumulate moss growth and should be cleaned to prevent degradation and slip fall injury potential.
G2040 Site Development	1997	1997	3	TRB	11/30/21	Auto security gates installed in 2018 and serviced annually. Flag pole, picnic table, and surrounding concrete and masonry seat/retaining walls and plaza off the break area. Prefabricated plastic storage shed on the west side of the property.
G2050 Landscaping	1997	1997	3	TRB	11/30/21	Generally well maintained and no issues reported with irrigation system. Some trees and shrubs need to be trimmed away from building, and some English ivy beginning to crawl up the facade should also be removed.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station Infrastructure

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1997	1997	2	DCS	11/30/21	Two-inch City water meter appears to supply two separate reduced-pressure backflow preventers (RPBPs) in hand-vaults for domestic water to the police station building and site landscape irrigation. The RPBPs are covered with dirt - minor maintenance to clean and test performance. Six-inch fire sprinkler service via double-detector check valve (DDCVA) in vault - the vault is partially flooded, minor maintenance to pump dry and service dry well and/or install sump pump. One fire department connection is located on the northwest corner of the building. The Rain Bird irrigation controller is wall-mounted on the west side of the building, adjacent to the electrical service yard. Water pressure is 130 psig observed at the fire sprinkler riser. If there is only one water meter, consider separating domestic from irrigation water as minor maintenance to reduce sewer bill charge from the water and sewer utility.
G3020 Sanitary Sewer	1997	1997	2	DCS	11/30/21	City sewer, with side sewer connection piping recently (Spring 2021) video inspected and found in good condition, with no tree root intrusion.
G3030 Storm Sewer	1997	1997	2	DCS	11/30/21	Both hardscape and softscape drains, plus piped roof drains, all to City storm system at street to south; no issues reported, other than some roof drain downspouts not fully connected to the underground storm piping system - minor maintenance to fully connect.
G3060 Fuel Distribution	1997	1997	2	DCS	11/30/21	Washington Gas meter No. 1167903 with 800 cfh capacity, delivering 2 psig gas via an exterior pressure reducing valve (PRV), reducing pressure to eight inches water column to building via a mechanical seismic shut-off valve. The diesel generator has an estimated 500-gallon belly tank, with unclear tank venting - confirm meets code as minor maintenance.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Police Station
Police Station Infrastructure

2100 NE 3rd Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G40 Site Electrical utilities						
G4010 Electrical Distribution	1997	1997	2	DCS	11/30/21	Utility power from high-voltage lines from pole to north, underground to 300 kVA pad-mounted 480V transformer in electrical service yard, then underground to main electrical room, with Clark PUD 480V service meter No. 81-464-027. One 175 kW Cummins diesel generator is located in the electrical service yard, supplying back-up power to the automatic transfer switch (ATS) in the adjacent main electrical room.
G4020 Site Lighting	1997	1997	3	DCS	11/30/21	All original parking lot metal pole lights with shoe box heads, containing metal halide lamps; original bollards at front and rear entries, also with metal halide lamps. Time clock control is failed, hence exterior lighting is currently manually controlled - minor maintenance to repair or replace the site lighting controller.
G4030 Site Communications and Security	1997	2010	2	DCS	11/30/21	High-speed fiber-optic data service, plus original plain-old-telephone service (POTS) for legacy systems. Two motor-operated gates to fenced police vehicle parking area. Limited building exterior perimeter CCTV cameras - opportunity for full perimeter monitoring as minor maintenance.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Police Station

Facility: Police Station Infrastructure

G2050 Landscaping	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Landscaping**

Some trees and shrubs need to be trimmed away from building. There is a leaning tree on the west area that is also encroaching the roof, and may need to be removed. There is also some English ivy beginning to crawl up the facade from behind overgrown shrubs and should also be removed.



Remedial Action:

Trim back all plant materials a minimum of at least one foot from the facade, prune back tree limbs away from face of the building and overhanging roof areas.

Action Type:

Other

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Police Station

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Police Station	B20 Exterior Closure	$22,800	$4,560	$5,472	$11,820	$44,652	$45,312
	B30 Roofing	$5,000	$1,000	$1,200	$2,592	$9,792	$10,383
	C10 Interior Construction	$10,000	$2,000	$2,400	$5,184	$19,584	$19,584
	C30 Interior Finishes	$5,200	$1,040	$1,248	$2,696	$10,184	$10,334
	D20 Plumbing	$17,325	$3,465	$4,158	$8,981	$33,929	$34,431
	D30 HVAC	$103,175	$20,635	$24,762	$53,486	$202,058	$204,900
	D50 Electrical	$107,795	$21,559	$25,871	$55,881	$211,106	$214,082
	Facility Total	**$271,295**	**$54,259**	**$65,111**	**$140,639**	**$531,304**	**$539,026**
Police Station Infrastructure	G20 Site Improvements	$5,000	$1,000	$1,200	$2,592	$9,792	$9,937
	Facility Total	**$5,000**	**$1,000**	**$1,200**	**$2,592**	**$9,792**	**$9,937**
	Site Total	**$276,295**	**$55,259**	**$66,311**	**$143,231**	**$541,096**	**$548,963**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Police Station **Total Site Opportunity Cost: $501,400**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Police Station**						
System:	**Roofing**	**Total Cost: $37,500**					
B3010	**Roof Coverings**						
		No fall restraint system.	Install a fall restraint system for safety and security of maintenance and subcontractors.	1.00	$30,000.00	LS	$30,000
		Maintenance access walk pads only extend from hatch to mechanical units.	Provide additional walk pad surfacing to all roof drain/scupper locations for no-slip safety and roof longevity.	500.00	$15.00	LF	$7,500
Facility:	**Police Station**						
System:	**Plumbing**	**Total Cost: $5,000**					
D2010	**Plumbing Fixtures**						
		Makeshift kitchenette in detective area.	Install permitted kitchenette.	1.00	$5,000.00	LS	$5,000
Facility:	**Police Station**						
System:	**HVAC**	**Total Cost: $15,000**					
D3040	**HVAC Distribution Systems**						
		No apparent heat recovery at the two rooftop units.	Retrofit heat recovery at the two rooftop units; such as heat pipe technology.	2.00	$7,500.00	EA	$15,000
Facility:	**Police Station**						
System:	**Electrical**	**Total Cost: $434,100**					
D5010	**Electrical Service and Distribution**						
		Flat roof with relatively good southern exposure.	Install nominal 50 kW photovoltaic (PV) power array to generate clean renewable energy.	50.00	$7,500.00	EA	$375,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Police Station

Total Site Opportunity Cost: $501,400

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
D5020	**Lighting and Branch Wiring**	About 75% of light fixtures are original fluorescent-type.	Complete upgrade to LED.	18,000.00	$2.00	SF	$36,000
D5090	**Other Electrical Systems**						
		No egress or exit sign emergency lighting when utility power is lost and before generator starts and automatic transfer switch (ATS) transfers load.	Install battery-backed combination egress and existing sign fixtures to maintain lighting on during transition from normal to emergency power.	23,100.00	$1.00	SF	$23,100
Facility:	**Police Station Infrastructure**						
System:	**Site Electrical utilities**	**Total Cost: $9,800**					
G4020	**Site Lighting**						
		Aged metal halide site lighting technology.	Replace metal halide lamps with LED at approximately sixteen pole lights, and one dozen bollard lights.	28.00	$350.00	EA	$9,800

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Operations Center

1620 SE 8th Ave
Camas, WA 98607

Facility Size - Gross S.F.	21,190
Year Of Original Construction	1995
Facility Use Type	Maintenance Shop
Construction Type	Light
# of Floors	1
Energy Source	Gas
Year Of Last Renovation	1995
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.8**			
Facility Condition Index (FCI)	0.13	**Predicted Renewal Budget 2028 - 2041**	$1,069,000	$1,227,000
Current Replacement Value (CRV)	$4,706,000	**Observed Deficiencies 2022 - 2027**	$887,000	$899,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$2,099,000	N/A

Facility Condition Summary

The Public Works Operations Center is a single-story building in generally fair condition housing administrative offices and work bays for various department shops and vehicular maintenance functions. The wood structure is clad with a standing seam metal roof, with vinyl lap siding, aluminum insulated glazing, and painted metal person and overhead vehicle doors.

HVAC is original gas furnaces with split-Dx cooling for office area, and gas-fired infrared heat in the high-bay shop spaces, plus exhaust and ceiling fans in the vehicle maintenance shop. Plumbing includes support for locker rooms and kitchenettes, but is minimal in the shop areas. No fire sprinkler and no fire alarm. Power is 208V three-phase, but with no standby generator. Lighting is mostly fluorescent, with some LED. Low voltage systems are minimal, but do include high-speed fiber-optic data service.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Operations Center

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.0**			
A10 Foundations						
A1010 Standard Foundations	1995	1995	2	TRB	12/02/21	Standard concrete footings. No issues reported or observed.
A1030 Slab On Grade	1995	1995	2	TRB	12/02/21	Concrete slab on grade, no issues observed or reported.
B Shell			**3.0**			
B10 Superstructure						
B1010 Floor Construction	1995	1995	2	TRB	12/02/21	Plywood on wood joists for the small mechanical mezzanine. Plywood on steel for the small storage mezzanine at the vehicle maintenance bay.
B1020 Roof Construction	1995	1995	3	TRB	12/02/21	Plywood on I joists and glulam beams on steel columns. Vented airspace below deck with batt insulation, however, the vapor barrier was only face stapled and the vapor barrier is tearing away and large sections of the insulation is falling down. The vapor barrier was never sealed at the seams, and has been compromised.
B20 Exterior Closure						
B2010 Exterior Walls	1995	1995	3	TRB	12/02/21	Vinyl siding, faded and dirty, needs to be cleaned (avoid power washing to avoid damage of material).
B2020 Exterior Windows	1995	1995	3	TRB	12/02/21	Thermally glazed aluminum punched openings, some operable units.
B2030 Exterior Doors	1995	1995	3	TRB	12/02/21	Hollow metal door and frames, paint faded and doors are showing heavy use wear. Overhead garage doors, faded and dented with use, weatherstripping failing.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Operations Center

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**3.0**			
B30 Roofing						
B3010 Roof Coverings	1995	1995	3	TRB	12/02/21	Standing seam metal roofing, aging but well maintained, no issues reported.
B3030 Projections	1995	1995	3	TRB	12/02/21	Covered overhangs and eaves, painted plywood soffits are dirty and in need of pressure washing.
C Interiors			**3.0**			
C10 Interior Construction						
C1010 Partitions	1995	1995	3	TRB	12/02/21	Gypsum on wood studs, plywood on shop areas.
C1020 Interior Doors	1995	1995	3	TRB	12/02/21	Wood doors in hollow metal frames, with ADA-compliant hardware.
C1030 Fittings	1995	1995	3	TRB	12/02/21	Rubber base is showing wear and tear. Other tack boards and fittings in good to fair condition.
C20 Staircases						
C2010 Stair Construction	1995	1995	2	TRB	12/02/21	Metal stair to the vehicle maintenance bay storage loft.
C2020 Stair Finishes	1995	1995	2	TRB	12/02/21	Painted metal.
C30 Interior Finishes						
C3010 Wall Finishes	1995	1995	3	TRB	12/02/21	Painted interiors in good to fair condition.
C3020 Floor Finishes	1995	2010	3	TRB	12/02/21	Carpet replaced in offices in 2010. Original VCT showing some wear in high-traffic areas, and rust stains at metal cabinets in the administrative area. Concrete in locker and bays.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Operations Center

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**3.0**			
C30 Interior Finishes						
C3030 Ceiling Finishes	1995	1995	3	TRB	12/02/21	Suspended 2x4 acoustic tile in office spaces, minor areas of stained or lightly damaged tiles. Open to structure in bays.
D Services			**2.6**			
D10 Vertical Transportation						
D1090 Other Conveying Systems	1995	1995	2	DCS	12/02/21	Three-ton bridge crane in the vehicle maintenance shop with no issues reported.
D20 Plumbing						
D2010 Plumbing Fixtures	1995	1995	3	DCS	12/02/21	Restroom, locker room, kitchenette, and shop area fixtures with no issues reported.
D2020 Domestic Water Distribution	1995	1995	3	DCS	12/02/21	Mostly original copper water distribution with some newer PEX tubing to newer fixtures. One 2005 gas-fired domestic hot water heater at office attic mechanical platform.
D2030 Sanitary Waste	1995	1995	2	DCS	12/02/21	Non-metallic ABS drain, waste, & vent piping where observed; tested fixtures flush and drain well, with no issues reported. Apparent large oil/water separator under vehicle maintenance shop south exterior apron, assumed serving floor grade drain.
D2040 Rain Water Drainage	1995	1995	3	DCS	12/02/21	Metal gutter and downspout to site storm water system with no issues reported.
D2090 Other Plumbing Systems	1995	1995	3	DCS	12/02/21	Compressed air system with two outside air compressors (5-hp and 7.5-hp); limited shop fluids with pneumatically pumped 15W40 oil and five manually pumped tanks. Waste oil stored in portable tank outside.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Operations Center

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.6**			
D30 HVAC						
D3010 Energy Supply	1995	1995	3	DCS	12/02/21	Natural gas to furnaces, water heater, and shop overhead infrared heaters; confirm gas pressure regulators at each gas-fired appliance meet code; regulators without vent to roof, must be rated as such.
D3020 Heat Generating Systems	1995	1995	4	DCS	12/02/21	Three Lennox aging gas-fired furnaces serve the office area; infrared heaters in shop bays.
D3030 Cooling Generating Systems	1995	1995	4	DCS	12/02/21	Three outside split-Dx condensing units with inside evaporator coil sections at the office area attic equipment platform.
D3040 HVAC Distribution Systems	1995	1995	3	DCS	12/02/21	Forced-air heating, cooling, and ventilation for office area with fixed outside air (no economizer for free cooling). Bathroom exhaust fans. One small supply air fan to large high-bay shop area, with no observed exhaust or relief air path.
D3050 Terminal and Package Units	1995	2015	2	DCS	12/02/21	Through-wall packaged terminal air conditioning (PTAC) unit for vehicle maintenance shop office; somewhat newer in good condition.
D3060 Controls and Instrumentation	1995	1995	3	DCS	12/02/21	Standalone thermostats aging but functional - minor maintenance to replace upon failure or with replacement of associated equipment.
D3090 Other HVAC Systems and Equipment	1995	1995	3	DCS	12/02/21	Four low exhausts with ducts up to rooftop exhaust fans serving the vehicle repair shop; make-up air unconditioned from rooftop hoods down to circular make-up air diffusers. No vehicle engine exhaust system.
D40 Fire Protection						
D4030 Fire Protection Specialties	1995	1995	2	DCS	12/02/21	Fire extinguishers, AEDs, and first aid kits.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Operations Center

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.6**			
D50 Electrical						
D5010 Electrical Service and Distribution	1995	1995	2	DCS	12/02/21	Square D 208V, three-phase main distribution panel with 800A capacity, in turn supplying three 225A distribution panels and three HVAC condensing units. No standby generator, renewable energy, or electric vehicle charging observed.
D5020 Lighting and Branch Wiring	1995	1995	3	DCS	12/02/21	Original fluorescent light fixtures; with estimated 15% upgraded to LED lamps.
D5032 Low Voltage Communication	1995	1995	3	DCS	12/02/21	Aging voice over internet protocol (VOIP) telephone system.
D5037 Low Voltage Fire Alarm	1995	1995	4	DCS	12/02/21	Several plug-in carbon monoxide alarm; no fire alarm system.
D5038 Low Voltage Security	1995	1995	3	DCS	12/02/21	Aging electronic security system with limited card-key access and CCTV coverage.
D5039 Low Voltage Data	1995	1995	3	DCS	12/02/21	High-speed fiber-optic data service to makeshift communication "room" shared with the main electrical service panels, with no cooling; limited WiFi.
D5090 Other Electrical Systems	1995	1995	3	DCS	12/02/21	Egress and exit sign wall-packs with assumed battery back-up. Ongoing minor maintenance to test and replace batteries as needed.
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1010 Commercial Equipment	1995	1995	3	DCS	12/02/21	Kitchen appliances and office equipment.
E1020 Institutional Equipment	1995	1995	3	DCS	12/02/21	Shop equipment with no issues reported.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Operations Center

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1030 Vehicular Equipment	1995	1995	3	DCS	12/02/21	Two fixed vehicle lifts in the vehicle maintenance shop area.
E20 Furnishings						
E2010 Fixed Furnishings	1995	1995	3	TRB	12/02/21	Minimal casework fixed furnishings. Window blinds are in fair condition. Lockers are in good condition.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

B1020 Roof Construction	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	20,000	$4.00	SF	$80,000	$156,672

Deficient Material: **Roof insulation**

All applications of the vapor barrier were only face stapled and the vapor barrier is tearing away and large sections of the insulation falling down. Additionally, the seams were never sealed and there are areas where interior vapor intrusion has compromised the insulation.



Remedial Action:

Remove and reinsulate roof, and properly install, secure, and seam seal all vapor barrier joints.

As an alternative to reinstalling batt insulation and vapor barrier, you can consider spray foam insulation with vapor barrier prime and coat to the underside of insulation.

At the vehicle maintenance bay where this work has already occurred, verify the foam product used has a perm rate meeting vapor barrier standards. If not, prime and paint with a compatible vapor barrier paint system to prevent moisture intrusion into the foam.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Public Works Operations Center

Facility: Public Works Operations Center

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	15	$1,000.00	EA	$15,000	$29,376

Deficient Material: **Doors**

Worn door finishes and failing weatherstripping.



Remedial Action:

Replace weatherstripping on overhead doors, minor repairs to systems, prep and repaint all overhead and person doors.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D2020 Domestic Water Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2026	1	$6,500.00	LS	$6,500	$12,730

Deficient Material: **DWH heater**
Aging gas-fired domestic hot water heater.

Remedial Action:
Budget to replace upon failure.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D3020 Heat Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2026	3	$9,500.00	EA	$28,500	$55,814

Deficient Material: **Furnace**
Original gas-fired furnaces approaching end of life.

Remedial Action:
Budget for replacement upon failure.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D3030 Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	3	$8,500.00	EA	$25,500	$49,939

Deficient Material: **Condensing unit**

Split-Dx condensing unit.

Remedial Action:

Budget to replace upon failure.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D3090 Other HVAC Systems and Equipment	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	4	$1,500.00	EA	$6,000	$11,750

Deficient Material: **Exhaust**

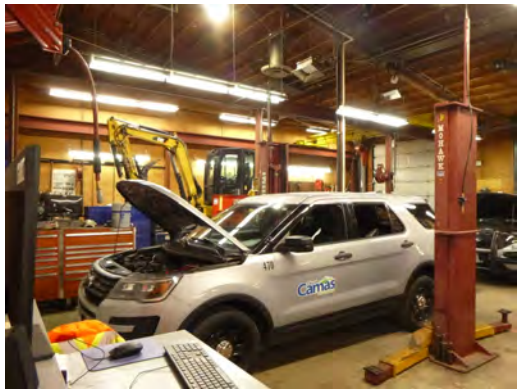
Failing vehicle maintenance shop exhaust fans.

Remedial Action:

Replace upon complete failure.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

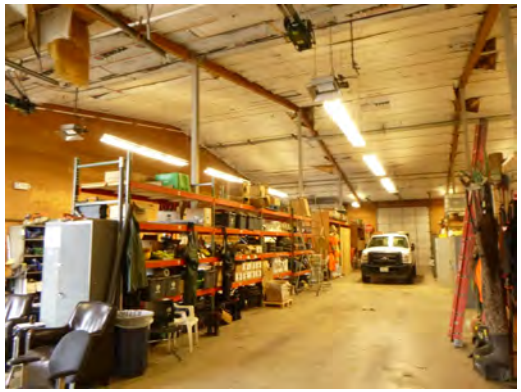
City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	21,190	$7.00	SF	$148,330	$290,489

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D5032 Low Voltage Communication	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2025	21,190	$1.50	SF	$31,785	$62,248

Deficient Material: **Telephone**

Aging voice over internet protocol (VOIP) telephone system.

Remedial Action:

Update to modern VOIP telephone including video service.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	21,190	$2.50	SF	$52,975	$103,746

Deficient Material: **Fire alarm**
No fire alarm.

Remedial Action:
Install fire alarm system.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D5038 Low Voltage Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	21,190	$1.50	SF	$31,785	$62,248

Deficient Material: **Electronic security**
Aging electronic security with minimal coverage in high-risk area.

Remedial Action:
Upgrade per City standard.

Action Type:
Other



Copyright MENG Analysis 2022

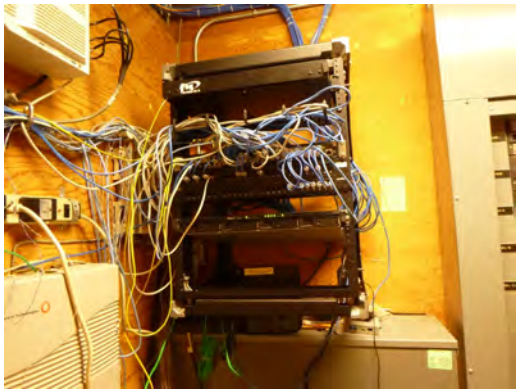
Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Operations Center

D5039 Low Voltage Data	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	21,190	$1.25	SF	$26,488	$51,873

Deficient Material: **Data System**

Makeshift data "room" in electrical service space, with no cooling and minimal WiFi coverage.



Remedial Action:

Create data room with dedicated cooing and improved WiFi coverage throughout.

Action Type:

Other

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Mobile Office

1620 SE 8th Ave
Camas, WA 98607

Facility Size - Gross S.F.	715
Year Of Original Construction	2005
Facility Use Type	Admin - Low rise
Construction Type	Temporary
# of Floors	1
Energy Source	Electric
Year Of Last Renovation	2005
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**3.1**			
Facility Condition Index (FCI)	0.16	**Predicted Renewal Budget 2028 - 2041**	$40,000	$45,000
Current Replacement Value (CRV)	$236,000	**Observed Deficiencies 2022 - 2027**	$48,000	$50,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$29,000	N/A

Facility Condition Summary

A modular building (pre-fabricated office structure) housing the City Water & Sewer Department in two offices on west half, and the Streets & Storm and Facility Maintenance in two offices in the east half. There are metal stairs to each half, but no ADA access, and no restroom or kitchenette facilities. The facility is in fair to poor condition.

HVAC is one Bard wall-pack heat pump with forced-air heating and cooling; the forced-air system no longer functions due to blockage of return air by the department separation walls. No plumbing and no fire sprinkler or fire alarm. Power and telecom are sub-fed from the adjacent main operations building; lighting is fluorescent. There is no gutter for the roof, hence rain water drains off the roof down the wood siding of the structure, slowly degrading the siding and wood trim - minor maintenance to install gutters and downspouts to grade.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Mobile Office

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure						
A10 Foundations						
A1020 Special Foundations	2005	2005	3	TRB	12/02/21	Foundation not visible due to perimeter skirting, but the structure is assumed to bear on concrete modular footings on grade.
B Shell			**3.2**			
B10 Superstructure						
B1010 Floor Construction	2005	2005	3	TRB	12/02/21	Assumed to be wood deck on wood joists with batt insulation (not visible for observation). No issues reported.
B1020 Roof Construction	2005	2005	3	TRB	12/02/21	Assumed to be wood deck on wood trusses, with batt insulation (black vapor barrier is visible from interior above ceiling tiles).
B20 Exterior Closure						
B2010 Exterior Walls	2005	2005	4	TRB	12/02/21	T1-11 siding with trim in various states of degradation, over wood studs with batt insulation.
B2020 Exterior Windows	2005	2005	3	TRB	12/02/21	Insulated aluminum operable units.
B2030 Exterior Doors	2005	2005	3	TRB	12/02/21	Wood doors and frames.
B30 Roofing						
B3010 Roof Coverings	2005	2005	3	TRB	12/02/21	Original membrane roofing, not accessible for observation. No issues reported. Assumed to be approaching end of useful life.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Mobile Office

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**3.0**			
C10 Interior Construction						
C1010 Partitions	2005	2005	3	TRB	12/02/21	Demountable acoustic partitions for separating office spaces.
C1020 Interior Doors	2005	2005	3	TRB	12/02/21	Wood office doors and frames.
C20 Staircases						
C2010 Stair Construction	2005	2005	3	TRB	12/02/21	Two sets of exterior expanded metal stairs and landings providing access to each office. No ADA access or ramps provided.
C30 Interior Finishes						
C3010 Wall Finishes	2005	2005	3	TRB	12/02/21	Paint.
C3020 Floor Finishes	2005	2005	3	TRB	12/02/21	VCT, some wear and tear evident.
C3030 Ceiling Finishes	2005	2005	3	TRB	12/02/21	Thin 2x4 vinyl faced fiberglass acoustical tiles in a suspended system. Some tiles damaged.
D Services			**3.1**			
D30 HVAC						
D3040 HVAC Distribution Systems	2005	2005	4	DCS	12/02/21	Forced-air supply air duct in the ceiling space, with one return air grille at the east end of the modular; several unpermitted departmental separation walls have been installed, completely blocking the return air path, effectively eliminating meaningful HVAC service to over half of the modular - minor maintenance to cut-in transfer grilles or ducts.
D3050 Terminal and Package Units	2005	2005	4	DCS	12/02/21	Original Bard wall-pack heat pump unit at east end of the modular.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Mobile Office

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.1**			
D30 HVAC						
D3060 Controls and Instrumentation	2005	2005	3	DCS	12/02/21	White-Rogers thermostat for Bard wall-pack HVAC unit.
D40 Fire Protection						
D4030 Fire Protection Specialties	2005	2005	3	DCS	12/02/21	Fire extinguisher on hook.
D50 Electrical						
D5010 Electrical Service and Distribution	2005	2005	2	DCS	12/02/21	Square D 120/240V single-phase 200A distribution panel sub-fed from adjacent site main operations building. Opportunity to install submeter as minor maintenance.
D5020 Lighting and Branch Wiring	2005	2005	3	DCS	12/02/21	Fluorescent lighting with manual control.
D5032 Low Voltage Communication	2005	2005	3	DCS	12/02/21	Telcom sub-fed from adjacent operations building with support for voice/telephone and data, but no fire alarm or electronic security; minor maintenance to upgrade all.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Public Works Operations Center

Facility: Mobile Office

B2010 Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	1,360	$9.00	SF	$12,240	$23,971

Deficient Material: **Exterior Siding**

Siding and trim are showing signs of degradation, especially window trim and skirt material exposed to moisture.

Remedial Action:

Remove and replace flashing and trim. Replace skirting material. Consider replacing all siding. Prime and paint.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Mobile Office

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2024	715	$7.00	SF	$5,005	$9,802

Deficient Material: **Built-Up Roof**
Roof assumed to be nearing end of life and due for replacement.

Remedial Action:
Replace roofing.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Mobile Office

D3050 Terminal and Package Units	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2026	1	$7,500.00	EA	$7,500	$14,688

Deficient Material: **Wall pack**
Aging Bard wall-pack heat pump unit.

Remedial Action:
Budget to replace upon failure.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Infrastructure

1620 SE 8th Ave
Camas, WA 98607

Facility Condition Summary

Property houses the Public Works Operation Center main building, modular office building, and open air pre-engineered metal canopy structures for equipment and material storage. The site has a public parking area, and the remainder of the property is secured behind security fencing and gates, and include staff and city vehicle parking, and gravel storage yard for larger equipment vehicles.

City water and city sewer, but no fire sprinkler service and no storm drain service - storm is to an on-site storm water pond. Natural gas to the main operations building only. Utility power is underground to the main operations building, in turn powering all other on-site buildings, site lighting, and special loads. Site lighting is minimal. Telecommunications includes high-speed fiber-optic data and legacy plain-old-telephone-service (POTS). Special features include a large vehicle wash rack, vactor-truck decant station, deicing tank with containment, bulk materials storage, and support for extensive yard-stored vehicles and equipment, but no vehicle fueling system.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Infrastructure

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1995	1995	3	TRB	12/02/21	Concrete curb apron (broken). Concrete curbs broken.
G2020 Parking Lots	1995	1995	3	TRB	12/02/21	Two asphalt lots (public parking with ADA on north side, and secured lot on south side for staff and City vehicles), with some cracking beginning to occur. Gravel yard on south, with drainage issue at southeast corner in gravel yard. Capacity of staff parking is inadequate. Consider relocating work release program and parking to a different site (not within the secured parking lot for staff and City vehicles).
G2030 Pedestrian Paving	1995	1995	3	TRB	12/02/21	Concrete sidewalks, no issues reported.
G2040 Site Development	1995	1995	3	TRB	12/02/21	Perimeter chain link security fencing with barbed wire top. Flag pole. Original vehicular security gates (always left open during business hours because of antiquated pin code access hassle). Recent theft of City vehicle, and ongoing equipment theft has occurred. Other operations site development relates to material storage (e.g. jersey barrier block containment of materials and leaf compost).
G2050 Landscaping	1995	1995	3	TRB	12/02/21	Mature landscaping, trees, and shrubs. Minor maintenance to trim trees away from face of building.
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1995	1995	3	DCS	12/02/21	City water with two apparent meters to: 1) Operations building with no observed backflow prevention, and 2) Wash rack and decant area via reduced-pressure backflow preventer in a hot box. No fire sprinkler service.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Infrastructure

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3020 Sanitary Sewer	1995	1995	3	DCS	12/02/21	Site sewer to City with no issues reported; an apparent oil/water separator appears present at the operations building vehicle bays south apron.
G3030 Storm Sewer	1995	1995	3	DCS	12/02/21	Storm piped or sheet flow to storm drainage pond at southeast corner of site.
G3060 Fuel Distribution	1995	1995	3	DCS	12/02/21	Natural gas service to the main operations building with NW Natural Gas meter No. 110796, with 630 cfh capacity, delivered at 2 psig, and including a mechanical seismic shut-off valve. While the meter capacity appears under-sized for the main building gas-fired equipment load, delivery at 2 psig allows the meter to readily exceed its nominal rated capacity; to make this work, it appears the gas-fired equipment includes point-of-connection gas pressure regulators, but with unclear venting to roof - investigation is suggested as minor maintenance to assume safe regulator venting.
G40 Site Electrical utilities						
G4010 Electrical Distribution	1995	1995	2	DCS	12/02/21	Power from pole to east, down to pad-mounted 208V transformer, then underground to main operations building with Clark PUD meter No. 81-464-066, then to main electrical room main distribution panel. The main building sub-feeds all other buildings on the site; plus vehicle parking engine block heaters and miscellaneous loads. No electric vehicle charging, no renewable energy, no
G4020 Site Lighting	1995	1995	4	DCS	12/02/21	Minimal site lighting, with multiple dark areas, and resultant vandalism, safety, and operational issues.
G4030 Site Communications and Security	1995	1995	3	DCS	12/02/21	High-speed data, but poor electronic security.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Public Works Operations Center
Public Works Infrastructure

1620 SE 8th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G90 Other Site Construction						
G9090 Other Site Systems	1995	1995	3	DCS	12/02/21	Multiple pre-engineered metal covered structures for equipment and materials. Modular building for work release - this program is an ongoing safety and security risk for public works operations. Need more covered storage for parking expensive equipment vehicles (like vac trucks, garbage trucks, excavators, skid steers, and sewer pump truck). Salt brine tank in ecology-block containment; needs weather cover.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Public Works Operations Center

Facility: Public Works Infrastructure

G2010 Roadways	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	500	$30.00	LF	$15,000	$29,376

Deficient Material: **Concrete Curb**

Extruded concrete curbs are broken from impact by trucks and trailers.



Remedial Action:

Remove and replace concrete curbs. Considering the amount of abuse they receive, consider replacing with robust cast-in-place roll-up curbs.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Public Works Operations Center

Facility: Public Works Infrastructure

G2010 Roadways	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2021	2022	3	$12,000.00	EA	$36,000	$70,502

Deficient Material: **Concrete Pavement**

Street front concrete drive curb cuts at sidewalks are cracked and broken from heavy vehicle use and sub-grade, and will continue to degrade rapidly.



Remedial Action:

Remove and replace concrete drive aprons.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Infrastructure

G2020 Parking Lots	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	18,000	$4.00	SF	$72,000	$141,005

Deficient Material: **AC Paving**

Cracking and water intrusion beginning, and will become worse if untreated.



Remedial Action:

Seal cracks, consider topcoat with restripe of lots.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Infrastructure

G3030 Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	3	2021	2023	1	$30,000.00	LS	$30,000	$58,752

Deficient Material: **Storm**

Localized flooding in at least one area to southwest; standing water in gravel parking areas.



Remedial Action:

Improve storm drainage to reduce localized flooding and reduce standing water.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Public Works Operations Center

Facility: Public Works Infrastructure

G4020 Site Lighting	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	12	$2,000.00	EA	$24,000	$47,002

Deficient Material: **Exterior Lighting**

Minimal site lighting, with multiple dark areas, and resultant vandalism, safety, and operational issues.

Remedial Action:

Install additional pole and building-mounted light fixtures to better illuminate the site; assume all LED.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Infrastructure

G4030 Site Communications and Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2022	1	$20,000.00	LS	$20,000	$39,168

Deficient Material: **Electronic security**

Poor site electronic security, with increasing vandalism damage and theft; plus security concerns for staff.

Remedial Action:

Install modern electronic security including radio-controlled powered gates and CCTV.

Action Type:

Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Public Works Operations Center
Facility: Public Works Infrastructure

G9090 Other Site Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2021	2023	1	$30,000.00	LS	$30,000	$58,752

Deficient Material: **Decant water**

Decant water processing system capacity is regularly being exceeded, hampering operations.



Remedial Action:

Increase decant water processing capacity to meet current and near-term needs.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Public Works Operations Center

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Public Works Operations Center	B10 Superstructure	$80,000	$16,000	$19,200	$41,472	$156,672	$156,672
	B20 Exterior Closure	$15,000	$3,000	$3,600	$7,776	$29,376	$30,698
	D20 Plumbing	$6,500	$1,300	$1,560	$3,370	$12,730	$13,499
	D30 HVAC	$60,000	$12,000	$14,400	$31,104	$117,504	$122,537
	D40 Fire Protection	$148,330	$29,666	$35,599	$76,894	$290,489	$290,489
	D50 Electrical	$143,033	$28,607	$34,328	$74,148	$280,115	$285,380
	Facility Total	**$452,863**	**$90,573**	**$108,687**	**$234,764**	**$886,886**	**$899,276**
Mobile Office	B20 Exterior Closure	$12,240	$2,448	$2,938	$6,345	$23,971	$24,684
	B30 Roofing	$5,005	$1,001	$1,201	$2,595	$9,802	$10,094
	D30 HVAC	$7,500	$1,500	$1,800	$3,888	$14,688	$15,575
	Facility Total	**$24,745**	**$4,949**	**$5,939**	**$12,828**	**$48,461**	**$50,352**
Public Works Infrastructure	G20 Site Improvements	$123,000	$24,600	$29,520	$63,763	$240,883	$242,967
	G30 Site Civil / Mechanical Utilities	$30,000	$6,000	$7,200	$15,552	$58,752	$59,620
	G40 Site Electrical utilities	$44,000	$8,800	$10,560	$22,810	$86,170	$86,865
	G90 Other Site Construction	$30,000	$6,000	$7,200	$15,552	$58,752	$59,620
	Facility Total	**$227,000**	**$45,400**	**$54,480**	**$117,677**	**$444,557**	**$449,071**
	Site Total	**$704,608**	**$140,922**	**$169,106**	**$365,269**	**$1,379,903**	**$1,398,699**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Public Works Operations Center

Total Site Opportunity Cost: $2,296,570

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Public Works Operations Center**						
System:	**HVAC**	**Total Cost: $160,570**					
D3020	**Heat Generating Systems**						
		Waste oil transported off-site for disposal; natural gas for heat in the vehicle maintenance shop.	Add waste oil furnace to heat the vehicle maintenance shop.	1.00	$25,000.00	LS	$25,000
D3040	**HVAC Distribution Systems**						
		No economizer for free cooling of office area spaces.	Install economizer for free cooling of office area spaces and improved indoor air quality.	3.00	$15,000.00	EA	$45,000
D3060	**Controls and Instrumentation**						
		No networked controls.	Install networked control system.	21,190.00	$3.00	SF	$63,570
D3090	**Other HVAC Systems and Equipment**						
		No vehicle engine exhaust system.	Install vehicle engine exhaust system.	2.00	$13,500.00	EA	$27,000
Facility:	**Public Works Operations Center**						
System:	**Electrical**	**Total Cost: $911,000**					
D5010	**Electrical Service and Distribution**						
		No standby generator to support assumed City mission-critical functions during power outages.	Install standby generator, say 300 kW, with automatic transfer switch (ATS).	1.00	$150,000.00	LS	$150,000
		No electric vehicle (EV) charging stations.	Install EV charging stations; say two double, with rough-in for two more sets.	2.00	$8,000.00	EA	$16,000
		Large roof with south-facing slope.	Install photovoltaic (PV) renewable energy system, say 100 kW.	100.00	$7,000.00	EA	$700,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Public Works Operations Center

Total Site Opportunity Cost: $2,296,570

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
D5020	Lighting and Branch Wiring	Mostly original fluorescent lamps.	Upgrade all to LED.	18,000.00	$2.50	SF	$45,000
Facility:	Mobile Office						
System:	Plumbing	Total Cost: $15,000					
D2010	Plumbing Fixtures						
		No restroom or kitchenette.	Add restroom and kitchenette.	1.00	$15,000.00	LS	$15,000
Facility:	Public Works Infrastructure						
System:	Site Improvements	Total Cost: $110,000					
G2020	Parking Lots						
		Limited parking capacity and storm water issues from gravel / mud parking.	Convert the gravel yard into a paved yard for equipment and additional parking lot area. Include new storm water containment and treatment.	2,000.00	$40.00	SF	$80,000
G2040	Site Development						
		Gate controls with antiquated pin code are not used, leaving site unsecured during business hours.	To improve security and functionality, upgrade gate systems with sensor code controls for City vehicles with transponders (automatically opening gates on approach) and also add key card access for private vehicles. Consider replacing motors and chains nearing end of life.	2.00	$15,000.00	EA	$30,000
Facility:	Public Works Infrastructure						
System:	Site Civil / Mechanical Utilities	Total Cost: $300,000					
G3030	Storm Sewer						
		Large storm water pond to southwest.	Install storm cells, cover, and use resultant surface for open storage.	20,000.00	$15.00	SF	$300,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Public Works Operations Center

Total Site Opportunity Cost: $2,296,570

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Public Works Infrastructure**						
System:	**Site Electrical utilities**	**Total Cost: $490,000**					
G4010	**Electrical Distribution**						
		No campus standby power system.	Install standby power system to allow Public Works operations to continue during utility power outages; assume 175 kW.	1.00	$125,000.00	LS	$125,000
		No electric vehicle (EV) charging stations.	Add two double EV charging stations, with rough-in for two more.	2.00	$7,500.00	EA	$15,000
		Large site with several buildings having good solar exposure.	Install renewal photovoltaic (PV) power system, assume 50 kW, on south-facing roof areas.	50.00	$7,000.00	EA	$350,000
Facility:	**Public Works Infrastructure**						
System:	**Other Site Construction**	**Total Cost: $310,000**					
G9090	**Other Site Systems**						
		The brine tank and pump are exposed to weather with access via stair - ice and slip hazard when needed during cold weather.	Install a fabric cover over the brine tank and pump containment area.	1.00	$15,000.00	LS	$15,000
		Work release is on-site, resulting in safety and security issues.	Separate work release program from public works operations.	1.00	$100,000.00	LS	$100,000
		Wash rack water is discharged to the storm water pond.	Install a wash rack water recycling system.	1.00	$45,000.00	LS	$45,000
		Need more covered storage for parking expensive equipment vehicles (like vac trucks, garbage trucks, excavators, skid steers, sewer pump truck, etc.).	Provide new pre-engineered covered parking structure for expensive equipment.	2,000.00	$75.00	SF	$150,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Scout Hall
Scout Hall

621 NE 15th Ave
Camas, WA 98607

Facility Size - Gross S.F.	1,200
Year Of Original Construction	1882
Facility Use Type	General Classroom
Construction Type	Light
# of Floors	1
Energy Source	Gas
Year Of Last Renovation	1882
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**3.5**			
Facility Condition Index (FCI)	0.20	**Predicted Renewal Budget 2028 - 2041**	$105,000	$121,000
Current Replacement Value (CRV)	$371,000	**Observed Deficiencies 2022 - 2027**	$253,000	$257,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$174,000	N/A

Facility Condition Summary

This simple wood building with a gable roof was the original one-room schoolhouse in Camas, constructed in 1882. It was relocated to this site in 1907 when it was subsequently repurposed as "Scout Hall" and used by both the Boy and Girl Scouts. Plumbing and electricity appear to have been added in 1930, and the old wood or coal stove replaced with a gas furnace at some point. It appears that recent renovations included metal roofing, cedar shingle siding, and thermal vinyl windows (installed in 1999).

Access to the single front entry is up a flight of concrete stairs with landing, and is not ADA accessible.

The foundation is a concern, with a mix of brick and concrete bearing blocks, with a mix of wood squash blocks, with wood beams gravity bearing. The structure is not seismically tied or secured to the foundation blocks, and there is some beam rot evident. There is about a twelve-inch open crawlspace below the structure, with no perimeter screening. The floor joists are exposed and there is no insulation. There is no vapor barrier below, and the structure is exposed to the soil below.

HVAC includes one gas-fired unit heater, and natural ventilation via operable windows with screens. Indoor plumbing with one unisex bathroom and one drinking fountain. No fire sprinkler or alarm. Single-phase, 120V-only electrical fuse panel; fluorescent lighting with manual control; and assumed abandoned plain old telephone service (POTS), with no other low-voltage systems - minor maintenance to upgrade as needed to support programs and City risk management standards, such as fire alarm, electronic security, and data service.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Scout Hall
Scout Hall

621 NE 15th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure						
A10 Foundations						
A1020 Special Foundations	1882	1907	5	TRB	01/12/22	The foundation is a concern, with a mix of brick and concrete bearing blocks, with a mix of wood squash blocks and a variety of wood shims, with wood beams gravity bearing on the blocks. The structure is not seismically tied or secured to the foundation blocks. See also B1010 for floor structure issues.
B Shell			**3.8**			
B10 Superstructure						
B1010 Floor Construction	1882	1882	5	TRB	01/12/22	The structure is not seismically tied or secured to the foundation blocks, and there is some beam rot and possible termite damage evident. There is about a twelve-inch open crawlspace below the structure, with no perimeter screening. The floor joists are exposed and there is no insulation. There is no vapor barrier below, and the structure is exposed to the soil below. See also A1020 Special Foundations for related issues for the foundation.
B1020 Roof Construction	1882	1882	4	TRB	01/12/22	Roofing is assumed to be boards on wood timber trusses. Assumed to have no insulation. True condition not observable.
B20 Exterior Closure						
B2010 Exterior Walls	1882	1999	3	TRB	01/12/22	Stained cedar shake siding. Restained in 2007. Some missing shakes on the east elevation. Some moss growth caused by ground splash-back along base, especially along west elevation. Existing window trim paint is bubbling and boards appear to be significantly weathered and nearing end of life. Walls assumed to have no insulation.
B2020 Exterior Windows	1882	1999	3	TRB	01/12/22	Thermally glazed vinyl operable windows installed in 1999 in existing wood frame.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Scout Hall
Scout Hall

621 NE 15th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**3.8**			
B20 Exterior Closure						
B2030 Exterior Doors	1882	1930	5	TRB	01/12/22	Old, worn, and warped pair of wood doors with non-ADA-compliant hardware.
B30 Roofing						
B3010 Roof Coverings	1882	1999	3	TRB	01/12/22	Metal roofing.
B3030 Projections	1882	1882	4	TRB	01/12/22	Covered entry canopy with painted soffit board. Unreinforced brick chimney.
C Interiors			**3.1**			
C10 Interior Construction						
C1010 Partitions	1882	1930	3	TRB	01/12/22	Wood framed walls at toilet room, custodial, and storage closet.
C1020 Interior Doors	1930	1930	3	TRB	01/12/22	Wood doors and frames at toilet room, custodial, and storage. No ADA-compliant hardware. Recommend upgrading hardware to toilet room.
C30 Interior Finishes						
C3010 Wall Finishes	1882	1882	3	TRB	01/12/22	Painted historic wood bead board. Due to age, assume paint contains past layers of lead-based paint; repainting recommended.
C3020 Floor Finishes	1882	1882	4	TRB	01/12/22	Original wood floor, showing years of use, but still has the charm of history. Refinishing recommended.
C3030 Ceiling Finishes	1882	1882	3	TRB	01/12/22	Painted wood bead board. Electrical conduit and boxes exposed on the underside of ceiling. Consider removing electrical, rerouting it through the attic, and refinishing ceiling.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Scout Hall
Scout Hall

621 NE 15th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.5**			
D20 Plumbing						
D2010 Plumbing Fixtures	1930	1990	3	DCS	01/12/22	One unisex restroom with one tank-type water closet, one wall-mounted lavatory, one aged drinking fountain - minor maintenance to replace any upon damage or failure.
D2020 Domestic Water Distribution	1930	1990	4	DCS	01/12/22	Mix of galvanized and other piping materials; no domestic hot water - minor maintenance to replace all piping with copper and/or PEX, and add a water heater, plus add exterior hose bib.
D2030 Sanitary Waste	1930	1990	3	DCS	01/12/22	Older cast iron waste and vent, with somewhat newer drain for sink and drinking fountain - minor maintenance to replace any or all upon failure.
D2040 Rain Water Drainage	1882	2000	4	DCS	01/12/22	Roof rain water sheet flow to eave, then drops to grade along drip line, damaging building foundation and siding, and eroding softscape.
D30 HVAC						
D3010 Energy Supply	1882	1990	3	DCS	01/12/22	Natural gas line to gas-fired unit heater.
D3020 Heat Generating Systems	1882	1990	3	DCS	01/12/22	One Reznor gas-fired unit heater with 50,000 btu/hr input capacity and flue to original brick chimney - aging but functional with five to ten years remaining life with good maintenance.
D3040 HVAC Distribution Systems	1882	1882	3	DCS	01/12/22	Natural ventilation via operable windows; minor maintenance to install bathroom exhaust fan.
D3060 Controls and Instrumentation	1960	1960	4	DCS	01/12/22	Aged manual thermostat, still works - minor maintenance to install modern programmable thermostat.
D40 Fire Protection						
D4030 Fire Protection Specialties	1990	1990	3	DCS	01/12/22	One fire extinguisher on hook.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Scout Hall
Scout Hall

621 NE 15th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.5**			
D50 Electrical						
D5010 Electrical Service and Distribution	1930	1930	4	DCS	01/12/22	Well-aged and obsolete screw-in fuse-type electrical panel supplying lighting, furnace, and duplex receptacle(s); 120V, single-phase (not 240V).
D5020 Lighting and Branch Wiring	1930	1990	3	DCS	01/12/22	Fluorescent lighting with manual control, with some drop-in replacement LED lamps - minor maintenance to upgrade all to LED.
D5032 Low Voltage Communication	1960	1960	4	DCS	01/12/22	Aged plain old telephone service (POTS) - minor maintenance to upgrade as needed.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

A1020 Special Foundations	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	1	$35,000.00	LS	$35,000	$68,544

Deficient Material: **Concrete**

The foundation is a concern, with a mix of brick and concrete bearing blocks, with a mix of wood squash blocks and wood shims, with wood beams gravity bearing on the blocks. The structure is not seismically tied or secured to the foundation blocks.



Remedial Action:

Provide new foundations in a new location with the future park master plan or jack up the structure, and replace foundations with modern concrete footing/piers, seismically tied to the building structure. Recommend increasing height to provide ample crawlspace.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

B1010 Floor Construction	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	1,200	$42.00	SF	$50,400	$98,703

Deficient Material: **Floor Framing**

The structure is not seismically tied or secured to the foundation blocks, and there is some beam rot evident. There is about an average of 12" open crawlspace below the structure, with no perimeter screening. The floor joists are exposed and there is no insulation. There is no vapor barrier below, and the structure is exposed to the soil below.



Remedial Action:

Inspect and replace any rotten or insect compromised timbers and joists. Seismically secure structure to new foundation (see A1020 Special Foundations). Insulate underside of floor deck. Install sealed vapor barrier in crawlspace. Provide crawlspace skirt with critter screening around perimeter of crawlspace to thwart infestation while maintaining natural ventilation.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

B2010 Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2026	10	$700.00	EA	$7,000	$13,709

Deficient Material: **Wood Trim**

Existing window trim paint is bubbling and boards appear to be significantly weathered and nearing end of life. Missing cedar shakes. Moss growth. Assume painted trim contains lead-based paint based on age.

Remedial Action:

Replace window trim with new wood trim and flashings. Replace missing shakes, clean moss, and restain as needed.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2024	1	$5,000.00	EA	$5,000	$9,792

Deficient Material: **Wood Doors and Wood Frames**

Old, worn, and warped pair of wood doors with non-ADA-compliant hardware.



Remedial Action:

Replace door, wood frame, and trim. Install new ADA-compliant hardware and code-compliant egress hardware.

Action Type:

ADA

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

B3030 Projections	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	1	$6,000.00	EA	$6,000	$11,750

Deficient Material: **Brick Chimney**

Unreinforced brick chimney.



Remedial Action:

Remove chimney, provide new vent stack for heater, patch roof and interior.

Action Type:

Life Safety

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

C3010 Wall Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2027	1,400	$5.00	SF	$7,000	$13,709

Deficient Material: **Paint**

Paint showing chips, marks, and wear. (Note, based on age, the existing interior painted surfaces should be assumed to contain lead-based paint, unless testing suggests otherwise.)



Remedial Action:

Repaint interior.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

C3020 Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2027	1,000	$8.00	SF	$8,000	$15,667

Deficient Material: **Wood Flooring**
Original wood floor, showing wear.

Remedial Action:
Strip and carefully sand and epoxy seal cracks in floor. Refinish original floors.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

D2040 Rain Water Drainage	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	100	$50.00	LF	$5,000	$9,792

Deficient Material: **Gutter & downspout**

Roof rain water sheet flow to eave, then drops to grade along drip line, damaging building foundation and siding, and eroding softscape.

Remedial Action:

Install metal gutter and downspout with leaf-guard, direct downspout drainage well away from building foundation.

Action Type:

Code Issue



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Scout Hall
Facility: Scout Hall

D5010 Electrical Service and Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1,200	$5.00	SF	$6,000	$11,750

Deficient Material: **Electrical distribution**

Obsolete fuse-type distribution panel with only 120V, single-phase and minimal capacity; only one observed receptacle.



Remedial Action:

Replace with modern 120/240V service and distribution, to include receptacles on each wall and outside as needed for program use.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Scout Hall
Scout Hall Infrastructure

621 NE 15th Ave
Camas, WA 98607

Facility Condition Summary

1882 era single-room schoolhouse relocated to this property around 1907, now used by Boy and Girl Scouts and community groups, set in a large park. Site utilities include City water and sewer, but no fire sprinkler; Clark PUD 110V, single-phase power, and telephone line.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Scout Hall
Scout Hall Infrastructure

621 NE 15th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2030 Pedestrian Paving	1907	1935	3	TRB	01/12/22	Concrete walk and concrete stairs to the front entry. No ADA access provided.
G2050 Landscaping	1907	1935	2	TRB	01/12/22	Grass around the immediate vicinity of the building, full mature landscaping elsewhere in the park.
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1907	1935	3	DCS	01/12/22	City water with assumed 5/8-inch meter at sidewalk to south - minor maintenance to replace service line upon failure.
G3020 Sanitary Sewer	1907	1935	3	DCS	01/12/22	Aged cast iron side sewer to City sewer at street with clean-out in hand-vault at southeast corner of building; no issues reported, and minor maintenance to replace upon eventual failure.
G3030 Storm Sewer	1907	1935	4	DCS	01/12/22	Sheet flow to adjacent park landscape with damage along roof eave drip line - minor maintenance to install rock to reduce impact and slope to better convey water away from the building foundation.
G3060 Fuel Distribution	1907	1991	3	DCS	01/12/22	Original wood and/or coal pile replaced with NW Natural gas meter No. 446651 with estimated 175 cfh capacity, and no seismic shut-off valve - minor maintenance to install.
G40 Site Electrical utilities						
G4010 Electrical Distribution	1930	2020	3	DCS	01/12/22	Overhead power to single-phase, 120V-only electrical service with Clark PUD meter No. 568503 with opportunity to upgrade to modern 120/240V service should future redevelopment required 240V power for modern appliances or equipment.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Scout Hall
Scout Hall Infrastructure

621 NE 15th Ave
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G40 Site Electrical utilities						
G4020 Site Lighting	1907	1935	3	DCS	01/12/22	Minimal site lighting with one exterior fixture at main entry and remaining from adjacent street lights.
G4030 Site Communications and Security	1907	1935	4	DCS	01/12/22	Plain-old-telephone service (POTS) overhead, but appears abandoned in place, unless used by the park staff - minor maintenance to upgrade as needed. No site electronic security.

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Scout Hall

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Scout Hall	A10 Foundations	$35,000	$7,000	$8,400	$18,144	$68,544	$68,544
	B10 Superstructure	$50,400	$10,080	$12,096	$26,127	$98,703	$98,703
	B20 Exterior Closure	$12,000	$2,400	$2,880	$6,221	$23,501	$24,621
	B30 Roofing	$6,000	$1,200	$1,440	$3,110	$11,750	$11,750
	C30 Interior Finishes	$15,000	$3,000	$3,600	$7,776	$29,376	$31,612
	D20 Plumbing	$5,000	$1,000	$1,200	$2,592	$9,792	$10,084
	D50 Electrical	$6,000	$1,200	$1,440	$3,110	$11,750	$12,101
	Facility Total	**$129,400**	**$25,880**	**$31,056**	**$67,081**	**$253,417**	**$257,416**
	Site Total	**$129,400**	**$25,880**	**$31,056**	**$67,081**	**$253,417**	**$257,416**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Scout Hall **Total Site Opportunity Cost: $99,000**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Scout Hall**						
System:	**Exterior Closure**	**Total Cost: $20,000**					
B2010	**Exterior Walls**						
		Existing walls are assumed to be uninsulated.	Pull shingles strategically (or interior bead board), and blow in foam insulation in wall cavities. Reinstall cladding.	1.00	$20,000.00	LS	$20,000
Facility:	**Scout Hall**						
System:	**Interior Construction**	**Total Cost: $40,000**					
C1020	**Interior Doors**						
		No ADA toilet room.	Demo existing toilet room, and construct new larger modern ADA-compliant unisex toilet room (expand into meeting hall).	1.00	$40,000.00	EA	$40,000
Facility:	**Scout Hall**						
System:	**Plumbing**	**Total Cost: $5,000**					
D2010	**Plumbing Fixtures**						
		No kitchenette to support events and activities.	Add kitchenette.	1.00	$5,000.00	LS	$5,000
Facility:	**Scout Hall**						
System:	**HVAC**	**Total Cost: $24,000**					
D3040	**HVAC Distribution Systems**						
		No forced-air HVAC.	Install forced-air HVAC system with equipment and ductwork in attic.	1,200.00	$20.00	SF	$24,000
Facility:	**Scout Hall Infrastructure**						
System:	**Site Improvements**	**Total Cost: $10,000**					
G2030	**Pedestrian Paving**						
		No ADA access.	Install an ADA ramp.	1.00	$10,000.00	LS	$10,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Main Office

1129 SE Polk Street
Camas, WA 98607

Facility Size - Gross S.F.	1,770
Year Of Original Construction	1997
Facility Use Type	Office
Construction Type	Light
# of Floors	1
Energy Source	Gas
Year Of Last Renovation	1997
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.7**			
Facility Condition Index (FCI)	0.11	**Predicted Renewal Budget 2028 - 2041**	$123,000	$143,000
Current Replacement Value (CRV)	$538,000	**Observed Deficiencies 2022 - 2027**	$149,000	$157,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$89,000	N/A

Facility Condition Summary

A single-story building housing offices, lab, and break/conference room.

HVAC is one packaged rooftop heat pump unit, plus lab fume hood and locker room exhaust fans. Plumbing includes one locker room, one drinking fountain, and support for the lab and breakroom kitchenette. No fire sprinkler or alarm. Power sub-fed from adjacent UV Building. Fluorescent lighting with manual control. High-speed fiber-optic data and SCADA.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Main Office

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.0**			
A10 Foundations						
A1010 Standard Foundations	1997	1997	2	TRB	01/10/22	Standard concrete footings and stem walls.
A1030 Slab On Grade	1997	1997	2	TRB	01/10/22	Concrete slab on grade, no observed issues.
B Shell			**2.7**			
B10 Superstructure						
B1020 Roof Construction	1997	1997	2	TRB	01/10/22	Wood deck and I-joists (no insulation under deck).
B20 Exterior Closure						
B2010 Exterior Walls	1997	1997	3	TRB	01/10/22	A combination of split-faced concrete masonry units with some smooth face accent banding. Weathering and accumulation of algae growth evident. Power wash and seal recommended as minor maintenance.
B2020 Exterior Windows	1997	1997	2	TRB	01/10/22	Thermally glazed operable windows in aluminum frames.
B2030 Exterior Doors	1997	1997	2	TRB	01/10/22	Glazed metal.
B30 Roofing						
B3010 Roof Coverings	1997	1997	4	TRB	01/10/22	Membrane roofing, nearing end of life with past leaks beginning to start.
B3020 Roof Openings	1997	2019	2	TRB	01/10/22	Access hatch replaced in 2019.
B3030 Projections	1997	1997	3	TRB	01/10/22	Entry canopy at front and back doors with painted wood soffit and clad with weathered cedar shingles.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Main Office

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**2.4**			
C10 Interior Construction						
C1010 Partitions	1997	1997	2	TRB	01/10/22	Gypsum on wood studs.
C1020 Interior Doors	1997	1997	2	TRB	01/10/22	Hollow metal door and frames.
C1030 Fittings	1997	1997	2	TRB	01/10/22	Window blinds, base.
C30 Interior Finishes						
C3010 Wall Finishes	1997	1997	2	TRB	01/10/22	Paint.
C3020 Floor Finishes	1997	1997	3	TRB	01/10/22	VCT.
C3030 Ceiling Finishes	1997	1997	3	TRB	01/10/22	Suspended acoustic ceiling tile (a few water stained, back entry tile missing).
D Services			**2.9**			
D20 Plumbing						
D2010 Plumbing Fixtures	1997	1997	3	DCS	01/10/22	Men's only locker room with shower (unisex locker room is available in the Control Building immediately adjacent); break room kitchenette with sink; janitor floor sink in the utility room; sinks in the lab; single-height (non-ADA) hydration station (drinking fountain and bottle-filler) in the corridor.
D2020 Domestic Water Distribution	1997	1997	2	DCS	01/10/22	City water with three reduced pressure backflow preventers - one 1.5-inch and two 0.75-inch; copper distribution piping; no apparent pressure reducing valve (PRV); one A.O. Smith electric 66-gallon domestic hot water (DHW) heater with expansion tank.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Main Office

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.9**			
D20 Plumbing						
D2030 Sanitary Waste	1997	1997	2	DCS	01/10/22	Cast iron drain, waste, and vent (DW&V) - tested fixtures flush and drain ok, except the locker room sink - assume the fixture P-trap needs cleaning as minor maintenance.
D2040 Rain Water Drainage	1997	1997	3	DCS	01/10/22	The roof drains east and west from the main high roof to the much smaller entry canopies, in turn with scupper and downspout to storm; this configuration lends itself to back-up and spill at the front and rear entries - minor maintenance to ensure the drains are kept clear of debris.
D2090 Other Plumbing Systems	1997	1997	3	DCS	01/10/22	Acid waste piping in lab with unclear neutralization. Safety shower and eyewash in lab.
D30 HVAC						
D3040 HVAC Distribution Systems	1997	1997	3	DCS	01/10/22	Fully-ducted forced-air heating, cooling, and ventilation system; plus operable windows; just one zone for the entire building - hence comfort complaints. Locker room exhaust fan.
D3050 Terminal and Package Units	1997	1997	4	DCS	01/10/22	Aging Trane 4-ton rooftop heat pump unit with economizer.
D3060 Controls and Instrumentation	1997	1997	3	DCS	01/10/22	Honeywell temperature averaging programmable thermostat - minor maintenance to replace when the associated rooftop heat pump unit is replaced.
D3090 Other HVAC Systems and Equipment	1997	1997	3	DCS	01/10/22	Lab fume hood utility-set fan on roof with unclear fan housing volute drainage - minor maintenance to add if missing.
D40 Fire Protection						
D4030 Fire Protection Specialties	1997	1997	2	DCS	01/10/22	Fire extinguisher on hook.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Main Office

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.9**			
D50 Electrical						
D5010 Electrical Service and Distribution	1997	1997	2	DCS	01/10/22	Power sub-fed from adjacent UV Building to two 480V, three-phase 250A panels; in turn feeding one 45 kVA 480/208V transformer; in turn feeding two 208V, three-phase 225A distribution panels.
D5020 Lighting and Branch Wiring	1997	1997	3	DCS	01/10/22	Lay-in T8 fluorescent fixtures with manual control. Minimal exterior lighting.
D5032 Low Voltage Communication	1997	1997	3	DCS	01/10/22	Aged telephone system - minor maintenance to upgrade to City standard video voice over internet protocol (VOIP) system. Site public address system reportedly abandoned in place - assume replaced by radio and/or cell phone.
D5039 Low Voltage Data	1997	2010	2	DCS	01/10/22	High-speed fiber-optic data to IDF.
D5090 Other Electrical Systems	1997	1997	4	DCS	01/10/22	Unclear standby power - may be powered from adjacent UV Building standby generator system - to be confirmed; aged exit signs, but no apparent emergency egress light fixtures - minor maintenance to install.
E Equipment and Furnishings						
E10 Equipment						
E1010 Commercial Equipment	1997	1997	3	DCS	01/10/22	Kitchenette appliances and small office equipment.
E1020 Institutional Equipment	1997	2010	2	DCS	01/10/22	Lab equipment - most appears kept up to date.
F Special Construction						
F10 Special Construction						
F1050 Special Controls and Instrumentation	1997	1997	2	DCS	01/10/22	WWTP SCADA system interface; small rooftop weather station with remote display in lab.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Main Office

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2027	2,000	$20.00	SF	$40,000	$78,336

Deficient Material: **Membrane Roof**

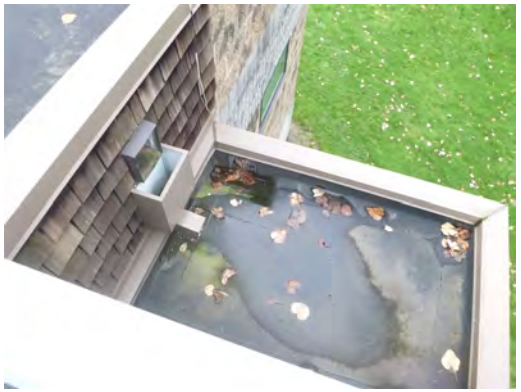
Membrane roofing, nearing end of life with past leaks beginning to start.

Remedial Action:

Remove roofing, investigate condition of insulation. increase insulation to R-40 and reroof.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Main Office

B3030 Projections	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2026	2	$2,500.00	EA	$5,000	$9,792

Deficient Material: **Parapet/Mansard**
Weathered cedar shingles at entries at end of life.

Remedial Action:
Remove shingles and re-clad.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Main Office

D3050 Terminal and Package Units	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1	$13,500.00	LS	$13,500	$26,438

Deficient Material: **Roof Top Unit**

Aging rooftop heat pump unit hearing end of life and with obsolete R-22 refrigerant.



Remedial Action:

Replace with new rooftop heat pump unit, including full economizer.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Main Office

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	1,770	$7.00	SF	$12,390	$24,265

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Main Office

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	1,779	$3.00	SF	$5,337	$10,452

Deficient Material: **Fire alarm**
No fire alarm.

Remedial Action:
Install fire alarm.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Bio-solids Dryer Building

1129 SE Polk Street
Camas, WA 98607

Facility Size - Gross S.F.	3,670
Year Of Original Construction	2010
Facility Use Type	Transfer Station
Construction Type	Medium
# of Floors	1
Energy Source	Gas
Year Of Last Renovation	2010
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.5**			
Facility Condition Index (FCI)	0.07	**Predicted Renewal Budget 2028 - 2041**	$66,000	$75,000
Current Replacement Value (CRV)	$344,000	**Observed Deficiencies 2022 - 2027**	$99,000	$100,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$356,000	N/A

Facility Condition Summary

A single-story building houses the bio-solids dryer and sludge storage. A pre-engineered metal building frame integrated with CMU base. The pitched gable form roofing is standing seam metal on steel structure, walls are a combination of concrete masonry units and metal wall panels.

Gas-fired overhead infrared heaters; process exhaust fans; minimal plumbing; no fire sprinkler or alarm; power sub-fed from adjacent Equipment Building.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Bio-solids Dryer Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.0**			
A10 Foundations						
A1010 Standard Foundations	2010	2010	2	TRB	01/10/22	Standard concrete footings and stem walls.
A1030 Slab On Grade	2010	2010	2	TRB	01/10/22	Concrete slab on grade.
B Shell			**2.6**			
B10 Superstructure						
B1010 Floor Construction	2010	2010	2	TRB	01/10/22	Raised metal grate catwalks and platforms for equipment access.
B1020 Roof Construction	2010	2010	2	TRB	01/10/22	Metal on girts on pre-engineered metal frame structure.
B20 Exterior Closure						
B2010 Exterior Walls	2010	2010	3	TRB	01/10/22	Metal wall panels over split-faced concrete masonry units. Weathering and accumulation of algae growth evident, especially significant moss growth on the east wall. Power wash and seal recommended.
B2020 Exterior Windows	2010	2010	3	TRB	01/10/22	Limited punched thermally glazed aluminum units. Noted one west unit interior surface low-emissivity coating failing (southwest corner).
B2030 Exterior Doors	2010	2010	2	TRB	01/10/22	Large overhead door, hollow metal doors and frames.
B30 Roofing						
B3010 Roof Coverings	2010	2010	3	TRB	01/10/22	Standing seal metal roof, weathering.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Bio-solids Dryer Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors						
C10 Interior Construction						
C1010 Partitions	2010	2010	2	TRB	01/10/22	CMU at the motor control center (MCC) electrical room.
C1020 Interior Doors	2010	2010	2	TRB	01/10/22	Hollow metal doors and frames.
C20 Staircases						
C2010 Stair Construction	2010	2010	2	TRB	01/10/22	Metal stairs to catwalk and platforms.
C30 Interior Finishes						
C3010 Wall Finishes	2010	2010	2	TRB	01/10/22	Paint.
C3030 Ceiling Finishes	2010	2010	2	TRB	01/10/22	Painted drywall.
D Services			**2.9**			
D20 Plumbing						
D2040 Rain Water Drainage	2010	2010	4	DCS	01/10/22	Metal roof sheet flows to grade along drip edge, damaging building and softscape.
D2090 Other Plumbing Systems	2010	2010	3	DCS	01/10/22	Non-potable plant water system for wash-down and utility use.
D30 HVAC						
D3010 Energy Supply	2010	2010	3	DCS	01/10/22	Natural gas and digester gas systems; reportedly submetered by the SCADA system. The natural gas service has 5 million btu/hr capacity. The gas-fired dryer burner capacity is 2.5 million btu/hr. The gas system sub-feeds the adjacent Digester Building, which includes a gas-fired boiler with under 1 million btu/hr capacity.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Bio-solids Dryer Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.9**			
D30 HVAC						
D3020 Heat Generating Systems	2010	2010	2	DCS	01/10/22	Three observed gas-fired overhead low-intensity radiant infrared heaters; reportedly there are four total.
D3030 Cooling Generating Systems	2010	2010	2	DCS	01/10/22	Dedicated ductless split-Dx cooling for the electrical motor control center (MCC) room.
D3040 HVAC Distribution Systems	2010	2010	2	DCS	01/10/22	Two supply air fans low at outside walls north and south, with two assumed through roof exhaust fans - no issues reported.
D3060 Controls and Instrumentation	2010	2010	2	DCS	01/10/22	Local controls for HVAC; plus SCADA for process equipment.
D40 Fire Protection						
D4030 Fire Protection Specialties	2010	2010	3	DCS	01/10/22	Fire extinguisher on hook.
D50 Electrical						
D5010 Electrical Service and Distribution	2010	2010	2	DCS	01/10/22	Power sub-fed from adjacent Equipment Building at 480V to Switchboard G with 400A capacity, in turn sub-feeding one large Square D motor control center (MCC). Dedicated split-Dx cooling for the electrical room.
D5020 Lighting and Branch Wiring	2010	2010	3	DCS	01/10/22	High-bay pendant fixtures in high-bay process spaces; T8 fluorescent lighting in the electrical room. Lighting appears marginal under some equipment platforms - minor maintenance to install task lighting.
D5032 Low Voltage Communication	2010	2010	3	DCS	01/10/22	Aging telephone - minor maintenance to update to City standard.
D5039 Low Voltage Data	2010	2010	2	DCS	01/10/22	Fiber-optic data with IDF in the electrical room.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Bio-solids Dryer Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.9**			
D50 Electrical						
D5090 Other Electrical Systems	2010	2010	4	DCS	01/10/22	Minimal emergency lighting and no backup power.
E Equipment and Furnishings						
E10 Equipment						
E1030 Vehicular Equipment	2010	2010	3	DCS	01/10/22	Vehicle waste loading area in open-walled storage area.
E1090 Other Equipment	2010	2010	3	DCS	01/10/22	Bio-solids dryer and material handling system.
F Special Construction						
F10 Special Construction						
F1050 Special Controls and Instrumentation	2010	2010	2	DCS	01/10/22	SCADA control and monitoring system.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: Bio-solids Dryer Building

B2010 Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2027	1	$5,000.00	LS	$5,000	$9,792

Deficient Material: **Exterior Siding**

Weathering and accumulation of algae growth evident, especially significant moss growth on the east wall exterior and interior which may be caused by moisture intrusion and improper kick flashing off metal siding above. Growth and moisture will eventually degrade and destroy the CMU.



Remedial Action:

Investigate source of moisture. Apply base flashing. Power wash and seal masonry.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: Bio-solids Dryer Building

D2040 Rain Water Drainage	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	300	$30.00	LF	$9,000	$17,626

Deficient Material: **Roof drains**

No gutter and downspout system, with roof water falling to grade along drip edge, damaging building exterior walls, potentially undermining the foundation and damaging the softscape below.

Remedial Action:

Install metal gutter and downspout system and pipe to site storm drain system.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Bio-solids Dryer Building

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	3,670	$7.00	SF	$25,690	$50,311

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Bio-solids Dryer Building

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	3,670	$3.00	SF	$11,010	$21,562

Deficient Material: **Fire alarm**
No fire alarm.

Remedial Action:
Install fire alarm.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Control Building

1129 SE Polk Street
Camas, WA 98607

Facility Size - Gross S.F.	1,630
Year Of Original Construction	1972
Facility Use Type	Operational Support
Construction Type	Light
# of Floors	1
Energy Source	Electric
Year Of Last Renovation	1972
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**3.0**			
Facility Condition Index (FCI)	0.05	**Predicted Renewal Budget 2028 - 2041**	$40,000	$47,000
Current Replacement Value (CRV)	$376,000	**Observed Deficiencies 2022 - 2027**	$223,000	$228,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$252,000	N/A

Facility Condition Summary

A single-story brick building with a newer membrane roof on wood deck on wood timbers. Converted use in 1997 for controls, and contains three process pumps for secondary treatment, maintenance shop, and operator office. Underutilized, this facility can be updated to house operator work spaces into the former lab, and to accommodate needs with an addition for maintenance shop and storage (see G9090 - Other Site Systems, under Infrastructure).

HVAC includes several electric resistance unit and wall heaters with no mechanical ventilation other then the bathroom exhaust fans - however there are operable windows and doors. Small locker room. Former wet-lab, now used for makeshift office space. Original (1972) plant power system, mostly abandoned in place, plus several newer smaller panels. Aging fluorescent light fixtures. No fire sprinkler or alarm. SCADA panel.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Control Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**3.0**			
A10 Foundations						
A1010 Standard Foundations	1972	1972	3	TRB	01/10/22	Standard concrete footings and stem walls.
A1030 Slab On Grade	1972	1972	3	TRB	01/10/22	Slab on grade. Minor cracking noted.
B Shell			**3.0**			
B10 Superstructure						
B1020 Roof Construction	1972	1972	3	TRB	01/10/22	Wood deck on wood beams.
B20 Exterior Closure						
B2010 Exterior Walls	1972	1972	3	TRB	01/10/22	Uninsulated brick.
B2020 Exterior Windows	1972	1972	5	TRB	01/10/22	Single-pane aluminum windows.
B2030 Exterior Doors	1972	1972	5	TRB	01/10/22	Old doors and frames with single-pane glazing.
B30 Roofing						
B3010 Roof Coverings	1972	2019	2	TRB	01/10/22	Membrane roofing.
B3030 Projections	1972	1972	3	TRB	01/10/22	Painted wood soffits. Gaps in coverage near gantry crane could become bird or insect nests.
C Interiors			**3.5**			
C10 Interior Construction						
C1010 Partitions	1972	1972	3	TRB	01/10/22	Drywall on wood studs.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Control Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors			**3.5**			
C10 Interior Construction						
C1020 Interior Doors	1972	1972	3	TRB	01/10/22	Wood doors and hollow metal frames. Non-ADA-compliant hardware.
C1030 Fittings	1972	1972	4	TRB	01/10/22	Mix of window coverings. Minor maintenance to replace.
C30 Interior Finishes						
C3010 Wall Finishes	1972	1997	3	TRB	01/10/22	Painted walls and exposed exterior brick walls.
C3020 Floor Finishes	1972	1972	4	TRB	01/10/22	Worn VCT and exposed concrete.
C3030 Ceiling Finishes	1972	1972	4	TRB	01/10/22	Suspended acoustical tiles in office and hallway; water stains and numerous tiles missing. Remainder exposed to structure.
D Services			**3.0**			
D10 Vertical Transportation						
D1090 Other Conveying Systems	1972	1972	3	DCS	01/10/22	Two-ton powered hoist on I-beam rail.
D20 Plumbing						
D2010 Plumbing Fixtures	1972	1972	3	DCS	01/10/22	Aged plumbing fixtures including floor-mounted tank-type water closet, wall-mounted lavatory, tiled shower, deep sink, and support for one laundry washing-machine.
D2020 Domestic Water Distribution	1972	1972	4	DCS	01/10/22	Original galvanized piping with some newer copper.
D2030 Sanitary Waste	1972	1972	4	DCS	01/10/22	Mix of drain, waste, and vent (DW&V) materials, with some fixtures somewhat slow to drain or flush.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Control Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.0**			
D20 Plumbing						
D2040 Rain Water Drainage	1972	2019	3	DCS	01/10/22	2019 metal gutter and downspout to grade; portions of gutter blocked by leaves - minor maintenance to clean-out and direct drains away from the building foundation.
D2090 Other Plumbing Systems	1972	1972	3	DCS	01/10/22	7.5-hp shop air compressor in closet - this unit appears oversized for need - consider replacing with a smaller unit as minor maintenance.
D30 HVAC						
D3020 Heat Generating Systems	1972	2000	3	DCS	01/10/22	Several ceiling- or wall-mounted electric resistance unit heaters with estimated 5 kW capacity.
D3030 Cooling Generating Systems	1972	1972	4	DCS	01/10/22	Aged packaged terminal air conditioning unit (PTAC) through wall in former lab space - minor maintenance to replace upon failure; see D3040 for opportunity to upgrade.
D3040 HVAC Distribution Systems	1972	1972	4	DCS	01/10/22	Natural ventilation for most spaces; bathroom exhaust fan for the small locker room.
D3050 Terminal and Package Units	1972	1972	4	DCS	01/10/22	Two older wall-mounted electric resistance unit heaters - minor maintenance to replace upon failure.
D3060 Controls and Instrumentation	1972	1997	3	DCS	01/10/22	Process control panel connected to SCADA system.
D40 Fire Protection						
D4030 Fire Protection Specialties	1972	1997	3	DCS	01/10/22	Fire extinguisher on hood; small first aid kit on wall.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Control Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.0**			
D50 Electrical						
D5010 Electrical Service and Distribution	1972	1972	3	DCS	01/10/22	Original (1972) 480V service with 800A capacity switchboard and motor control center (MCC), with most modules (buckets) abandoned in place during the 1997 plant modernization. Two newer 208V, three-phase 225A panels.
D5020 Lighting and Branch Wiring	1972	1997	3	DCS	01/10/22	T8 fluorescent lighting with manual control.
D5032 Low Voltage Communication	1972	1997	3	DCS	01/10/22	Aging phone system - minor maintenance to upgrade to City standard video voice over internet protocol (VOIP) handsets.
D5039 Low Voltage Data	1972	2010	2	DCS	01/10/22	High-speed fiber-optic service with small IDF, including WiFi antenna.
E Equipment and Furnishings			**3.0**			
E10 Equipment						
E1010 Commercial Equipment	1972	1997	3	DCS	01/10/22	Clothes washer and light office equipment.
E1020 Institutional Equipment	1972	1972	3	DCS	01/10/22	Various shop tools.
E1090 Other Equipment	1972	1972	3	DCS	01/10/22	Several process pumps in the equipment room - no issues reported.
E20 Furnishings						
E2010 Fixed Furnishings	1972	1972	4	TRB	01/10/22	Old casework and work surfaces.
E2020 Moveable Furnishings (Capital Funde	1972	1972	4	TRB	01/19/22	Workstations and environment are inadequate for modern office work conditions.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Control Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
F Special Construction			**2.0**			
F10 Special Construction						
F1050 Special Controls and Instrumentation	1972	1972	2	DCS	01/10/22	Process control programmable logic controller (PLC) in cabinet with SCADA interface.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

B2020 Exterior Windows	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2023	14	$2,000.00	EA	$28,000	$54,835

Deficient Material: **Aluminum Single Pane Windows**

Single-pane aluminum windows with no thermal comfort for current office use, and poor energy efficiency.

Remedial Action:

Replace windows with insulated glass and thermally broken frames.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2024	5	$2,000.00	EA	$10,000	$19,584

Deficient Material: **Door and Frame**

Old doors and frames with single-pane glazing.

Remedial Action:

Replace with energy-efficient doors and ADA-compliant hardware.

Action Type:

Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

C3020 Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2026	400	$20.00	SF	$8,000	$15,667

Deficient Material: **VCT**
Worn VCT.

Remedial Action:
Replace flooring.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

C3030 Ceiling Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2022	500	$10.00	SF	$5,000	$9,792

Deficient Material: **Ceiling Tiles**

Water stains on ceiling tiles and numerous tiles missing.



Remedial Action:

Replace ceiling tiles with all new.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

D2020 Domestic Water Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1,630	$4.00	SF	$6,520	$12,769

Deficient Material: **Galvanized pipe**
Original galvanized piping.

Remedial Action:
Replace with copper and/or PEX.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

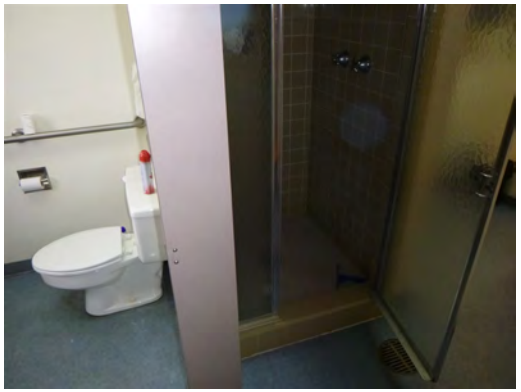
City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

D2030 Sanitary Waste	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1,630	$4.00	SF	$6,520	$12,769

Deficient Material: **DW&V piping**
Some fixtures somewhat slow to drain and flush.

Remedial Action:
Renew the drain, waste, and vent system.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	1,630	$3.50	SF	$5,705	$11,173

Deficient Material: **Fire alarm**
No fire alarm.

Remedial Action:
Install fire alarm system.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

D5090 Other Electrical Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	1,630	$5.00	SF	$8,150	$15,961

Deficient Material: **Standby power and emergency lighting**
No apparent standby power and/or emergency lighting.

Remedial Action:
Provide standby power and/or emergency lighting per City policy.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

E2010 Fixed Furnishings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	60	$300.00	LF	$18,000	$35,251

Deficient Material: **Casework**

Old casework and work surfaces.



Remedial Action:

Replace casework and work surfaces with new.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Control Building

E2020 Moveable Furnishings (Capital Funded Only)	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	240	$75.00	SF	$18,000	$35,251

Deficient Material: **Tables, Desks, Conference Tables, Chairs**

Workstations and environment are inadequate for modern office work conditions.



Remedial Action:

Furr in walls and add insulation, update interior finishes, workstations, and techniology to provide three staff office workstations to house operator work spaces.

Action Type:

Other

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Digester Building

1129 SE Polk Street
Camas, WA 98607

Facility Size - Gross S.F.	3,420
Year Of Original Construction	2010
Facility Use Type	Transfer Station
Construction Type	Medium
# of Floors	1
Energy Source	Gas
Year Of Last Renovation	2010
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.4**			
Facility Condition Index (FCI)	0.06	**Predicted Renewal Budget 2028 - 2041**	$63,000	$73,000
Current Replacement Value (CRV)	$321,000	**Observed Deficiencies 2022 - 2027**	$133,000	$135,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$366,000	N/A

Facility Condition Summary

Houses solid waste processing, between two aerobic digesters, and contains pumps, rotary drum sludge thickener, heat exchangers, and odor control fan no 2.

Gas-fired make-up air unit and space exhaust fan; gas-fired process boiler; plant water; no fire sprinkler or alarm; 480V three-phase industrial power, but no standby generator; fluorescent lighting; SCADA system.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Digester Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.0**			
A10 Foundations						
A1010 Standard Foundations	2010	2010	2	TRB	01/10/22	Standard footings and stem walls.
A1030 Slab On Grade	2010	2010	2	TRB	01/10/22	Concrete slab on grade.
B Shell			**2.6**			
B10 Superstructure						
B1010 Floor Construction	2010	2010	2	TRB	01/10/22	Raised metal grate platform for equipment access at sludge thickening room.
B1020 Roof Construction	2010	2010	2	TRB	01/10/22	Metal deck on metal trusses.
B20 Exterior Closure						
B2010 Exterior Walls	2010	2010	3	TRB	01/10/22	A combination of split-faced concrete masonry units with some smooth face accent banding. Weathering and accumulation of algae growth evident, especially at tanks. Power wash and seal recommended as minor maintenance.
B2020 Exterior Windows	2010	2010	2	TRB	01/10/22	Minor thermally insulated units in aluminum frame punched openings.
B2030 Exterior Doors	2010	2010	2	TRB	01/10/22	Hollow metal doors and frames, overhead roll-up door.
B30 Roofing						
B3010 Roof Coverings	2010	2010	3	TRB	01/10/22	Membrane roofing on main building. Granule coated membrane over foam insulation at digester lids; system bubbling/slumping/delaminating.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Digester Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
C Interiors						
C10 Interior Construction						
C1010 Partitions	2010	2010	2	TRB	01/10/22	CMU at motor control center (MCC), boiler, and odor control rooms.
C1020 Interior Doors	2010	2010	2	TRB	01/10/22	Hollow metal doors and frames.
C20 Staircases						
C2010 Stair Construction	2010	2010	2	TRB	01/10/22	Metal stair to platform.
C30 Interior Finishes						
C3010 Wall Finishes	2010	2010	2	TRB	01/10/22	Paint.
D Services			**2.1**			
D20 Plumbing						
D2020 Domestic Water Distribution	2010	2010	2	DCS	01/10/22	Potable water reportedly piped to certain process subsystems.
D2090 Other Plumbing Systems	2010	2010	2	DCS	01/10/22	Non-potable plant water for wash-down and utility use.
D30 HVAC						
D3010 Energy Supply	2010	2010	2	DCS	01/10/22	Natural gas sub-fed from adjacent Bio-solids Building, and generated in-building by the two digesters; supplies the process boiler and rooftop gas-fired make-up air unit.
D3020 Heat Generating Systems	2010	2010	3	DCS	01/10/22	Gas-fired boiler runs on mix of digester and natural gas; under one million btu/hr capacity.
D3030 Cooling Generating Systems	2010	2019	2	DCS	01/10/22	Dedicated ductless-split Dx cooling system for the electrical room; replaced in 2019.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Digester Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.1**			
D30 HVAC						
D3040 HVAC Distribution Systems	2010	2010	2	DCS	01/10/22	Gas-fired rooftop make-up air unit for main process space; paired with associated exhaust fan. Several other exhaust fans. Reportedly, the rooftop unit "goes through belts" - the fan and motor may need alignment as minor maintenance to eliminate this problem.
D3050 Terminal and Package Units	2010	2010	3	DCS	01/10/22	Gas-fired rooftop make-up air unit.
D3060 Controls and Instrumentation	2010	2010	2	DCS	01/10/22	Local HVAC controls; plus SCADA process control.
D3090 Other HVAC Systems and Equipment	2010	2010	3	DCS	01/10/22	Process exhaust and make-up air.
D40 Fire Protection						
D4030 Fire Protection Specialties	2010	2010	3	DCS	01/10/22	Fire extinguisher on hook.
D50 Electrical						
D5010 Electrical Service and Distribution	2010	2010	2	DCS	01/10/22	Modern 480V three-phase industrial power with Switchboard F 400A capacity.
D5020 Lighting and Branch Wiring	2010	2010	2	DCS	01/10/22	Fluorescent with manual control.
D5032 Low Voltage Communication	2010	2010	3	DCS	01/10/22	Telephone.
D5039 Low Voltage Data	2010	2010	2	DCS	01/10/22	Fiber-optic data communication.
D5090 Other Electrical Systems	2010	2010	4	DCS	01/10/22	Minimal emergency lighting; no standby generator.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Digester Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
E Equipment and Furnishings						
E10 Equipment						
E1090 Other Equipment	2010	2010	2	DCS	01/10/22	Extensive process treatment equipment, including two large digester tanks, sludge thickener, pumps, and process boiler.
F Special Construction						
F10 Special Construction						
F1050 Special Controls and Instrumentation	2010	2010	2	DCS	01/10/22	SCADA system.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Digester Building

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	1,600	$20.00	SF	$32,000	$62,669

Deficient Material: **Roof Covering**

At digester lids, granule coated membrane over foam insulation; system bubbling/slumping/delaminating.

Remedial Action:

Remove and replace insulation and roofing over digesters.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Digester Building

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	3,670	$7.00	SF	$25,690	$50,311

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

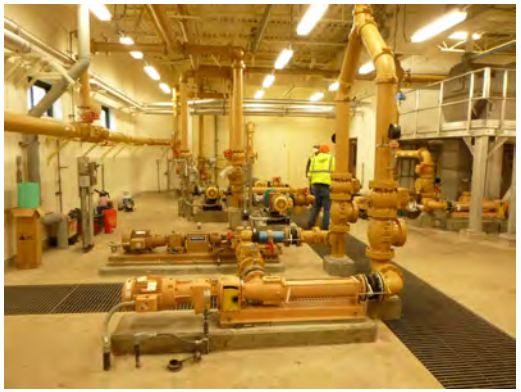
City of Camas
Site: Wastewater Treatment Plant
Facility: Digester Building

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	3,420	$3.00	SF	$10,260	$20,093

Deficient Material: **Fire alarm**
No fire alarm.

Remedial Action:
Install fire alarm.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Equipment Building

1129 SE Polk Street
Camas, WA 98607

Facility Size - Gross S.F.	4,250
Year Of Original Construction	1997
Facility Use Type	Transfer Station
Construction Type	Heavy
# of Floors	1
Energy Source	Electric
Year Of Last Renovation	1997
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**3.2**			
Facility Condition Index (FCI)	0.17	**Predicted Renewal Budget 2028 - 2041**	$80,000	$94,000
Current Replacement Value (CRV)	$418,000	**Observed Deficiencies 2022 - 2027**	$951,000	$968,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$103,000	N/A

Facility Condition Summary

The Equipment Building is a one-story concrete masonry building with metal trusses and low-slope roof. There is also a basement housing equipment and a small operations office. The building houses equipment for primary and secondary systems including primary treatment pumps, grit removal, secondary blowers, centrifuge, and additional primary and secondary pumps.

Multiple HVAC exhaust fans and some unit heaters, with poor ventilation in several areas, specifically the centrifuge room, with corrosive gasses damaging other systems. One restroom and plant water system. No fire sprinkler or alarm. The electrical room sub-feeds adjacent buildings and process equipment and includes a standby generator. Lighting is aging fluorescent. Minimal low voltage systems; but includes SCADA process control.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Equipment Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.7**			
A10 Foundations						
A1010 Standard Foundations	1997	1997	2	TRB	01/10/22	Standard concrete spread footings and stem walls.
A1030 Slab On Grade	1997	1997	3	TRB	01/10/22	Concrete slab on grade, minor cracking observed.
A20 Basements						
A2020 Basement Walls	1997	1997	3	TRB	01/10/22	Concrete, some leaks at pipe penetrations to grit removal and conduit penetrations.
B Shell			**3.6**			
B10 Superstructure						
B1010 Floor Construction	1997	1997	2	TRB	01/10/22	Concrete deck and integrated concrete beams.
B1020 Roof Construction	1997	1997	2	TRB	01/10/22	Metal deck on metal trusses.
B20 Exterior Closure						
B2010 Exterior Walls	1997	1997	3	TRB	01/10/22	A combination of split-faced concrete masonry units with some smooth face accent banding. Minor cracking at mortar joints noted. Weathering and accumulation of algae growth evident. Power wash and seal recommended as minor maintenance.
B2030 Exterior Doors	1997	1997	5	TRB	01/10/22	Hollow metal doors and frames at end of life due to exposure and use. Hardware failing (locksets, hinges, closers). Constant patch and repair issues.
B30 Roofing						
B3010 Roof Coverings	1997	1997	4	TRB	01/10/22	Membrane roofing at end of life. Numerous ongoing leaks reported. No fall restraint system provided.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Equipment Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**3.6**			
B30 Roofing						
B3020 Roof Openings	1997	1997	3	TRB	01/10/22	Roof hatch (cross structure angle iron hazard near top of ladder). Recommend adding safety handhold extension as minor maintenance.
C Interiors						
C10 Interior Construction						
C1010 Partitions	1997	1997	3	TRB	01/10/22	Concrete masonry walls, minor cracks in hallway observed.
C1020 Interior Doors	1997	1997	3	TRB	01/10/22	Hollow metal doors and frames.
C20 Staircases						
C2010 Stair Construction	1997	1997	2	TRB	01/10/22	Galvanized metal stair and open grate treads to basement level.
C30 Interior Finishes						
C3010 Wall Finishes	1997	1997	3	TRB	01/10/22	Painted walls, in need of cleaning.
C3030 Ceiling Finishes	1997	1997	4	TRB	01/10/22	Suspended acoustic ceiling at hall and office, significant water stains. Replace tiles as minor maintenance.
D Services			**3.1**			
D10 Vertical Transportation						
D1090 Other Conveying Systems	1997	1997	3	DCS	01/10/22	Multiple traveling hoists, including one 2-ton for each of the four blowers in the blower room, and one larger 3-ton unit in the centrifuge room.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Equipment Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.1**			
D20 Plumbing						
D2010 Plumbing Fixtures	1997	1997	3	DCS	01/10/22	Aged plumbing fixtures in the office area restroom - stained but functional.
D2020 Domestic Water Distribution	1997	1997	3	DCS	01/10/22	Domestic water for the restroom, with small point-of-use tankless domestic hot water heater for the restroom lavatory faucet.
D2030 Sanitary Waste	1997	1997	3	DCS	01/10/22	Sanitary waste to the site WWTP. Floor drains serve multiple areas.
D2040 Rain Water Drainage	1997	1997	3	DCS	01/10/22	Roof drains piped to storm; overflow scuppers through parapet - minor maintenance to remove leaves from roof, which partially block some roof drains.
D2090 Other Plumbing Systems	1997	1997	3	DCS	01/10/22	Plant (non-potable) water system; plus extensive WWTP piping.
D30 HVAC						
D3020 Heat Generating Systems	1997	1997	3	DCS	01/10/22	Electric unit heater for one or more process spaces - minor maintenance to replace upon failure.
D3030 Cooling Generating Systems	1997	1997	4	DCS	01/10/22	Ventilation cooling only for the electrical room, causing overheating and/or shortened equipment life.
D3040 HVAC Distribution Systems	1997	1997	4	DCS	01/10/22	Minimal ventilation in some areas; others with excessive dirt and debris damaging process equipment and controls.
D3050 Terminal and Package Units	1997	1997	3	DCS	01/10/22	Electric wall heater in office space.
D3060 Controls and Instrumentation	1997	1997	3	DCS	01/10/22	Aging HVAC controls - minor maintenance to replace when associated equipment is renewed.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Equipment Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**3.1**			
D30 HVAC						
D3090 Other HVAC Systems and Equipment	1997	1997	4	DCS	01/10/22	Foul air system serving the centrifuge room, and nearby process systems.
D40 Fire Protection						
D4030 Fire Protection Specialties	1997	1997	3	DCS	01/10/22	Fire extinguishers on hooks.
D50 Electrical						
D5010 Electrical Service and Distribution	1997	1997	3	DCS	01/10/22	Square D 480V, three-phase, 1,200A switchboard supplying adjacent buildings and Square D motor control center (MCC). Four large variable frequency drives (VFDs) with associated harmonic filters for the four large blowers (three 150 hp and one 125 hp).
D5020 Lighting and Branch Wiring	1997	1997	3	DCS	01/10/22	Aging fluorescent lighting with manual control.
D5032 Low Voltage Communication	1997	1997	3	DCS	01/10/22	Aging telephone system - minor maintenance to upgrade.
D5038 Low Voltage Security	1997	1997	4	DCS	01/10/22	Aging CCTV - minor maintenance to upgrade.
D5039 Low Voltage Data	1997	2010	2	DCS	01/10/22	Newer fiber-optic communications for SCADA system.
D5090 Other Electrical Systems	1997	1997	3	DCS	01/10/22	Kohler 250 kW standby diesel generator and automatic transfer switch (ATS); minimal emergency egress pathway and exit door lighting - minor maintenance to add battery-backed wall-packs.
E Equipment and Furnishings						
E10 Equipment						
E1090 Other Equipment	1997	1997	3	DCS	01/10/22	Extensive WWTP primary treatment equipment and support systems - aging but functional.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: Equipment Building

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2023	5	$9,000.00	EA	$45,000	$88,128

Deficient Material: **Doors and Frames**

Pairs of oversized hollow metal doors and frames at end of life due to exposure and use. Hardware failing (locksets, hinges, closers). Constant patch and repair issues.



Remedial Action:

Address corrosion source. Replace all door frames, doors, and hardware. Apply corrosion-resistant industrial coatings.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: Equipment Building

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2025	4,000	$9.00	SF	$36,000	$70,502

Deficient Material: **Roof Covering**

Membrane roofing at end of life. Numerous ongoing leaks reported. Parapet cap flashings heavily corroded.

Remedial Action:

Replace roofing with new membrane. Replace cap flashings. Consider extending corrosive exhaust vents to higher up above roof.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Equipment Building

D3030 Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	1	$8,500.00	LS	$8,500	$16,646

Deficient Material: **Air conditioning**
No mechanical cooling for the electrical room.

Remedial Action:
Install air conditioning (mechanical cooling) for the electrical room.

Action Type:
Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Equipment Building

D3040 HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	4,250	$15.00	SF	$63,750	$124,848

Deficient Material: **Ventilation**

Minimal ventilation in some areas; others with excessive dirt and debris damaging process equipment and controls.

Remedial Action:

Re-engineer the HVAC system to better ventilate the building and eliminate dust, dirt, and debris contamination.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Equipment Building

D3090 Other HVAC Systems and Equipment	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	1	$30,000.00	LS	$30,000	$58,752

Deficient Material: **Foul air system**

Insufficient foul air system resulting in corrosive gas attack on multiple materials.



Remedial Action:

Re-engineer and upgrade the foul air system to properly ventilate the centrifuge room.

Action Type:

Code Issue

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Equipment Building

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	4,250	$7.00	SF	$29,750	$58,262

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Equipment Building

D5010 Electrical Service and Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	4	$30,000.00	EA	$120,000	$235,008

Deficient Material: **Harmonic filters**

Blower harmonic filters are failing; power factory correction modules currently bypassed.



Remedial Action:

Replace blower harmonic filters; noting filters may be failing in part due to dirty components.

Action Type:

Energy Efficiency

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Equipment Building

D5010 Electrical Service and Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	4	$35,000.00	EA	$140,000	$274,176

Deficient Material: **VFDs**
Blower variable frequency drives (VFDs) failing.

Remedial Action:
Replace blower VFDs.

Action Type:
Energy Efficiency



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Equipment Building

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	4,250	$3.00	SF	$12,750	$24,970

Deficient Material: **Fire alarm**
No fire alarm system.

Remedial Action:
Install fire alarm system.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
UV Building

1129 SE Polk Street
Camas, WA 98607

Facility Size - Gross S.F.	3,360
Year Of Original Construction	1997
Facility Use Type	Transfer Station
Construction Type	Medium
# of Floors	1
Energy Source	Electric
Year Of Last Renovation	1997
Historic Register	No



			Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	**2.7**			
Facility Condition Index (FCI)	0.09	**Predicted Renewal Budget 2028 - 2041**	$52,000	$63,000
Current Replacement Value (CRV)	$315,000	**Observed Deficiencies 2022 - 2027**	$1,179,000	$1,215,000
Beginning Budget Year	2022	**Opportunity Total Project Cost**	$92,000	N/A

Facility Condition Summary

A single-story concrete masonry building with membrane roof on metal deck and structure. This facility houses the tertiary filtration and UV treatment, plant water reuse, and effluent pumps.

HVAC includes electric resistance heat and several exhaust fans. No significant plumbing other than plant water system. No fire sprinkler or alarm. The electrical room serves the east campus area, and includes a 250 kW standby diesel generator. Fluorescent lighting and minimal low-voltage systems, other than process control and SCADA.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
UV Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			**2.0**			
A10 Foundations						
A1010 Standard Foundations	1997	1997	2	TRB	01/10/22	Concrete strip footings and stem walls.
A1030 Slab On Grade	1997	1997	2	TRB	01/10/22	Concrete slab on grade.
A20 Basements						
A2020 Basement Walls	1997	1997	2	TRB	01/10/22	Poured in place concrete (large sump).
B Shell			**3.1**			
B10 Superstructure						
B1010 Floor Construction	1997	1997	2	TRB	01/10/22	Metal grate over open channel.
B1020 Roof Construction	1997	1997	2	TRB	01/10/22	Metal deck on metal trusses.
B20 Exterior Closure						
B2010 Exterior Walls	1997	1997	3	TRB	01/10/22	A combination of split-faced concrete masonry units with some smooth face accent banding. Some minor joint cracking and moisture penetration evident. Black algae growth on split-face CMU. Power wash and seal, and monitoring recommended.
B2030 Exterior Doors	1997	1997	3	TRB	01/10/22	Hollow metal doors and frames. Heavily corroded hollow metal door and frames.
B30 Roofing						
B3010 Roof Coverings	1997	1997	4	TRB	01/10/22	Membrane roof appears as expected but nearing end of life.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
UV Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
B Shell			**3.1**			
B30 Roofing						
B3020 Roof Openings	1997	1997	3	TRB	01/10/22	Access hatch, skylights, maintenance equipment access hatches. Skylights are aging.
C Interiors						
C10 Interior Construction						
C1010 Partitions	1997	1997	2	TRB	01/10/22	CMU at motor control center and generator rooms.
C1020 Interior Doors	1997	1997	3	TRB	01/10/22	Hollow metal doors and frames.
C30 Interior Finishes						
C3010 Wall Finishes	1997	1997	3	TRB	01/10/22	Paint.
D Services			**2.5**			
D10 Vertical Transportation						
D1090 Other Conveying Systems	1997	1997	2	DCS	01/10/22	A one-ton mobile lift with powered hoist is present for pump and other heavy equipment service.
D20 Plumbing						
D2090 Other Plumbing Systems	1997	1997	3	DCS	01/10/22	Plant water system.
D30 HVAC						
D3020 Heat Generating Systems	1997	1997	3	DCS	01/10/22	Two electric resistance unit heaters - one larger, one smaller.
D3030 Cooling Generating Systems	1997	1997	4	DCS	01/10/22	Ventilation cooling, including for the motor control center room, which overheats during hot weather.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
UV Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services			**2.5**			
D30 HVAC						
D3040 HVAC Distribution Systems	1997	1997	3	DCS	01/10/22	Ventilation make-up air louvers, and rooftop exhaust fans.
D3060 Controls and Instrumentation	1997	1997	3	DCS	01/10/22	Basic controls for HVAC equipment.
D40 Fire Protection						
D4030 Fire Protection Specialties	1997	1997	3	DCS	01/10/22	Fire extinguisher on hook (confirm).
D50 Electrical						
D5010 Electrical Service and Distribution	1997	1997	2	DCS	01/10/22	Electrical service from 500 kVA 480V exterior pad-mounted utility transformer, underground to main electrical room with 480V, three-phase switchboard with 600A capacity, in turn feeding one large and one small Square D motor control center (MCC). Aging variable frequency drives.
D5020 Lighting and Branch Wiring	1997	1997	3	DCS	01/10/22	T8 fluorescent in sealed fixtures, with manual control.
D5032 Low Voltage Communication	1997	1997	3	DCS	01/10/22	Older telephone - minor maintenance to update.
D5038 Low Voltage Security	1997	1997	4	DCS	01/10/22	Aged CCTV camera at exterior - minor maintenance to update.
D5039 Low Voltage Data	1997	2010	3	DCS	01/10/22	IDF in electrical room with WiFi antenna.
D5090 Other Electrical Systems	1997	1997	3	DCS	01/10/22	Katolight 250 kW standby diesel generator with automatic transfer switch (ATS) at building switchboard; fuel oil storage tank venting may not be to outside as required by code - further investigation is suggested as minor maintenance.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
UV Building

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
E Equipment and Furnishings						
E10 Equipment						
E1090 Other Equipment	1997	1997	3	DCS	01/10/22	Extensive WWTP tertiary process treatment equipment including two disk filters and four UV sections.
F Special Construction						
F10 Special Construction						
F1050 Special Controls and Instrumentation	1997	1997	3	DCS	01/10/22	SCADA system, aging but functional, but due for an upgrade in the near future.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: UV Building

B2010 Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2027	1	$8,000.00	LS	$8,000	$15,667

Deficient Material: **CMU walls**

Some minor joint cracking. Active moisture penetration evident suspected from entering masonry during recent rains. Black algae growth on split face CMU elsewhere.

Remedial Action:

Power wash. seal joints and apply sealant to surface. Monitor for future moisture penetration.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: UV Building

B2030 Exterior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	1	$5,000.00	EA	$5,000	$9,792

Deficient Material: **Doors and Frames**

Significant hollow metal door corrosion.



Remedial Action:

Replace door frame, door, and hardware. Finish with moisture/corrosion resistant industrial metal paint coating.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: UV Building

B3010 Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2025	3,360	$8.00	SF	$26,880	$52,642

Deficient Material: **Roof Covering**
Membrane roof nearing end of life, seams separating.



Remedial Action:
Replace roofing.

Action Type:
Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: UV Building

D3030 Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2023	1	$8,500.00	LS	$8,500	$16,646

Deficient Material: **Air conditioning**

No air conditioning (mechanical cooling) for the motor control center (MCC) room.



Remedial Action:

Install dedicated cooling for the MCC room.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

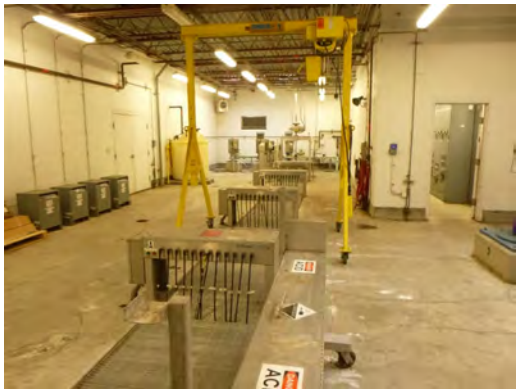
City of Camas
Site: Wastewater Treatment Plant
Facility: UV Building

D4010 Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	3,360	$6.00	SF	$20,160	$39,481

Deficient Material: **Fire Sprinkler**
No fire sprinkler.

Remedial Action:
Install fire sprinkler.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: UV Building

D5010 Electrical Service and Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2025	3	$25,000.00	EA	$75,000	$146,880

Deficient Material: **VFDs**

Reportedly aging variable frequency drives (VFDs) approaching end-of-life and/or obsolescence.



Remedial Action:

Replace aged VFDs.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: UV Building

D5037 Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	5	2022	2022	3,360	$2.50	SF	$8,400	$16,451

Deficient Material: **Fire alarm**
No fire alarm.

Remedial Action:
Install fire alarm.

Action Type:
Life Safety



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: UV Building

E1090 Other Equipment	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	3	$150,000.00	EA	$450,000	$881,280

Deficient Material: **UV**
Three aging UV sections.

Remedial Action:
Replace prior to complete failure.

Action Type:
Other



Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Wastewater Treatment Plant Infrastructure

1129 SE Polk Street
Camas, WA 98607

Facility Condition Summary

This fence enclosed site contains the wastewater treatment plant and operations office serving the city.

City water, on-site sewer direct to waste-water treatment plant (WWTP), private utility natural gas, public utility power, high-speed fiber-optic data, on-site storm water management, and extensive WWTP process structures, equipment, pumps, piping, and controls.

A WWTP process study was completed by HDR in 2015, with update during the City-wide sewer plan of 2020; plus separate 2020 Gray & Osborne (G&O) Inflow & Infiltration (I&I) study in conjunction with National Pollution Discharge Elimination System (NPDES) permit - reportedly, I&I is substantial and represents a significant Operations & Maintenance (O&M) cost reduction opportunity.

Reportedly, Alliant is contracted to provide maintenance services for building facility HVAC (heating, ventilating & air-conditioning) equipment throughout the WWTP, and reportedly has a detailed list of equipment maintained - noting some equipment does not appear to be fully maintained - further investigation is suggested. All direct process equipment, including foul air exhaust, but not general space HVAC, such as general space exhaust fans and make-up air louvers, are maintained by WWTP O&M staff. WWTP staff use Rockwell Automation's "Fiix" CMMS (computerized maintenance management system) for maintenance management.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Wastewater Treatment Plant Infrastructure

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1970	1997	4	TRB	01/10/22	Asphalt drives, entry pavement at entry grates is failing, returning to gravel in some locations, and significantly alligatoring elsewhere.
G2020 Parking Lots	1970	1997	3	TRB	01/10/22	Parking lots with some alligatoring, sealing cracks recommended. Slurry reseal and re-striping occurred in 2017 on a portion.
G2030 Pedestrian Paving	1972	1997	2	TRB	01/10/22	Exterior concrete stairs and railings at buildings.
G2040 Site Development	1972	1997	3	TRB	01/10/22	Perimeter chain link fencing with barbed wire. Picnic bench. Vehicle drive gate operators are failing.
G2050 Landscaping	1972	1972	3	TRB	01/10/22	Trees recently trimmed. Irrigation system is causing problems and requires constant maintenance.
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1972	1997	2	DCS	01/10/22	City water to several buildings, plus aged irrigation system, but no fire sprinkler service to any building. Reclaimed (non-potable) plant water system distributed throughout the site for clean-up, flushing, and wash-down use. City water appears to enter the site at the southwest gate, via a two-inch reduced pressure backflow preventer (RPBP) inside an above grade hot-box.
G3020 Sanitary Sewer	1972	1997	2	DCS	01/10/22	Sanitary waste from served buildings to on-site WWTP.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Wastewater Treatment Plant Infrastructure

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3030 Storm Sewer	1972	1997	3	DCS	01/10/22	On-site storm water management with catch basins to storm water detention and apparent infiltration on the southwest portion of the site, reportedly with overflow to the adjacent Columbia River. Localized flooding in several areas, including at the main entry at the southeast corner of the site - minor maintenance to improve. Reportedly, the wastewater hauler truck dump pad drains to storm, instead of to WWTP influent - minor maintenance to redirect.
G3060 Fuel Distribution	1972	1997	3	DCS	01/10/22	One NW Natural gas rotary meter No. 992137 at northwest exterior wall of the Bio-solids Building, with 5,000 cfh capacity; in turn sub-feeding the adjacent Digester Building, reportedly including SCADA gas sub-metering. Additionally, digester gas is distributed from the Digester Building to both the digester boiler and to the bio-solids dryer, reportedly submetered via SCADA to each of these two buildings. Diesel generator fuel tanks are located under the generators in the Equipment and Bio-solids Buildings.
G40 Site Electrical utilities						
G4010 Electrical Distribution	1972	1997	2	DCS	01/10/22	Clark PUD utility power underground to three 480V, three-phase services: 1) Original (1972) Control Building meter No. 88-677-808, with 800A capacity, but largely no longer utilized, 2) 1997 Equipment Building meter No. 81-463-997 with 1,200A capacity, and 3) 1997 UV Building meter No. 41-401-004 (19214-C34IR3) with 600A capacity. The Equipment Building switchgear powers most of the buildings and plant equipment to west; whereas the UV Building switchgear powers the buildings and plant equipment to east, excepting the Control Building and certain loads sub-fed therefrom. There are two 250 kW diesel generators, located adjacent to the electrical rooms in both the Equipment and UV Buildings, in turn sub-feeding automatic transfer switches (ATS) in past mission-critical buildings, but not the Digester and/or Bio-solids Buildings.
G4020 Site Lighting	1972	1997	3	DCS	01/10/22	Aging high-pressure sodium and/or metal halide exterior lighting - aging but functional with no issues reported.

Copyright MENG Analysis 2022

Facility Summary

City of Camas
Wastewater Treatment Plant
Wastewater Treatment Plant Infrastructure

1129 SE Polk Street
Camas, WA 98607

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G40 Site Electrical utilities						
G4030 Site Communications and Security	1972	2010	2	DCS	01/10/22	High-speed fiber-optic data service to the WWTP site for City network connection; plus separate fiber-optic system linking each building's SCADA cabinet with others. Minimal site electronic security including keypad entry gate control and limited site perimeter CCTV monitoring.
G90 Other Site Construction						
G9010 Service and Pedestrian Tunnels	1972	1997	2	DCS	01/10/22	Extensive vaults, trenches, stairs, and bridges between buildings and large process equipment - no issues reported.
G9090 Other Site Systems	1972	1972	3	TRB	01/10/22	Landscape and equipment storage. Roughly 30' x 30' garage (reroofed in 2019), but functionally obsolescent due to size.

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: Wastewater Treatment Plant Infrastructure

G2010 Roadways	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2024	12,500	$15.00	SF	$187,500	$367,200

Deficient Material: **AC Paving**

Asphalt drive paving is breaking up at the entry, is degrading back into gravel elsewhere, and has significant alligatoring.

Remedial Action:

Grind, prep, and repave main driveway for heavy use vehicle loads.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: Wastewater Treatment Plant Infrastructure

G2040 Site Development	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2026	2	$9,000.00	EA	$18,000	$35,251

Deficient Material: **Vehicle Gate**

Gate operators are at end of life.

Remedial Action:

Replace gate operators. Clean track and adjust gate roller components.

Action Type:

Other



Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility: Wastewater Treatment Plant Infrastructure

G2050 Landscaping	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2025	1	$20,000.00	LS	$20,000	$39,168

Deficient Material: **Irrigation**

Irrigation system is causing problems and requires constant maintenance.



Remedial Action:

Revamp irrigation system and controls, update with current technology for soil humidity and water conservation.

Action Type:

Other

Copyright MENG Analysis 2022

Detailed Assessment - Observed Deficiencies 2022 - 2027

City of Camas
Site: Wastewater Treatment Plant
Facility: Wastewater Treatment Plant Infrastructure

G4030 Site Communications and Security	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
	4	2022	2025	1	$500,000.00	LS	$500,000	$979,200

Deficient Material: **SCADA**

Aging SCADA system.



Remedial Action:

Upgrade to current technology throughout the WWTP.

Action Type:

Other

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Main Office	B30 Roofing	$45,000	$9,000	$10,800	$23,328	$88,128	$94,681
	D30 HVAC	$13,500	$2,700	$3,240	$6,998	$26,438	$27,226
	D40 Fire Protection	$12,390	$2,478	$2,974	$6,423	$24,265	$24,265
	D50 Electrical	$5,337	$1,067	$1,281	$2,767	$10,452	$10,452
	Facility Total	**$76,227**	**$15,245**	**$18,294**	**$39,516**	**$149,283**	**$156,623**
Bio-solids Dryer Building	B20 Exterior Closure	$5,000	$1,000	$1,200	$2,592	$9,792	$10,538
	D20 Plumbing	$9,000	$1,800	$2,160	$4,666	$17,626	$17,886
	D40 Fire Protection	$25,690	$5,138	$6,166	$13,318	$50,311	$50,311
	D50 Electrical	$11,010	$2,202	$2,642	$5,708	$21,562	$21,562
	Facility Total	**$50,700**	**$10,140**	**$12,168**	**$26,283**	**$99,291**	**$100,297**
Control Building	B20 Exterior Closure	$38,000	$7,600	$9,120	$19,699	$74,419	$75,814
	C30 Interior Finishes	$13,000	$2,600	$3,120	$6,739	$25,459	$26,405
	D20 Plumbing	$13,040	$2,608	$3,130	$6,760	$25,538	$26,297
	D50 Electrical	$13,855	$2,771	$3,325	$7,182	$27,134	$27,369
	E20 Furnishings	$36,000	$7,200	$8,640	$18,662	$70,502	$72,073
	Facility Total	**$113,895**	**$22,779**	**$27,335**	**$59,043**	**$223,052**	**$227,958**
Digester Building	B30 Roofing	$32,000	$6,400	$7,680	$16,589	$62,669	$64,535
	D40 Fire Protection	$25,690	$5,138	$6,166	$13,318	$50,311	$50,311
	D50 Electrical	$10,260	$2,052	$2,462	$5,319	$20,093	$20,093
	Facility Total	**$67,950**	**$13,590**	**$16,308**	**$35,225**	**$133,073**	**$134,940**
Equipment Building	B20 Exterior Closure	$45,000	$9,000	$10,800	$23,328	$88,128	$89,430
	B30 Roofing	$36,000	$7,200	$8,640	$18,662	$70,502	$73,675
	D30 HVAC	$102,250	$20,450	$24,540	$53,006	$200,246	$205,078
	D40 Fire Protection	$29,750	$5,950	$7,140	$15,422	$58,262	$58,262
	D50 Electrical	$272,750	$54,550	$65,460	$141,394	$534,154	$541,678
	Facility Total	**$485,750**	**$97,150**	**$116,580**	**$251,813**	**$951,293**	**$968,123**

Copyright MENG Analysis 2022

Deficiency Repair Cost Markups By System 2022 - 2027

City of Camas

Site: Wastewater Treatment Plant

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
UV Building	B20 Exterior Closure	$13,000	$2,600	$3,120	$6,739	$25,459	$26,652
	B30 Roofing	$26,880	$5,376	$6,451	$13,935	$52,642	$55,009
	D30 HVAC	$8,500	$1,700	$2,040	$4,406	$16,646	$16,893
	D40 Fire Protection	$20,160	$4,032	$4,838	$10,451	$39,481	$39,481
	D50 Electrical	$83,400	$16,680	$20,016	$43,235	$163,331	$169,940
	E10 Equipment	$450,000	$90,000	$108,000	$233,280	$881,280	$907,521
	Facility Total	**$601,940**	**$120,388**	**$144,466**	**$312,046**	**$1,178,839**	**$1,215,497**
Wastewater Treatment Plant Infrastructure	G20 Site Improvements	$225,500	$45,100	$54,120	$116,899	$441,619	$456,446
	G40 Site Electrical utilities	$500,000	$100,000	$120,000	$259,200	$979,200	$1,023,258
	Facility Total	**$725,500**	**$145,100**	**$174,120**	**$376,099**	**$1,420,819**	**$1,479,704**
	Site Total	**$2,121,962**	**$424,392**	**$509,271**	**$1,100,025**	**$4,155,650**	**$4,283,142**

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Wastewater Treatment Plant

Total Site Opportunity Cost: $1,243,050

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Main Office**						
System:	**Roofing**	**Total Cost: $10,000**					
B3010	**Roof Coverings**						
		No fall restraint system.	Add fall restraint system.	1.00	$10,000.00	EA	$10,000
Facility:	**Main Office**						
System:	**HVAC**	**Total Cost: $17,790**					
D3040	**HVAC Distribution Systems**						
		Just one single HVAC zone, hence comfort complaints.	Upon replacement of the rooftop unit, upgrade to a multi-zone system.	1,779.00	$10.00	SF	$17,790
Facility:	**Main Office**						
System:	**Electrical**	**Total Cost: $17,700**					
D5020	**Lighting and Branch Wiring**						
		Fluorescent fixtures with manual control.	Upgrade to LED with automatic control.	1,770.00	$7.00	SF	$12,390
D5038	**Low Voltage Security**						
		No apparent electronic security.	Install electronic security per City standard.	1,770.00	$3.00	SF	$5,310
Facility:	**Bio-solids Dryer Building**						
System:	**Plumbing**	**Total Cost: $7,000**					
D2010	**Plumbing Fixtures**						
		No safety shower, eyewash, or hand-wash sink.	Add safety shower, eyewash, and hand-wash sink to improve health and safety.	2.00	$3,500.00	EA	$7,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Wastewater Treatment Plant **Total Site Opportunity Cost: $1,243,050**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Bio-solids Dryer Building**						
System:	**Electrical**	**Total Cost: $175,000**					
D5090	**Other Electrical Systems**						
		No reported backup power.	Install diesel generator with automatic transfer switch (ATS) for standby power.	1.00	$175,000.00	LS	$175,000
Facility:	**Control Building**						
System:	**Exterior Closure**	**Total Cost: $60,000**					
B2010	**Exterior Walls**						
		Uninsulated structure.	Furr out interior and add insulation and painted drywall interior finish.	1,200.00	$50.00	SF	$60,000
Facility:	**Control Building**						
System:	**Plumbing**	**Total Cost: $5,000**					
D2010	**Plumbing Fixtures**						
		No safety shower and eyewash.	Install safety shower and eyewash in process space.	1.00	$5,000.00	LS	$5,000
Facility:	**Control Building**						
System:	**HVAC**	**Total Cost: $40,750**					
D3040	**HVAC Distribution Systems**						
		No cohesive HVAC system - just operable windows and doors and electric resistance unit heaters; no air conditioning (mechanical cooling).	Install cohesive HVAC system to provide mechanical heating, cooling, and ventilation.	1,630.00	$25.00	SF	$40,750
Facility:	**Control Building**						
System:	**Electrical**	**Total Cost: $23,150**					
D5010	**Electrical Service and Distribution**						
		Large, dedicated, and mostly abandoned electrical service, switchboard, and motor control center.	Switch to the east plant service at the UV Building and demolish this increasingly obsolete and mostly utilized service.	1.00	$15,000.00	LS	$15,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Wastewater Treatment Plant

Total Site Opportunity Cost: $1,243,050

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
D5020	**Lighting and Branch Wiring**						
		Aging fluorescent lighting with manual control.	Upgrade to LED with automatic control.	1,630.00	$5.00	SF	$8,150
Facility:	**Digester Building**						
System:	**Roofing**	**Total Cost: $30,000**					
B3010	**Roof Coverings**						
		No fall restraint system.	install fall restraint systems.	3.00	$10,000.00	EA	$30,000
Facility:	**Digester Building**						
System:	**Plumbing**	**Total Cost: $7,000**					
D2010	**Plumbing Fixtures**						
		No safety shower, eyewash, or hand-wash sink.	Add safety shower, eyewash, and hand-wash sink for health and safety.	2.00	$3,500.00	EA	$7,000
Facility:	**Digester Building**						
System:	**Electrical**	**Total Cost: $150,000**					
D5090	**Other Electrical Systems**						
		No standby generator.	Install standby generator and automatic transfer switch (ATS).	1.00	$150,000.00	LS	$150,000
Facility:	**Equipment Building**						
System:	**Roofing**	**Total Cost: $20,000**					
B3010	**Roof Coverings**						
		No fall restraint system.	Install fall restraint tie off anchored to structure.	1.00	$20,000.00	LS	$20,000
Facility:	**Equipment Building**						
System:	**Plumbing**	**Total Cost: $7,000**					
D2010	**Plumbing Fixtures**						
		No permanent safety shower and eyewash.	Install safety shower and eyewash.	2.00	$3,500.00	EA	$7,000

Note: Cost estimates shown are raw construction costs and do not include any mark-ups or escalation.

Print Date: 03/10/22

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Wastewater Treatment Plant **Total Site Opportunity Cost: $1,243,050**

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Equipment Building**						
System:	**Electrical**	**Total Cost: $25,500**					
D5020	**Lighting and Branch Wiring**						
		Aging fluorescent lighting with manual control.	Upgrade to LED with automatic control.	4,250.00	$6.00	SF	$25,500
Facility:	**UV Building**						
System:	**Roofing**	**Total Cost: $20,000**					
B3010	**Roof Coverings**						
		No fall restraint system.	Install fall restraint system.	1.00	$20,000.00	LS	$20,000
Facility:	**UV Building**						
System:	**Plumbing**	**Total Cost: $7,000**					
D2010	**Plumbing Fixtures**						
		No safety shower, eyewash, or hand-sink.	Install safety shower, eyewash, and hand-sink for health and safety.	2.00	$3,500.00	EA	$7,000
Facility:	**UV Building**						
System:	**Electrical**	**Total Cost: $20,160**					
D5020	**Lighting and Branch Wiring**						
		Aging fluorescent lighting with manual control.	Upgrade to LED lighting with automatic control.	3,360.00	$6.00	SF	$20,160

Copyright MENG Analysis 2022

Opportunity Summary By Subsystem

City of Camas

Site: Wastewater Treatment Plant

Total Site Opportunity Cost: $1,243,050

Subsystem		Opportunity	Action	Qty	Unit Cost	Unit	Cost
Facility:	**Wastewater Treatment Plant Infrastructure**						
System:	**Site Electrical utilities**	**Total Cost: $400,000**					
G4010	**Electrical Distribution**						
		Reportedly no standby diesel generator power to the Digester and/or Bio-solids Buildings.	Install additional diesel generator and automatic transfer switches (ATSs) to power all current WWTP equipment; specifically the Digester and/or Bio-solids Buildings and associated process equipment. Assume one 250 kW diesel generator with 72-hour diesel fuel storage tank and ATSs for both buildings.	1.00	$400,000.00	LS	$400,000
Facility:	**Wastewater Treatment Plant Infrastructure**						
System:	**Other Site Construction**	**Total Cost: $200,000**					
G9090	**Other Site Systems**						
		Garage functionally obsolescent due to size.	Construct an additional secure dry storage / repair shop building or addition to the Control building.	1,000.00	$200.00	SF	$200,000

Copyright MENG Analysis 2022

PARKS, RECREATION & OPEN SPACE PLAN

City of Camas

March 2022



Table of Contents

















2. Executive Summary
6. 1: Introduction
12. 2: Community Profile
18. 3: Community Engagement
24. 4: Classifications & Inventory
33. 5: Parks & Trails
70. 6: Open Space & Stewardship
80. 7: Recreation & Events
88. 8: Operations & Maintenance
98. 9: Goals & Objectives
106. 10: Capital Planning & Implementation

Appendices

115. A: Survey Summary
135. B: Online Open House Summary
159. C: Stakeholder Summaries
191. D: Site Observations
213. E: Recreation Trends
227. F: Implementation Tools
237. G: Site Acquisition & Development Guidelines

The Camas 2022 Parks, Recreation & Open Space Plan was adopted by City Council on March 7, 2022.



Photo Cover
Washougal River Greenway

Acknowledgements

City Council

Steve Hogan, Mayor
Marilyn Boerke, Ward 1
Shannon Roberts, Ward 1
Bonnie Carter, Ward 2
Tim Hein, Ward 2
Greg Anderson, Ward 3
Leslie Lewallen, Ward 3
Don Chaney, At-Large, Mayor Pro Tem

Parks & Recreation Commission

Ellen Burton
Katy Daane
David Dewey
Brittany Grahn
Jason Irving
Steve Lorenz
Cassi Marshall

City Staff

Krista Bashaw, Recreation Coordinator
Tammy Connolly, Recreation Coordinator
Trang K. Lam, Parks & Recreation Director
Nick MacQuarrie, Parks Maintenance Lead
Robert Maul, Interim Community Development Director
Cathy Huber Nickerson, Finance Director
Susan Palmer, Recreation Facilities Coordinator
Bryan Rachal, Communications Director
Jeff Swanson, Interim City Administrator
Steve Wall, P.E., Public Works Director

Consultant Team

Conservation Technix, Inc.
JLA Public Involvement
MacKay Sposito, Inc.

2022 PROS Plan

Message from the Director

Core to our city, our community, and our residents are the parks, open spaces, forested lands, and recreational system that you've had a hand in building and growing. These treasured amenities compel stewardship as a core value, create great places, and engage our community to be active and healthy. It has been my great honor to start my tenure as Camas Parks & Recreation Director by working with the community, Parks and Recreation Commission, City Council, Planning Commission, City staff and the consultant team to develop this Parks, Recreation and Open Space Plan that will help guide the City and the Parks and Recreation Department over the next 6+ years to maintain, care for and grow this beautiful system we call home. Please join me on the trail to accomplishing our shared vision for Camas.

Trang K. Lam, Parks & Recreation Director

Executive Summary

The City of Camas owns and manages over 1,000 acres of parks and open spaces, which supports a range of active and passive recreation experiences. The park and recreation system provides developed parks with playgrounds, public waterfront access sites, active recreational facilities for team sports, a skate park and 12 miles of walking paths and trails.



Additionally, recreation facilities and services available within Camas are a major community asset and support the physical, mental and social health of community members. Camas residents can also access additional parks, trails, open spaces and recreational facilities provided by Clark County, the Camas School District, the Port of Camas-Washougal, and the cities of Washougal and Vancouver.

This Parks, Recreation and Open Space (PROS) Plan is a six-year guide and strategic plan for managing and enhancing park and recreation services in Camas. It establishes a path forward for providing high quality, community-driven parks, trails, open spaces and recreational opportunities. The Plan proposes updates to service standards for parks and trails and addresses goals, action items and other management considerations toward the continuation of quality recreation opportunities to benefit the residents of Camas.

Camas is preparing for continued growth, with a forecasted 2035 population of approximately 34,100. New investments in parks and recreation will be necessary to meet the needs of the community, support youth development, expand opportunities for inclusion, provide options for residents to lead healthy, active lives, and foster greater social and community connections.

This Plan was developed with the input and direction of Camas residents. The Plan inventories and evaluates existing park and recreation areas, assesses the needs for acquisition, site development



and operations, and offers specific policies and recommendations to achieve the community's goals. Through a robust and COVID-sensitive community engagement process, the Community feedback can be synthesized into three core, community priorities:

- Maintain what we have,
- Fill gaps and improve trail connections, and
- Develop and improve existing park.

With these key community priorities in mind and thorough data driven evaluation of the system, the following Plan findings and recommendations will help Camas meet its growth sustainably:

Maintain what we have

Mindful stewardship of over 1,000 acres of parks and open spaces will require strengthening of maintenance and operational approaches. Specifically, the Plan recommends the preparation of a system-wide Open Space Management Plan to guide City staff in the care, maintenance and stewardship of open space, along with an Urban Forestry Management Plan to examine the health and coverage of the urban forest. These two plans should define an implementation program that effectively carries out the maintenance and operations strategies outlined in the plans.

Fill gaps and improve trail connections & develop and improve existing parks

The Plan includes a modest acquisition program to secure strategically located sites for future parks and/or trail corridors. To connect Camas' residents to destinations throughout the City and provide healthy and safe options for walking and bicycling, the Plan recommends additional trail development, and trail connections including sidewalk and bike lane improvements, along with coordination with local subdivision and site development projects for smaller scale linkages.

Serving existing and future residents will require improvements to existing parks and additional investments in the park, trail and recreation system. To ensure existing and new parks provide desired recreational amenities and offer safe and accessible opportunities to play and gather, the PROS Plan recommends investments throughout the park system to enhance accessibility, safety and usability of park features. Recommended projects include an all-inclusive play area, water feature, pump track, sport field enhancements and mountain bike trails.

Implementing the Plan

The City has built an amazing system of developed parks, trails and open spaces. Per capita, the Camas community enjoys more park land and trail miles than other similarly sized cities. In the last decade, the City has been fortunate to add nearly 463 acres into its system. Despite flat staffing levels since 2010, developed parks have been well maintained; however, park amenities are aging out of their life cycle and levels of service for maintenance of open space have not kept up with acquisition. The City currently relies on Park Impact Fees (PIF), Real Estate Excise Taxes (REET), grants, donations, and general and special revenue funds to finance individual projects or programs. Periodically updating the existing PIF program, which assesses fees on new development to meet the increased demand for parks, will allow the City to obtain future acquisition and development funding from residential development. Dedicated, new funding will be required to finance maintenance and operations, upgrades to, and growth in the parks system to meet community needs.

The Camas community is reaching a size that will result in greater public demand for major facilities investments such as a recreation center with aquatics programs and a sports field complex, which will require additional public and policy conversations. Bond or levy will be needed to augment existing revenue to support major investments such as parkland acquisitions and development, trail development, recreational facilities, waterfront opportunities and general park element upgrades. Such mechanisms would require both political and public support. State and federal grant programs offer additional potential opportunities to leverage available local revenues to fund specific projects.





CHAPTER 1

A Thriving **CAMAS**



When my kids were young, activities such as the Easter Egg Hunt and Boo Bash were important as was safe, accessible and fun playground equipment. Without children in our household, I'm more interested in trails, both walking and biking.

- Online Open House participant



PURPOSE OF THE PLAN

The City of Camas Parks, Recreation & Open Space Plan (PROS Plan) is an update to the 2014 Parks, Recreation & Open Space Plan that builds on the previously completed planning work and incorporates the feedback from an extensive community engagement process conducted throughout 2021. This Plan creates a vision for a thriving, inclusive, and interconnected system of parks, trails, and open space that promotes recreation, health,



Photo: Paul Newmann

environmental conservation, and fiscal responsibility as integral elements of a thriving, livable Camas.

The PROS Plan serves as a blueprint for the growth, enhancement, and management of the City of Camas park and recreation system and assists in guiding decisions related to planning, acquiring, developing, and maintaining parks, open space, trails, and recreational facilities. This Plan also identifies priorities for recreation programs and special events.

The 2022 PROS Plan provides updated system inventories, demographic conditions, needs analyses, and a comprehensive capital project list. The Plan identifies parks and recreation goals and establishes a long-range plan for the Camas park and recreation system, including action items and strategies for implementation over the next six to ten years. The recommendations in this Plan are based on community input, evaluations of the existing park system, operating conditions, and fiscal considerations.

The PROS Plan is part of the City's broader Comprehensive Plan and is consistent with the guidelines established by the Washington State's Growth Management Act. The PROS Plan, updated approximately every six years, allows Camas to remain current with community interests and retain eligibility for state grants through the Washington State Recreation and Conservation Office (RCO), which administers various grant programs for outdoor recreation and conservation efforts.

Planning Process

This PROS Plan represents the culmination of a year-long planning effort, and it reflects the community's interests and needs for parks, open space, trails, and programming - balanced with the realities of budget considerations. The planning process, which included a variety of public outreach activities, encouraged public engagement to inform the development of the priorities and future direction of Camas' park and recreation system. Community members expressed their interests through surveys, an online open house, stakeholder interviews, focus group discussions, tabling at events, online outreach, Parks and Recreation Commission meetings, and City Council meetings.

In addition to community engagement, the actions identified in this Plan are based on:

- An inventory and assessment of the City's existing park and recreation facilities to establish the system's current performance and to identify needed maintenance and capital repair and replacement projects, and
- Service level and walkability assessments to quantify the system's ability to serve current and future residents.

The Plan's capital facilities section and accompanying implementation and funding strategies are intended to sustain and enhance, preserve, and steward the City's critical parks and recreation infrastructure.

Department Overview

The City of Camas Parks and Recreation Department (Department) provides and manages a wide range of places that provide year-round active and passive recreational opportunities for residents and visitors. The Department develops, operates and maintains:

- 16 developed parks, including Fallen Leaf Lake Park
- A variety of outdoor recreation facilities, ranging from playgrounds and picnic areas to boating and water access points, to sports facilities like the Camas Skate Park and Prune Hill Sports Park
- Three indoor recreation and community gathering facilities – the Camas Community Center, Lacamas Lake Lodge, and Scout Hall
- 12 miles of City trails
- Over 1,060 acres of parks and open space

The Department also provides special events and recreational programs – including sports instruction, arts and crafts, and general education programs – for residents of all ages, often in partnership with local businesses.

Guided by Values

As part of this PROS Plan update, the Parks and Recreation Commission took the opportunity to update the Department's vision and mission statements to reflect current community input. The vision and mission statements, along with the PROS Plan goals, will guide the Department's work in the coming years.

Mission:

Camas Parks and Recreation promotes a healthy and sustainable community by listening and responding to the community's needs and desires, protecting and preserving its natural spaces to improve ecological health, and developing and maintaining parks, trails and recreation programs that are welcoming for all.

Vision:

We envision Camas as a thriving, cohesive community that honors a unique legacy of coordinated parks, trails, natural areas and diverse recreation opportunities highlighted by our lakes, rivers and streams. Stewardship and thoughtful enhancement of these assets ensure a safe, healthy, active and balanced lifestyle for all.

Accomplishments Since the 2014 Plan

The 2014 PROS Plan guided City officials, management, and staff in making decisions about planning, operating, and implementing various parks and recreation services. The following represents a short list of the major accomplishments realized following the adoption of the previous Plan:

- Opened the Lacamas Lake Lodge and Conference Center
- Prepared a site master plan to guide renovations to Fallen Leaf Lake Park
- Completed the first phase of field and site improvements for the Prune Hill Sports Park
- Constructed the Cooper's View Neighborhood Park
- Prepared a site master plan to guide renovations to Crown Park
- Acquired multiple properties along the north shore of Lacamas Lake, also known as Legacy Lands, (165 acres) and forest land at Green Mountain (115 acres)

Parks & Recreation Commission

Additionally, the efforts of the Department are guided by the Parks and Recreation Commission, a seven-member advisory group to the City Council. The Commission meets monthly to provide guidance and give recommendations on policy and issues relating to the delivery of parks and recreation services. The Commissioners are appointed by the Mayor and subject to confirmation by the City Council for three year terms.

Current Challenges

Impacts of the COVID-19 Pandemic

The COVID-19 pandemic and the associated health mandates for social distancing have transformed the way municipalities plan for and conduct public engagement. To develop this Plan, the City implemented a sound public process that was compliant with health mandates by using a range of online tools for communications, engagement and community feedback.

Health mandates related to the pandemic also had dramatic impacts on the City's recreation programming and operations, requiring the temporary closure of some facilities, capacity and use restrictions, and the cancellation of recreation programming. However, with improvements in local caseloads, Camas has now begun to offer in-person recreation programs and community events.

Equity, Inclusivity & Accessibility

Much has been written lately about the subject of equity and inclusion. Maintaining and enhancing social equity across recreational opportunities and facilities should be a core function of municipal park and recreation systems. Through this PROS Plan, the City of Camas made a concerted effort to reach out to and engage its historically underrepresented communities, and the City also invested in a dual language community survey to include Spanish.

Also, portions of the City's parks, trails and open space system were developed before the Americans with Disabilities Act (ADA) was implemented. The conditions assessment identified several deficiencies related to ADA compliance. The City must continue to find ways to provide safe and



equitable access to parks, trails, open space areas, facilities, recreation programs and other services.

Growth & Development

Over the past ten years, Camas has seen rapid population growth, which is expected to continue over the coming decade. More residents and new development will increase the need for recreational spaces and experiences across the city and increase the use of existing parks and facilities. Rapid growth will also intensify existing community needs for safe and accessible walking and biking routes as well as the preservation of open space and natural resources. In response, the City should consider ways to improve recreation facilities and parks to adapt to emerging needs, complete crtical connections in the City's extensive trail network, and proactively aquire or preserve parks and open spaces in strategic areas.

Asset Management

Established park and recreation systems require ongoing maintenance to serve the community safely and effectively. Public recreation providers across the country consider maintaining existing park facilities to be a key management issue. Poorly maintained assets – from benches to playgrounds to pools – can fail, either structurally or operationally, posing safety risks and reducing their recreational value. Aging infrastructure may also fail to meet community expectations or need capital upgrades to adapt to changing community needs. However, recreation providers often struggle to establish adequate funding mechanisms for routine and preventative maintenance and repair of facilities as well as the major rehabilitation and replacement of existing recreation facilities at the end of their useful life.

This Plan includes condition assessments of the City's parks and facilities to provide a baseline of current conditions that then informs facility, maintenance, and operations policies and improvements. Proper maintenance of park and recreation assets will prevent them from deteriorating thereby reducing long-term capital and operating costs, maintaining safety, improving public perception and increasing community use.

Active Older Adults

The City of Camas' relatively older population, low rates of disability among residents over 65, and high rates of participation among residents of all ages, indicate a potential local need for active recreation opportunities for active older adults. Nationwide, active seniors are often looking at retirement age differently, and many are transitioning to new careers, finding ways to engage with their community, and focusing on their health and fitness. To meet the needs of active older residents, the City will need to consider how the City's park and recreation facilities and programming can meet the needs of this growing group.





Guiding Documents

This PROS Plan is one of several documents that comprise Camas' long-range planning and policy framework. Past community plans and other relevant documents were reviewed for policy direction and goals as they relate to parks, open space, trails, and recreation opportunities across Camas.

- Comprehensive Plan Camas 2035
- City of Camas Strategic Plan
- Camas Parks, Recreation and Open Space Plan (2014)
- City of Camas Transportation Plan
- Lacamas Lake Management Plan (under development)
- North Shore Lacamas Lake – A Vision for Conservation and Recreation (2017)
- Lewis & Clark Regional Trail Concept Plan (2020)
- Clark County Conservation Areas Acquisition Plan (2020)
- Clark County Parks, Recreation & Open Space Plan (2020)
- City of Washougal Comprehensive Parks & Recreation Plan (2021)

Contents of the Plan

The remainder of the Camas PROS Plan is organized as follows:

- Chapter 2: Community Profile – provides an overview of the City of Camas and its demographics.
- Chapter 3: Community Engagement – highlights the methods used to engage the Camas community in developing the Plan.
- Chapter 4: Classifications & Inventory – describes the existing park and recreation system.
- Chapter 5: Parks & Trails
- Chapter 6: Open Space & Stewardship
- Chapter 7: Recreation & Events
- Chapter 8: Operations & Maintenance
- Chapter 9: Goals & Objectives – provides a policy framework for the park and recreation system grouped by major functional areas and goal themes.
- Chapter 10: Capital Planning & Implementation – details a 6-year program for addressing park and recreation facility enhancements, maintenance, or expansion projects.
- Appendices: Provides technical or supporting information to the planning effort and includes survey summaries, focus group notes, recreation trends, and funding options, among others.

CHAPTER 2

Community PROFILE

Situated in the eastern, hilly portion of Clark County, the City of Camas offers many amenities for the community including a quaint yet vibrant downtown, First Friday evening family events, a beautiful public library, summer farmer's market on Wednesdays, Lacamas Lake and miles of surrounding trails to walk, and much more.



The City of Camas is located along the Columbia River and State Route 14 in southwestern Washington. Incorporated in 1906, Camas is now home to 26,065 residents. Camas prides itself on its small-town character, vibrant downtown, safe residential neighborhoods, and an abundance of open space and trails.

Most of the City is developed with single family homes interspersed with forested green spaces. The City's historic downtown attracts locals and tourists while major employers, including many high-tech manufacturers, provide employment opportunities for city and regional residents. The City is bordered to the east by the City of Washougal and by the City of Vancouver to the west. Camas is located just 20 miles from downtown Portland, Oregon.

The City of Camas provides a wide range of government services and is dedicated to maintaining the community's family-friendly character while providing sustainable economic growth and preserving the city's access to nature. The City's parks, open spaces, trails, and recreational opportunities are highly valued – for recreation, respite, and their ecosystem values.



I love the walking trails through the natural areas SO MUCH!! Would love to have more of them connected.

- Online Open House participant

Demographic Profile

Camas is a city of over 26,000 residents and has tripled in population over the past thirty years. The city is home to many families with children, see Figure 1. The City's residents are generally very well educated and have higher incomes than other county residents. Many are employed in the education, health care, professional, or manufacturing sectors, including at the multiple technology companies located in Camas. Residents also commute to other areas of the Portland-Vancouver metropolitan region for work.

Figure 1. Population Characteristics: Camas, Clark County, and Washington

Demographics	Camas	Clark County	Washington
Population Characteristics			
Population (2020)	**26,065**	503,311	7,705,281
Population (2010)	**19,355**	426,709	6,724,540
Population (2000)	**12,534**	347,510	5,894,121
Percent Change (2000-20)	**100.0%**	45.0%	31.0%
Persons w/ Disabilities (%)	**9.1%%**	12.3%%	12.7%%
Household Characteristics			
Households	**9,234**	195,036	3,202,241
Percent with children	**45.1%**	33.8%	30.6%
Median Household Income	**$111,584**	$75,253	$73,775
Average Household Size	**2.81**	2.69	2.55
Average Family Size	**3.16**	3.15	3.09
Owner Occupancy Rate	**77.7%**	67.0%	63.0%
Age Groups			
Median Age	**40.2**	38.4	37.7
Population < 5 years of age	**5.6%**	6.2%	6.1%
Population < 18 years of age	**28.5%**	24.3%	22.2%
Population 18 - 64 years of age	**59.6%**	60.7%	62.7%
Population > 65 years of age	**11.9%**	15.0%	15.1%

Sources: Washington Office of Financial Management Population Estimates, 2020
U.S. Census, 2000 Census, 2010 Census, 2015-2019 American Community Survey

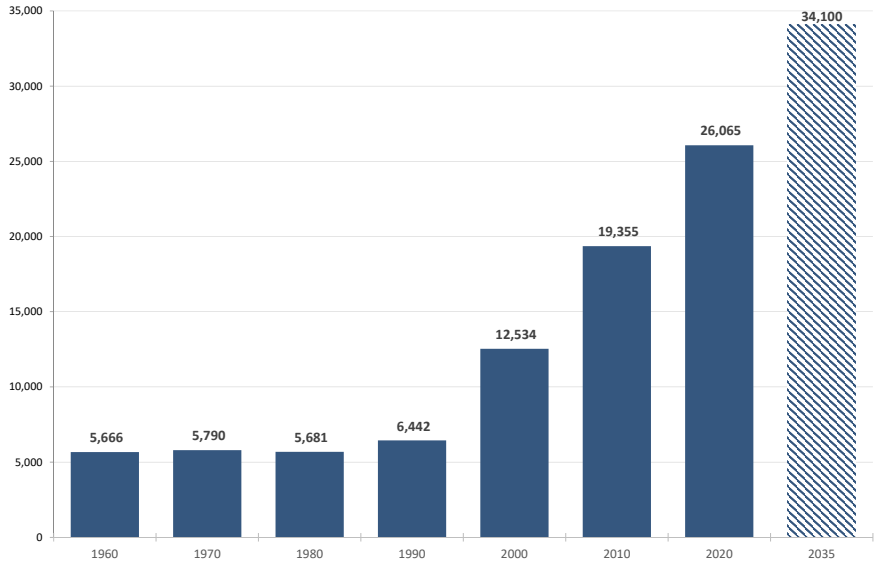
Population and Anticipated Growth

The City of Camas incorporated in 1906 and grew slowly through most of the 20th century, see Figure 2. However, the completion of the Interstate 205 bridge and the opening of Hewlett Packard and Tektronix plants in the mid-1980s spurred rapid growth. Between 1990 and 2000, Camas' population nearly doubled, from 6,442 to 12,534 residents. Continued economic expansion in the technology industry, expansion of the city limits through annexation, and the City's proximity to the growing Portland, Oregon and Vancouver, Washington have spurred steady growth in the past two decades. In 2020, Camas was home to about 26,065 residents and makes up about 5% of the total population of Clark County. Annual population growth has averaged over 5% per year over the past forty years. The Camas 2035 Comprehensive Plan projects that the city will grow to about 34,100 people by 2035, equivalent to about 2.05% annual growth over that period.

In 2020, Camas was home to 9,235 households of which 45% were families with children under 18, and 36% were individuals living alone. The 2019 average household size in Camas was 2.81 people, which is quite a bit larger than that of the county (2.69) and state (2.55).

The size of a community and its anticipated growth over time are key indicators of whether existing park and recreation facilities will be sufficient to meet future needs. Population growth can also result in increased residential density and/or the development of currently vacant land within a city, potentially increasing the need for away-from-home recreation opportunities while simultaneously reducing potential locations for park and open space acquisition. Advanced planning for parks and recreation facilities can help ensure residents can enjoy sufficient, conveniently located parks, open space, and recreation facilities while the community grows and evolves.

Figure 2. Population – Actual and Projected: 1970-2040



Age Group Distribution

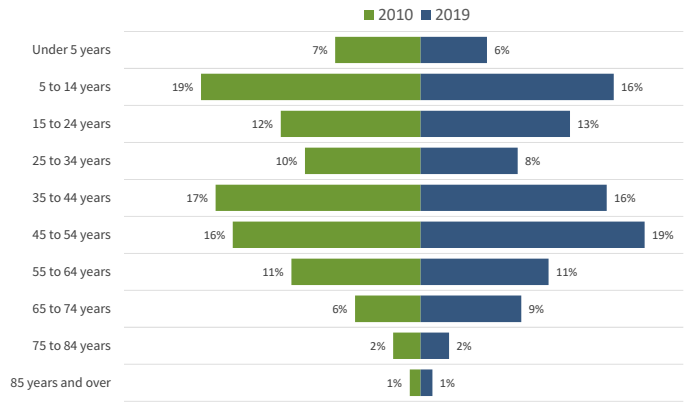
Camas has a median age of 40 (2019), older than that of the county (38.4) and state (37.7). The City also has a relatively high population of families with children (45%). These demographics have important implications for park and recreation needs. Adults between 40 to 59 years old make up the city's largest 20-year population group, comprising 35% of the overall population in 2019, see Figure 3.

- Youth under 5 years of age make up 5.6% of Camas' population, see Figure 3. This group represents users of preschool and tot programs and facilities, and, as trails and open space users, are often in strollers. These individuals are the future participants in youth activities.
- Children ages 5 to 14 years make up current youth program, whole-family program, and event participants. Approximately 16% of the city's population falls into this age range.
- Teens and young adults, age 15 to 24 years, are in transition from youth programs to adult programs and participate in teen/young adult programs where available. Members of this age group are often seasonal employment seekers. About 13% of city residents are teens and young adults.

While just over one-third of residents are youth and young adults up to 24 years of age, 43% are 25 to 54 years old, and 23% are 55 and older.

- Adults ages 25 to 34 years are users of adult programs. Approximately 8% of residents are in this age category. These residents may be entering long-term relationships and establishing families.
- Adults between 35 and 54 years of age represent users of a wide range of adult programs and park facilities. Their characteristics extend from having children using preschool and youth programs to becoming empty nesters. This age group makes up 35% of the city's population.
- Older adults, ages 55 years plus, make up approximately 23% of Camas' population. This group represents users of adult and senior programs. These residents may be approaching retirement or already retired and may be spending time with grandchildren. This group also ranges from very healthy, active seniors to more physically inactive seniors.

Figure 3. Age Group Distributions: 2010 & 2019



Race and Ethnicity

According to the 2019 American Community Survey, Camas residents identified as 84% White, 8% Asian, 6% as two or more races, and less than 1% Black or African American, American Indian or Alaskan Native, Pacific Islander, or another race. Approximately 5% of people identified as Hispanic or Latino of any race. Camas' low level of racial diversity is on par with that of Clark County, where 85% of residents identify as White. Camas' population has become only modestly more diverse over the past decade, see Figure 4.

In 2019, approximately 11% of Camas' population spoke a language other than English at home; Asian and Pacific Island languages and other Indo-European languages comprise the largest non-English language groups. However, less than 3% of residents speak English 'less than very well'. Camas has a smaller percentage of people who speak a language other than English at home than compared to Clark County as a whole (15%).

Nationally, the design and marketing of municipal recreation programs have also historically been biased against serving communities of color. In addition, residents who speak languages other than English may face barriers in finding, accessing, and participating in park and recreation facilities and programs. Camas should consider how it could best provide recreational opportunities, programs, and information that are accessible and relevant to, and meet the needs of, all community members.

Figure 4. Changes in Racial Composition - 2000 to 2019

Racial Identification	2010	2019
White	87.4%	83.6%
Asian	6.0%	8.2%
Two or more races	3.6%	6.0%
Some other race	1.2%	0.4%
Black or African American	1.0%	0.8%
American Indian and Alaska Native	0.6%	0.9%
Native Hawaiian & Other Pacific Islander	0.2%	0.1%
Hispanic or Latino (of any race)	4.1%	4.9%

Persons with Disabilities

The 2019 American Community Survey reported 9.1% (2,092 persons) of Camas' population aged 5 years and older as having a disability that interferes with life activities. This is lower than the county (12.3%) and state average (12.7%). Approximately 8% of residents between 18 and 64 have a disability. Among residents 65 and older, the percentage rises to 25%, which is lower than the percentage found in the general senior population of Washington State (35%).

Planning, designing, and operating a park system that facilitates participation by residents of all abilities will help ensure compliance with Title II of the Americans with Disabilities Act (ADA). In addition to ADA, there are other accommodations that people with disabilities may need to access parks and participate in recreation programs. Camas should consider community needs for inclusive and accessible parks, recreational facilities, programs, marketing, and communications.

Employment & Education

According to the 2019 American Community Survey, the 2019 work force population of Camas was 17,743 (76%). Of this population, 68% is in the labor force, 2% is unemployed, and 32% is not in the labor force. Nearly 60% of employed residents work in a management, business, science, or arts occupation. One quarter of employed residents work the education or health care industries, while another 15% work in the professional/management industries. The manufacturing sector also employs a large percentage of local workers (approximately 13%).

Approximately 29% of Camas residents over age 25 have a bachelor's degree or higher, and 82% have at least some college education. This level of education attainment is higher than that of Clark County and the state (in which 68% and 69% of residents have some college, respectively). Additionally, 95% of city residents have a high school degree or higher, approximately four percentage points higher than the statewide average.

Higher levels of employment and educational attainment positively correlate with both the income and health status of a community – both of which have further impacts on the use and need for park and recreation facilities, as described in the next two sections.

Income & Poverty

A community's level of household income can impact the types of recreational services prioritized by community members, as well as their willingness and ability to pay for recreational services. Perhaps more importantly, household income is closely linked with levels of physical activity. Low-income households are three times more likely to live a sedentary lifestyle than middle and upper-income households, according to an analysis of national data by the Active Living by Design organization.

In 2019, the median household income in Camas was $111,584. This income level was about 50% higher than the median income for Clark County ($75,253) and Washington households ($73,775).

Higher income households have an increased ability and willingness to pay for recreation and leisure services, and they often face fewer barriers to participation. Approximately 56% of city households have incomes in the higher income brackets ($100,000 and greater), which is significantly more than across the state (36%).

At the lower end of the household income scale, approximately 6% percent of Camas households earn less than $25,000 annually, significantly fewer than households in Clark County (13%), the State of Washington (15%), and across the United States (23%). In 2019, less than 2% of the city's families were living below the poverty level, set at an income of $25,750 for a family of four. This percentage is lower than the countywide (approximately 5.8%) and statewide (7%) levels. Poverty affects 3% of youth under 18 and 4% of those 65 and older.

Generally, lower-income residents may face barriers to physical activity, including reduced access to parks and recreational facilities, a lack of transportation options, a lack of time, and poor health. Low-income residents may also be less financially able to afford recreational service fees or to pay for services, such as childcare, that can make physical activity possible.

Health Status

The overall health of a community's residents can impact their ability to participate in recreation and other physical activity and may also reflect, in part, the locality's level of access to appropriate and convenient green spaces, recreation opportunities, and active transportation facilities.

Information on the health of Camas residents was not immediately available. However, according to the County Health Rankings, Clark County ranks in the highest quartile of Washington counties for health outcomes, including length and quality of life.

Clark County residents also rank as some of the healthiest residents in Washington (high middle quartile) when it comes to health behaviors. Only 18% of Clark County adults ages 20 and older report getting no leisure-time physical activity – on par than the statewide average of 17%. This may be due, in part, to the large number of places to participate in physical activity, including parks and public or private community centers, gyms, or other recreational facilities. Over 96% of residents in Clark County have access to adequate physical activity opportunities, more than the 88% average for all Washington residents. However, approximately 29% of Clark County adults are overweight or obese, compared to 27% of Washington adults.

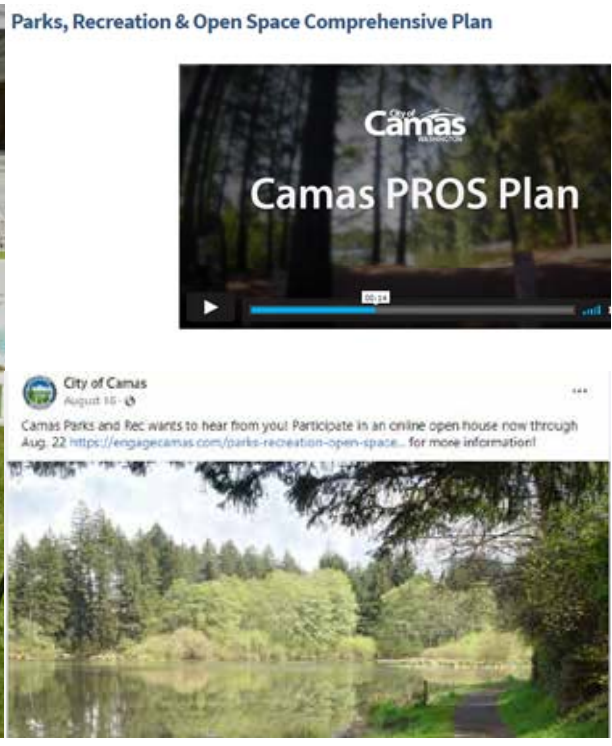
CHAPTER 3

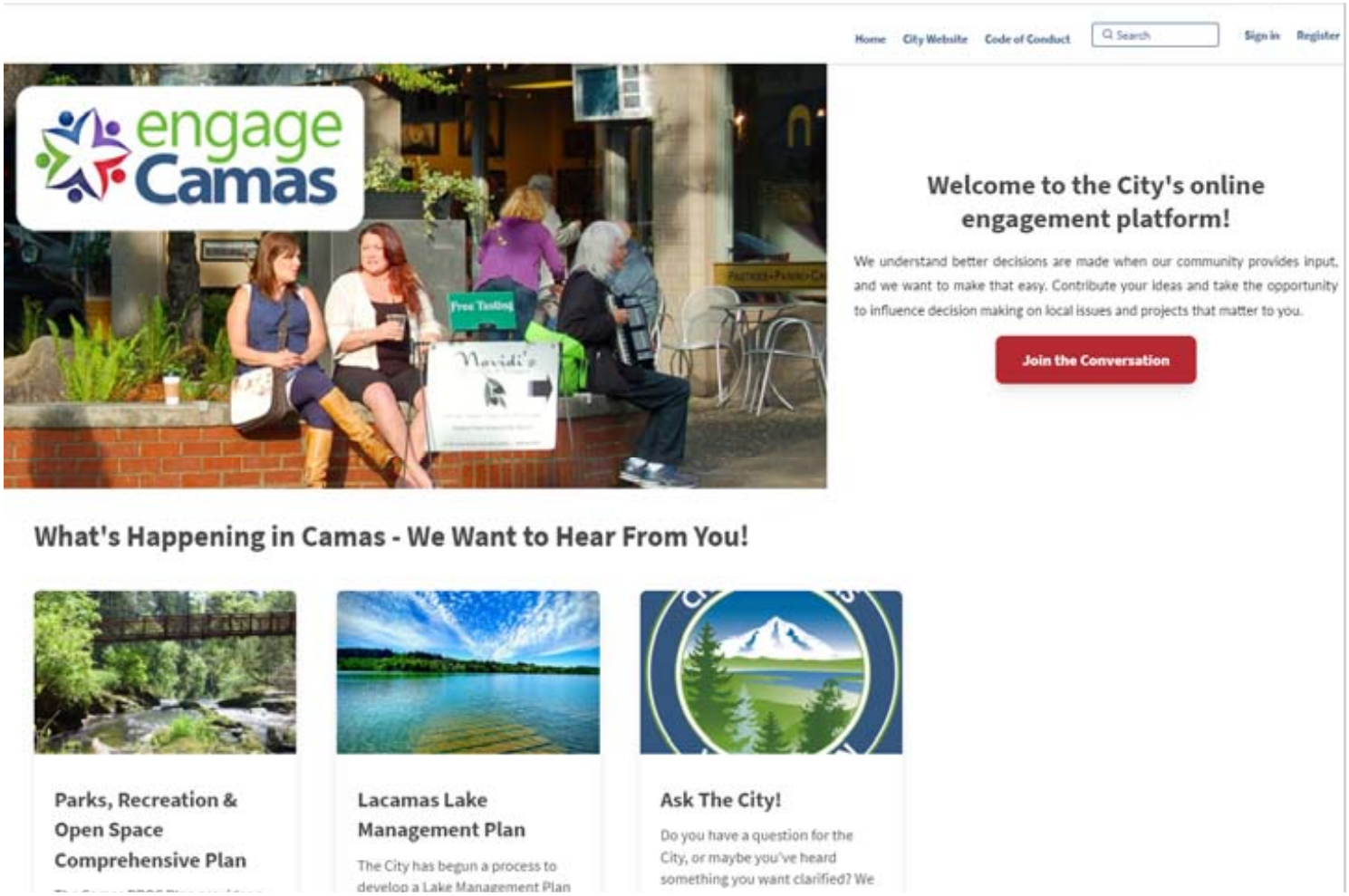
Community **LISTENING**

Community engagement played an essential role in developing the 2022 PROS Plan. Although the planning process occurred during the COVID-19 pandemic, numerous efforts were made to connect with the community, seek their input and provide information about the project. Public outreach methods were varied and extensive, including:

- Random-sample mail survey
- Online community-wide survey in English and Spanish
- Two online open houses
- Stakeholder group discussions
- Individual stakeholder interviews
- Tabling and outreach at multiple community events
- Meetings with the Parks and Recreation Commission, Planning Commission and City Council
- Camas city website and Engage Camas online forum with interactive mapping tool, plan information and feedback opportunities
- Multiple social media postings, email blasts







Over 1,700 participants provided insights on current community preferences and priorities.

Community Survey

A community-wide, online survey was conducted to assess the recreational needs and priorities of Camas residents. The City mailed 2,500 surveys to randomly chosen households in Camas on May 29, 2021, of which 509 surveys were completed and returned. Online versions of the survey in English and Spanish were posted to the City's website on June 4, 2021. An additional 874 surveys in English and two in Spanish were completed from the general, community-wide online surveys. In all, 1,385 surveys were completed.

Information about the survey was provided on the City's website and on the Engage Camas site for the PROS Plan project. It was promoted via public meeting announcements, multiple social media postings, city email blasts and an email blast through Camas School District mailing list. Print copies were made available at the Camas Library and the Camas School District Family Community Resource Center. Also, signage and flyers with QR codes were placed at numerous parks and local businesses.

The survey measured current levels of satisfaction and which facilities were primarily being used by residents. Residents were asked about future improvements and the types of recreational amenities they would like to see considered for the park system. Survey respondents were asked about:

- Performance and quality of programs and parks
- Usage of city parks and recreation facilities
- Overall satisfaction with the value of services being delivered by the city
- Opinions about the need for various park, recreation, and trail improvements
- Preference for learning about programs
- Priorities for future park and recreation services and facilities, including revenue generation and other funding tools

Significant survey findings are noted below, and a more detailed discussion of results can be found in the needs assessment chapters covering parks, open space, recreation, and trails (Chapters 6 - 8).

Major Survey Findings:

- **Livability:** Nearly all respondents (97%) feel that public parks and recreation opportunities are important or essential to the quality of life in Camas.
- **Usage:** Park visitation is high, with 88% of respondents visiting parks or recreation facilities at least once a month. The most popular activities are walking or running (80%), followed by fitness and exercise (70%), and relaxation (56%).
- **Park Amenity Priorities:** More than three in four respondents are very or somewhat supportive of adding walking trails (87%), updated (75%) and accessible (75%) playground features, and more picnic shelters (74%) to the City's existing parks. A plurality of survey respondents think that Camas does not have enough walking and biking trails (46%).
- **Recreation Facilities & Programming:** Respondents to both the mail and online survey ranked maintaining existing parks, expanding trail opportunities, building new parks, and acquiring land for future parks as their top priorities. More than half of survey respondents felt the City needed more outdoor adventure summer camps, teen activities, adult wellness classes, and programs for adults over 55.

The complete survey summary is provided in Appendix A.

Online Open House #1

The City hosted an online open house to share information about the Camas Parks, Recreation and Open Space (PROS) Plan Update with the public and dive deeper into survey responses to explore more about which park and recreation programs, services and facilities are important to them. More than 130 people visited the online open house from July 29 and August 22, 2021, and 74 community members provided responses in the online open house. The online open house was promoted via social media posts, community event tabling, email blasts and public meeting announcements.

Major Online Open House Findings:

- After-school and summer day camps, outdoor adventure camps and youth sport programs were strongly supported by respondents.
- Top park improvement priorities included building new parks on city-owned land, installing a splash pad and building additional shared-used trails.
- Other top improvements included acquiring and developing trail corridors to fill gaps and providing an off-leash dog area.

A summary of responses to the online open house is provided in Appendix B.

Stakeholder Discussions

COVID-sensitive, online focus group discussions and individual interviews with external stakeholders were conducted to more broadly assess local needs and opportunities for partnership and coordination. Stakeholders were identified by city staff based on their past coordination, their involvement, or interest in the future of recreation, park, athletic or trail facilities. The group-based discussion sessions were conducted via Zoom and occurred between July 2020 and September 2021. Representatives from the following organizations participated:

Summary meeting notes from each focus group session are provided in Appendix C.

Figure 5. Stakeholder Group Participants

Mountain Bike & Pump Track Advocates		Sport Field User Groups
■ Evergreen Mountain Bike Alliance ■ Camas Bikes ■ Local resident advocates ■ Portland Parks & Recreation		■ Camas Little League ■ Camas Lacrosse
Underrepresented Users Group		**Bike & Pedestrian Trail Users Group**
■ Clark County Commission on Aging ■ Clark County Community Services ■ Washington State School for the Blind ■ SW Washington Center of the Deaf and Hard of Hearing ■ Hispanic Metropolitan Chamber of Commerce of SW Washington		■ Evergreen Mountain Bike Alliance ■ Camas Ivy League ■ All Weather Walkers ■ Washington Trails Alliance ■ Local volunteers
Public Agencies Group		**Individual Interviews**
■ City of Washougal ■ City of Vancouver ■ Clark County ■ Port of Camas-Washougal		■ Former City Administrator ■ Former Mayor ■ Local Land Development Representative ■ Downtown Camas Association

Engage Camas Online Forum

The City of Camas has implemented an integrated online engagement platform to their city website, called Engage Camas. The PROS Plan was a highlighted city project on Engage Camas, which included information about the plan update and public process, a video introducing the project, periodic updates and interim project documents, such as presentation materials and summaries from community outreach. Engage Camas was also a primary forum for community members to offer direct feedback, comments and questions. The PROS Plan page was maintained and updated through the duration of the project.

Online Interactive Mapping

On the Engage Camas project page, the public was provided an interactive map of Camas and given the opportunity to share which parks, trails, and open spaces they currently visit in Camas; where they think improvements need to be made; and what new things they would like to see offered in Camas' park system. Eleven unique users submitted a total of 22 comments. A highlight of some of the comments follows:

- Replace the play equipment at Grass Valley Park
- Provide parking on the north side of Lacamas Lake
- At Crown Park, consider new/updated programming to tie in with programs/activities to be offered at new Garfield Performing Arts Center, splash pad or kids pool, new restroom
- Consider a splash pad or community fountain, parking lot and picnic tables at Fallen Leaf Lake

Community Event Tabling

This section summarizes the feedback received at the three tabling events held in July and August to build awareness of the PROS Plan Update and share information about the project. Approximately 50 people were engaged at these events. Tabling was held at the following times and places:

- July 31st at Heritage Park from 10 a.m.-12 p.m. and 1 p.m. - 2 p.m.
- August 17th at Concert in the Park from 6:30 p.m. - 8:30 p.m.
- August 18 at Camas Farmer's Market from 3 p.m. - 7 p.m.

Community comments ranged from concerns about water quality at the lakes, to interest in an expanded trail network, to specific park improvements and enhanced communications from the City.

Online Open House #2

The City hosted a second online open house to share information and seek feedback on the public draft of the PROS Plan in January 2022. The online open house garnered a total of 136 survey responses and 923 site visits. The majority of participants (68%) believe the PROS Plan is on the right track. The two most common requests were for a bike park/pump track and new sports fields. Many respondents would like off road/mountain biking trails and turf and/or lights added to sport fields. A few other notable requests include adding a pool, creating more trail connections, and adding more bike lanes and trails.

Parks & Recreation Commission Meetings

The Parks and Recreation Commission provided feedback on the development of the PROS Plan during five regularly scheduled public sessions. The first session occurred on April 28, 2021, immediately after the planning project was initiated. The Commission discussed the update and provided their perspectives on a vision for the system, specific challenges, opportunities, and ideas about parks, trails and programs. The Commission spent significant effort reviewing and commenting on the PROS Plan public process, project priorities, and system-wide goals and strategies to implement improvement projects. Subsequent sessions in July, September (joint with Planning Commission), October, December 2021 and January 2022 (joint with Planning Commission) were used to review public feedback and solicit direction from the Commission on priorities and recommendations for the new PROS Plan.

Other Outreach

In addition to the direct outreach opportunities described above, the Camas community was informed about the planning process through a variety of media platforms. The following methods were used to share information about the project and provide opportunities to participate and offer comments:

- City website home page
- PROS Plan project page on Engage Camas
- Email blasts to the Parks and Recreation distribution list
- Social media: Twitter & Facebook
- Media releases
- Announcements at Council and Parks & Recreation Commission public meetings
- Announcements at Stakeholder Focus Group meeting



BENEFITS OF PARKS, RECREATION & OPEN SPACE

A number of organizations and non-profits have documented the overall health and wellness benefits provided by parks, open space and trails. The Trust for Public Land published a report called *The Benefits of Parks: Why America Needs More City Parks and Open Space*. This report makes the following observations about the health, economic, environmental, and social benefits of parks and open space:

- Physical activity makes people healthier.
- Physical activity increases with access to parks.
- Contact with the natural world improves physical and psychological health.
- Value is added to community and economic development sustainability.
- Benefits of tourism are enhanced.
- Trees are effective in improving air quality and assisting with stormwater control.
- Recreational opportunities for all ages are provided.



Physical Activity Benefits

Residents in communities with increased access to parks, recreation, natural areas and trails have more opportunities for physical activity, both through recreation and active transportation. By participating in physical activity, residents can reduce their risk of being or becoming overweight or obese, decrease their likelihood of suffering from chronic diseases, such as heart disease and type-2 diabetes, and improve their levels of stress and anxiety. Nearby access to parks has been shown to increase levels of physical activity. According to studies cited in a 2010 report by the National Park and Recreation Association, the majority of people of all ages who visit parks are physically active during their visit. Also, the Centers for Disease Control and Prevention (CDC) reports that greater access to parks leads to 25% more people exercising three or more days per week.



Community Benefits

Park and recreation facilities provide opportunities to engage with family, friends, and neighbors, thereby increasing social capital and community cohesion, which can improve residents' mental health and overall well-being. People who feel that they are connected to their community and those who participate in recreational, community and other activities are more likely to have better mental and physical health and to live longer lives. Access to parks and recreational facilities has also been linked to reductions in crime, particularly juvenile delinquency.



Economic Benefits

Parks and recreation facilities can bring positive economic impacts through increased property values, increased attractiveness for businesses and workers (quality of life), and through direct increases in employment opportunities.

In Washington, outdoor recreation generates $26.2 billion in consumer spending annually, $7.6 billion in wages and salaries, and $2.3 billion in state and local tax revenue. Preserving access to outdoor recreation protects the economy, the businesses, the communities and the people who depend on the ability to play outside. According to the Outdoor Recreation Economy Report published by the Outdoor Industry Association, outdoor recreation can grow jobs and drive the economy through management and investment in parks, waters and trails as an interconnected system designed to sustain economic dividends for citizens.

CHAPTER 4

Classifications & INVENTORY

Need to provide facilities for additional outdoor activities that create community connection and activity. With the number of sporting families, Camas lacks facilities that other communities provide.
- Online Open House participant



The City of Camas manages over 1,000 acres of parks and open space lands, providing several public waterfront access sites, active recreational facilities for team sports, several playgrounds, more than 12 miles of walking paths and trails, picnic areas, and hundreds of acres of natural forest lands.

PARKLAND CLASSIFICATIONS

Parkland is classified to assist in planning for the community's recreational needs. The classifications also reflect standards that inform development decisions during site planning, in addition to operations and maintenance expectations for the level of developed facilities or natural lands. The Camas park system is composed of a hierarchy of various park types, each offering recreational opportunities and natural environmental functions. Collectively, the park system is intended to serve the full range of community needs.

Each park classification defines the site's function and expected amenities and recreational uses. The classification characteristics serve as general guidelines addressing the size and use of each park type. The following six classifications are used in Camas' park system.

Neighborhood Parks



Neighborhood parks provide close-to-home recreation opportunities. These parks provide both active and passive recreation opportunities for people living within approximately one-half mile of the park. Typical facilities found in a neighborhood park include playground equipment, picnic areas, open grass areas for passive use, outdoor basketball court, and multi-use open grass area for field sport practice. Dorothy Fox Park and Cooper's View Park are examples of typical neighborhood parks in Camas.

Neighborhood parks should be located and designed based on the scale and type of surrounding uses. During site master planning, parks in locations with higher residential density should be designed with more resilient features and facilities that can withstand more intensive use.

Site Selection & Design:

- Neighborhood park sites should be 5 to 10 acres in size. The minimum size for neighborhood parks is 3 acres when land constraints do not allow a larger site.
- At least 50% of a neighborhood park site should be suitable for active uses.
- The site should have good visibility from surrounding streets and have a minimum of 200' of street frontage.
- The site should be relatively central to the area it is intended to serve (within about ½ mile of the intended users).
- The site should be accessible by walking, bicycling, or driving. Connections to the community trail network should be provided, where possible, to facilitate walking and bicycling. Sidewalks should be provided.
- Regional-scale facilities (e.g., large sports complex, community center, etc.) should not be provided







Community Parks



Community parks are larger parks, typically between 10 and 30 acres, that provide a wide variety of recreation opportunities that appeal to the entire community. Typically, these sites are designed for active recreation, supported by facilities such as sport fields, outdoor courts, skate parks and recreation centers. Community parks can accommodate large numbers of people and offer a wider variety of facilities than neighborhood parks, such as disc golf, volleyball, tennis courts, dog parks, and group picnic areas. These parks also may serve as destination for access to water and large community events, and they may include significant natural areas and trails. For this reason, community parks require more support facilities, such as off-street parking and restrooms. Community parks can also serve as local neighborhood parks for their immediate areas, and they may be connected to schools or other community facilities. Prune Hill Sports Park and Crown Park are examples of community parks.

Site Selection & Design:

- Community park sites should be 10 to 30 acres in size. The minimum size for community parks is 6 acres when land constraints do not allow a larger site.
- At least 30% of a community park site should be suitable for active uses.
- The site should have good visibility from surrounding streets and provide parking and restrooms.
- The site should be accessible by walking, bicycling, or driving. Connections to the trail network should be provided, where possible, to facilitate walking and bicycling. Sidewalks should be provided.
- Community parks should accommodate diverse active-use recreation, such as sport fields, sport courts and large playgrounds.

Regional Parks



Regional parks may be provided by Camas and also are provided by Clark County - serving residents from throughout Clark County and beyond. Regional parks are usually larger than 50 acres in size and provide opportunities for diverse recreational activities. Facilities may include sports fields, extensive trail systems, or large picnic areas. In addition, regional parks often include passive recreation space and unique features, such as significant natural areas or access to lakes or rivers.

Site Selection & Design:

- Regional park sites should be 50 to 200 acres in size. There is no minimum size for regional parks, since the size of the site relates to the uniqueness of the landscape or recreational experience provided.
- Regional parks should provide parking and restrooms.
- The site should be accessible by walking, bicycling, or driving. Connections to the trail network should be provided, where possible, to facilitate walking and bicycling.
- Regional parks may accommodate active-use recreation and/or passive uses such as trail walking or wildlife viewing. Specialized regional amenities may be provided, such as mountain biking trails, equestrian trails, and water access (e.g., boat ramps & docks).

Special Use Areas



Special use areas are sites that are occupied by a specialized facility or that fulfill a specialized purpose. Some uses that fall into this park type include waterfront parks, pools, boat ramps, interpretive centers, botanical gardens, community gardens, single purpose sites used for a particular field sport or sites that offer indoor recreation opportunities. Fallen Leaf Softball Field, Lacamas Lodge and the Camas Community Center are examples of special use areas in Camas.

Site Selection:

- Site size should be adequate to support the proposed specialized use, as well as necessary supporting facilities, including parking, stormwater management, etc.
- Site selection criteria will be dependent on the specific specialized use proposed, and may include criteria determined through an economic feasibility study.
- The site should be accessible from the community-wide trail system.
- Prior to the addition of any special use areas, the City should prepare a detailed cost/benefit analysis and maintenance impact statement for each proposed site being considered.

Natural Open Space



Natural open space is defined as undeveloped land primarily left in its natural form with passive recreation use as a secondary objective, such as trails. This type of land often includes wetlands, steep hillsides, or other similar undevelopable spaces. In some cases, environmentally sensitive areas are considered as open space and may include wildlife habitats, stream and creek corridors, or unique and/or endangered plant species. There are currently a number of natural open space areas in Camas, and the Ostensen Canyon Greenway and the Prune Hill South Open Space are examples of natural open space.

Site Selection:

- Site size should be based on natural resource and connectivity needs.
- Public use of natural open space sites should be encouraged through trails, viewpoints, and other features, but environmentally sensitive areas should be protected.
- The site should have access to a public street, to public land, or contribute to the planned open space network.
- Features in natural open space areas should be limited to those appropriate for the numbers and types of visitors the area can accommodate, while retaining its resource value, natural character, and the intended level of solitude.

Cemetery

The Camas Cemetery is an important historic and aesthetic resource for the City of Camas. Located adjacent to Lacamas Park, the cemetery is a unique, special facility and component of the park and open space system that provides a peaceful resting place and a quiet splace for reflection. The City took over the operations of the cemetery in 2007.

Park & Open Space Inventory

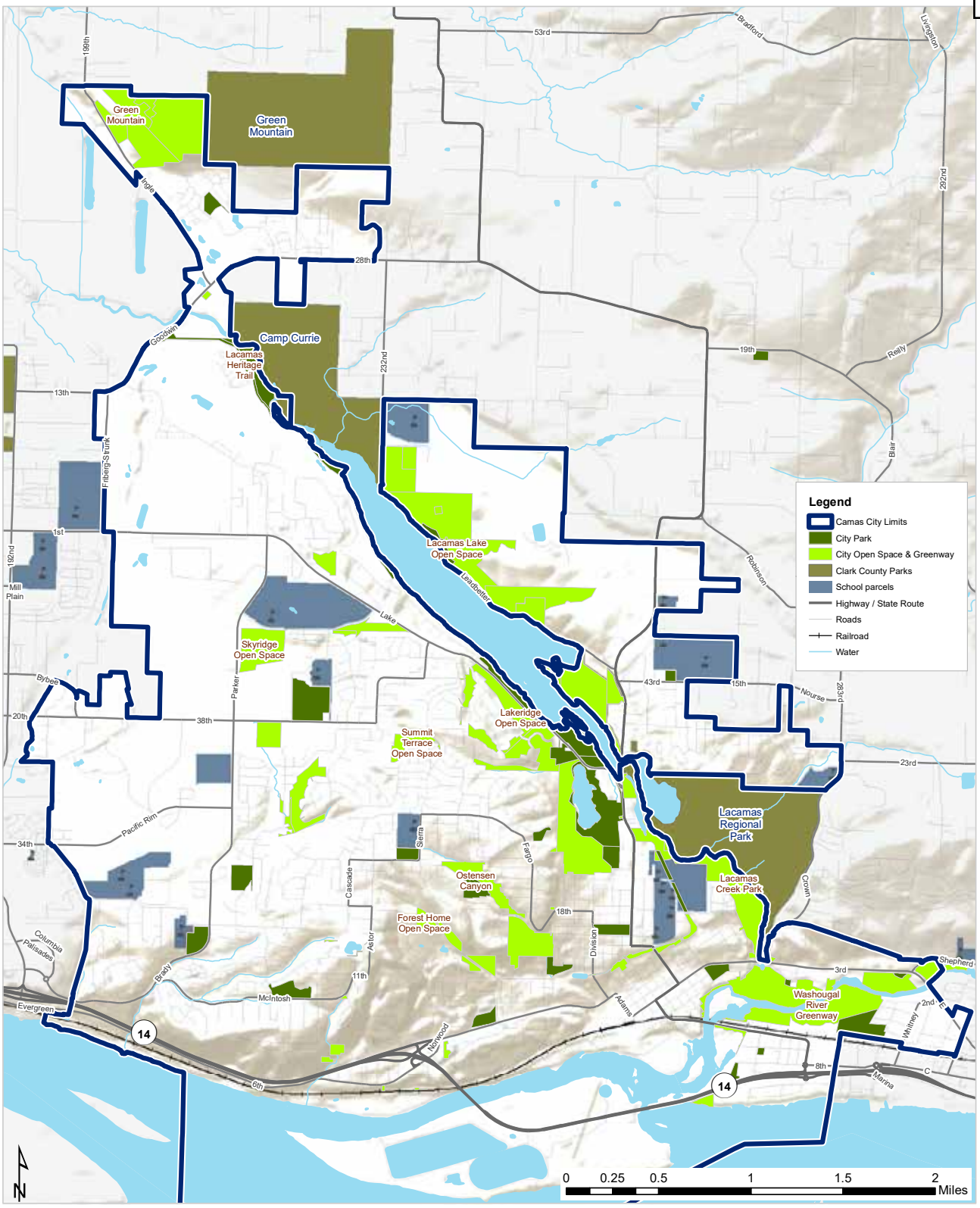
The park and open space inventory identifies the recreational assets within Camas. The City provides 1,068 acres of public parkland distributed among 59 parks and natural area properties, see Figure 6 and 7.

Figure 6. Existing Inventory of City Park & Natural Areas

Name	Classification	Status	Acreage
Fallen Leaf Lake Park	Regional Park	Developed	54.8
Green Mountain	Regional Park	Undeveloped	114.2
		Subtotal	**169.0**
Crown Park	Community Park	Developed	7.3
Grass Valley Park	Community Park	Developed	25.0
Goot Park	Community Park	Developed	5.8
Heritage Park	Community Park	Developed	12.8
Prune Hill Sports Park	Community Park	Developed	9.0
		Subtotal	**59.7**
Ash Creek Park	Neighborhood Park	Undeveloped	9.7
Benton Park	Neighborhood Park	Developed	2.2
Coopers View Park	Neighborhood Park	Developed	2.5
Dorothy Fox Park	Neighborhood Park	Developed	5.0
Forest Home Park	Neighborhood Park	Developed	4.7
Green Mountain Neighborhood Park	Neighborhood Park	Developed	5.3
Klickitat Park	Neighborhood Park	Developed	8.8
Lacamas Heights Park	Neighborhood Park	Undeveloped	2.3
Louis Bloch Park	Neighborhood Park	Developed	5.0
Oak Park	Neighborhood Park	Developed	2.5
Ostensen Canyon Park	Neighborhood Park	Undeveloped	8.2
		Subtotal	**56.2**
Baz Park	Special Facility	Developed	0.6
Camas Community Center	Special Facility	Developed	0.9
Downtown Community Garden	Special Facility	Developed	0.1
Fallen Leaf Softball Field	Special Facility	Developed	6.0
Lacamas Lake Lodge & Conference Center	Special Facility	Developed	4.8
Leadbetter House	Special Facility	Undeveloped	3.0
Pomaria House	Special Facility	Undeveloped	3.0
Skate Park	Special Facility	Developed	0.9
		Subtotal	**19.4**
Heritage Trail	Trail / Linear Park	Developed	30.9
Mill Ditch Trail	Trail / Linear Park	Undeveloped	1.7
Renaissance Summit Trail Access	Trail / Linear Park	Undeveloped	0.4
		Subtotal	**33.0**
Camas Cemetery	Cemetery	Developed	25.4
		Subtotal	**25.4**
		TOTAL PARKS & GREENSPACE	**1,068.0**

A listing of existing City open space and greenways follow in Figure 7. Detailed descriptions of the City's parks and natural areas is provided in Appendix D.

The following map shows the location of existing parks and natural areas within the City.



Map 1: Existing Parks & Open Spaces

PAGE LEFT INTENTIONALLY BLANK

Figure 7. Existing Inventory of City Greenways & Natural Areas

Name	Acreage
6th Ave Open Space	0.6
Columbia River Open Space	2.8
Columbia View Terrace Open Space	0.2
Crown Road Open Space	1.4
Fallen Leaf Open Space	52.3
Forest Home Open Space	19.7
Goodwin Road Open Space	0.8
Grass Valley Open Space	11.3
Lacamas Creek Open Space	10.6
Lacamas Creek Park	50.9
Lacamas Lake Open Space	169.3
Lake Road Open Space	7.0
Lakeridge North	33.3
Lakeridge Open Space	26.2
Meadows Open Space	3.4

Name	Acreage
Mill Ditch Open Space	9.1
Mills Open Space	31.6
Ostensen Canyon Greenway	50.3
Prune Hill Slope Open Space	19.1
Prune Hill South Open Space	3.9
Renaissance Summit Open Space	0.3
Skyridge Open Space	29.6
Summit Terrace Open Space	12.3
Sunningdale Open Space	1.7
Tidland Heights Open Space	1.5
Top Fallen Leaf Open Space	0.4
Triangle Open Space	9.4
View Ridge Open Space	0.3
Washougal River Greenway	135.7
Wildlife League	10.3
Subtotal	**705.3**

Other Recreational Opportunities Near Camas

The ownership and management of recreational resources in the larger Camas region involves several public agencies. Facilities include parks, trails, boat launches, and other attractions. Though some of these facilities are not located within city limits, their close proximity to residents of Camas makes them important components of the broader recreation ecosystem.

Homeowner Associations

Numerous homeowner associations (HOA) across Camas include open space tracts, and some include small pocket parks serving HOA residents. In all, HOA properties include 385 acres of open space and 43 acres of pocket parks.

School Districts

The Camas School District operates 19 school sites across Camas and, via use agreements, makes certain fields and gymnasiums available for community use by youth sport leagues. Evergreen School District borders Camas to the west and also makes sport fields and gymnasiums available for community use.

Clark County

Clark County provides and maintains a system of regional parks, special facilities, regional trails, greenways and natural areas, in addition to neighborhood and community parks and sports fields in or proximate to the Vancouver urban unincorporated area. The park and open space inventory identifies the recreational assets within the county. The county provides 3,325 acres of public parks and recreation facilities distributed among 88 sites, along with an additional number of greenway parcels that comprises over 3,135 acres of conserved public open space. Within and near Camas, Clark County manages Lacamas Regional Park, Camp Currie, Green Mountain, and Harmony Sports Complex.

Port of Camas-Washougal

The Port of Camas-Washougal provides several recreation opportunities for the greater Camas community.

- Captain William Clark Park at Cottonwood Beach is an 85-acre park that includes walking paths, paved parking, picnic tables, covered cooking areas, a

recognition plaza, three restroom buildings, and replicas of Chinookan canoes and Lewis and Clark's dugout canoes. A two-mile trail on top of the levee at the north side of the Park offers opportunities for hiking, jogging, biking, and horseback riding.

- The 3-mile Lewis and Clark Heritage Trail follows the Columbia River from Steamboat Landing Park to the border of the Steigerwald Lake National Wildlife Refuge. This has been connected to the Washougal Waterfront Park and trail creating a long walking trail into Camas and Washougal.
- Marina Park offers a walking path, picnic tables, an open lawn for entertainment, and a deck overlooking the marina.
- The Natural Play Area features a giant Sasquatch named Eegah along with a hill-side slide, log steppers, xylophone, drums, a boulder maze, and log balancing beams.

Other Urban Park Systems

Adjacent cities provide recreation opportunities that should be considered relevant components of the overall Camas open space system. Some facilities, such as regional trails, will require partnerships and coordination that extend beyond city boundaries. Two adjacent municipalities operate and maintain park and recreation facilities, including:

- City of Washougal: The City of Washougal has over 120 acres of park land, ranging from parks, playgrounds, sports fields, and open space. Washougal's 19 parks include special use areas, including several riverfront sites that enhance Washougal's Park system.
- City of Vancouver: The City of Vancouver serves the community with approximately 1,600 acres of parkland at 113 sites, which includes 90 parks and 20 miles of trails plus numerous natural areas. The city offers a full range of recreation programming and operates two community centers.





CHAPTER 5

Parks & TRAILS

The PROS planning process assesses recreational needs and priorities for park facilities, active use areas, and trails in Camas. The park assessment included a discussion of specific local needs with consideration given to the City's broader park system. Public input and information on park inventory conditions were also heavily relied upon in the planning process.

By considering the location, size, and the number of park facilities by type and use, along with community interests and priorities, the PROS Plan evaluates the existing and future demand for park and recreation amenities and provides recommendations for future initiatives. The six-year Capital Facilities Plan, which identifies and prioritizes crucial upgrades, improvements, and expansions, is based on the needs assessment and the recreational interests expressed by residents.

The recreational interests of Camas residents were captured in the community survey and compared to regional, state and national trend data. Local support for and interest in trails for walking and biking, water access opportunities, and kayaking align with recreation participation data from multiple sources.

Park Use Trends

Various resources have been assembled and summarized to provide an overview of current trends, market demands, and agency comparisons in the provision of parks and recreation services. This information is helpful when balanced with local insights and feedback from the community in guiding future initiatives.

The following national and state data highlights some of the current park use trends and may frame future considerations for Camas' park system. Additional trend data and summaries are provided in Appendix E.

- Nationwide, 82% of U.S. adults believe that parks and recreation are essential according to the American Engagement with Parks Survey from 2020. (1)
- 77% of survey respondents indicate that having a high-quality park, playground, public open space, or a recreation center nearby is an important factor in deciding where they want to live. (1)
- Just over half of Americans ages six and older participated in outdoor recreation at least once in 2019, the highest participation rate in five years. However, the number of outings per participant declined – continuing a decade-long trend – resulting in fewer total recreational outings (pre-pandemic). (2)
- Walking, running, hiking, and cycling saw significant increases in participation in the early months of the COVID-19 pandemic (March to June 2020). (2)
- Running, jogging, and trail running are the most popular outdoor activities across the nation, based on levels of participation, followed by fishing, hiking, biking, and camping. (2)
- Walking ranked as the top activity by participation rate (94%) in Washington State. (4)
- Trail running, day hiking, and recreational kayaking are rapidly increasing in popularity – participation in each increased more than 5% per year between 2014 and 2019. (3)
- People of all ages and income levels are interested in outdoor activities like fishing, camping, hiking, biking, bicycling, and swimming. Younger people are more interested in participating in team sports, such as soccer, basketball, and volleyball. Older adults are more likely to aspire to individual activities like swimming for fitness, bird and nature viewing, and canoeing. (3)

Sources:

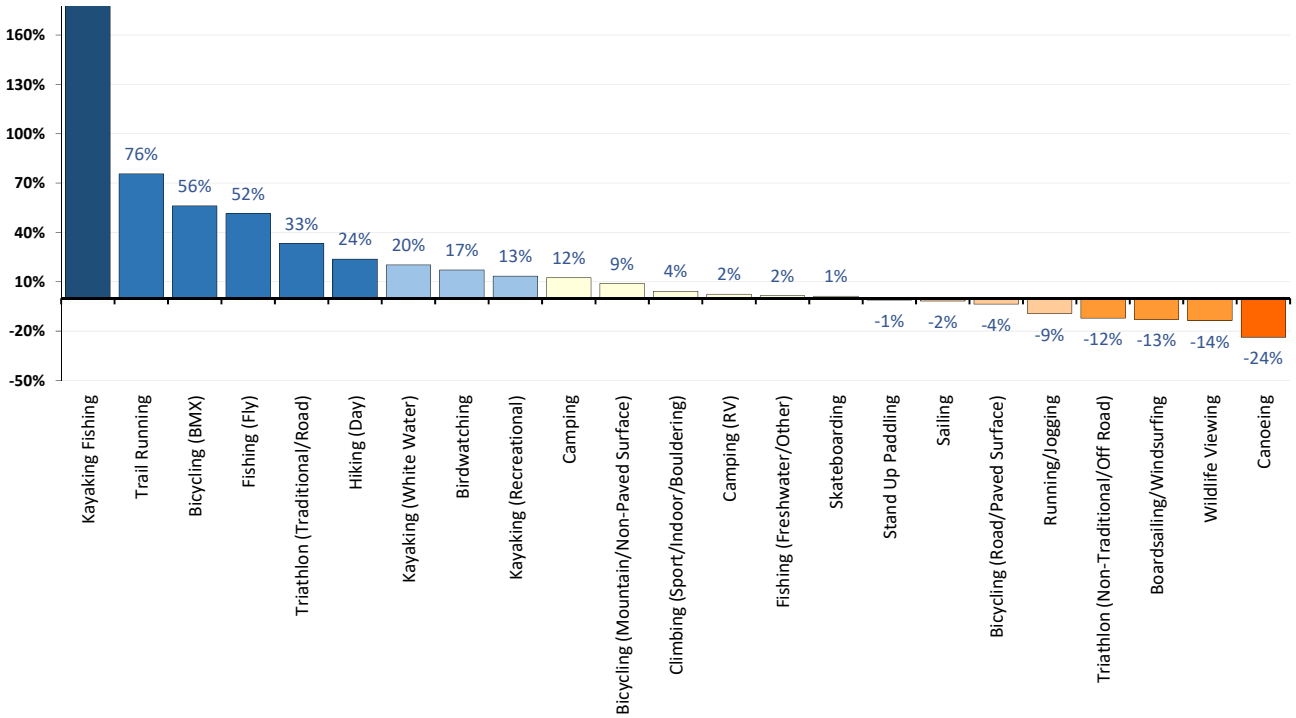
(1) 2020 American Engagement with Parks Survey

(2) 2020 Outdoor Participation Report

(3) 2020 Sports, Fitness, and Leisure Activities Topline Participation Report

(4) 2018-2022 Recreation and Conservation Plan for Washington State

Figure 8. 5-Year Change in Outdoor Recreation Participation by Major Activity (2021 Outdoor Participation Report)



Operational & Service Challenges Due to COVID-19

A statewide survey of Washington park and recreation agencies was conducted in the second half of 2020, with a focus on service demand and operational challenges, both preceding and as a result of COVID-19. City, county, and parks and recreation district leaders were asked to complete the survey, and the survey was sent to 227 agencies - 109 cities, 39 counties, 79 Special Purpose Park Districts with 73 responses. The project was a collaboration between the Washington Recreation & Park Association, the Washington State Association of Counties, the Association of Washington Cities, and Metro Parks Tacoma.

In a question that asked the agency about how stable its outlook is for 2020 pre- and during COVID-19, the percentage of agencies that stated their outlook as very strong and stable decreased by 25 points, with 27.8% indicating as very stable at the beginning of the year to 2.8% indicating as very stable by August 1, 2020. Similarly, agencies that felt moderately or significantly underfunded and unstable rose from 5.5% to 50% by August 1, 2020.

Also, significant majorities of agencies indicated service delivery impacts due to the COVID-19 pandemic in the following ways:

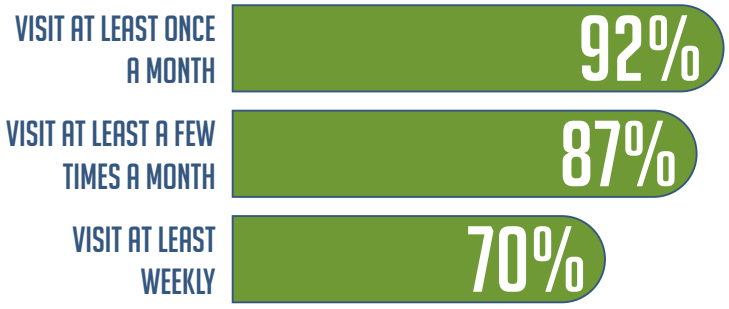
- Reduced ability to manage, maintain, operate, and secure passive parks to safety standards and control access (87%).
- Cancellation of special events and tourism campaigns that support local employment and drives the local economy (87%).
- Inability to operate critical community programs, pools, attractions and facilities, including services for vulnerable populations (81%).
- Lack of ability to hire/maintain seasonal employees & offer programs/services allowable under Safe Start (74%).
- Addressing public use and behaviors that put the community at risk, such as tearing down caution tape, using fields (85%).

Local Insights

Local recreation demands and needs were explored through various community engagements to gather feedback on the strengths and limitations of existing recreational resources and parks available to Camas residents. Public outreach included a community survey, an online open house and several stakeholder focus group discussions to explore project priorities and opportunities to enhance the City's park system (see Appendices A, B & C). Through this outreach, nearly 1,600 responses were recorded.

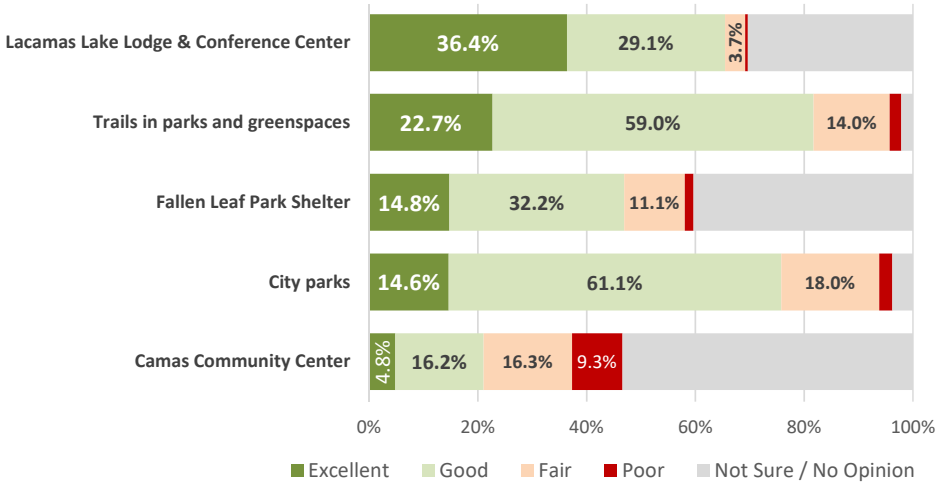
The community survey confirmed that local parks, recreation options, and open space opportunities are important or essential to the quality of life in Camas. Virtually all respondents (97%) feel that local parks and recreation opportunities are important or essential to the quality of life in Camas. Respondents tend to visit frequently, with more than two in three visiting at least once a week (68%) and another 20% visiting one to three times per month.

Figure 9. Freequency of Visitation to Parks, Trails & Open Space



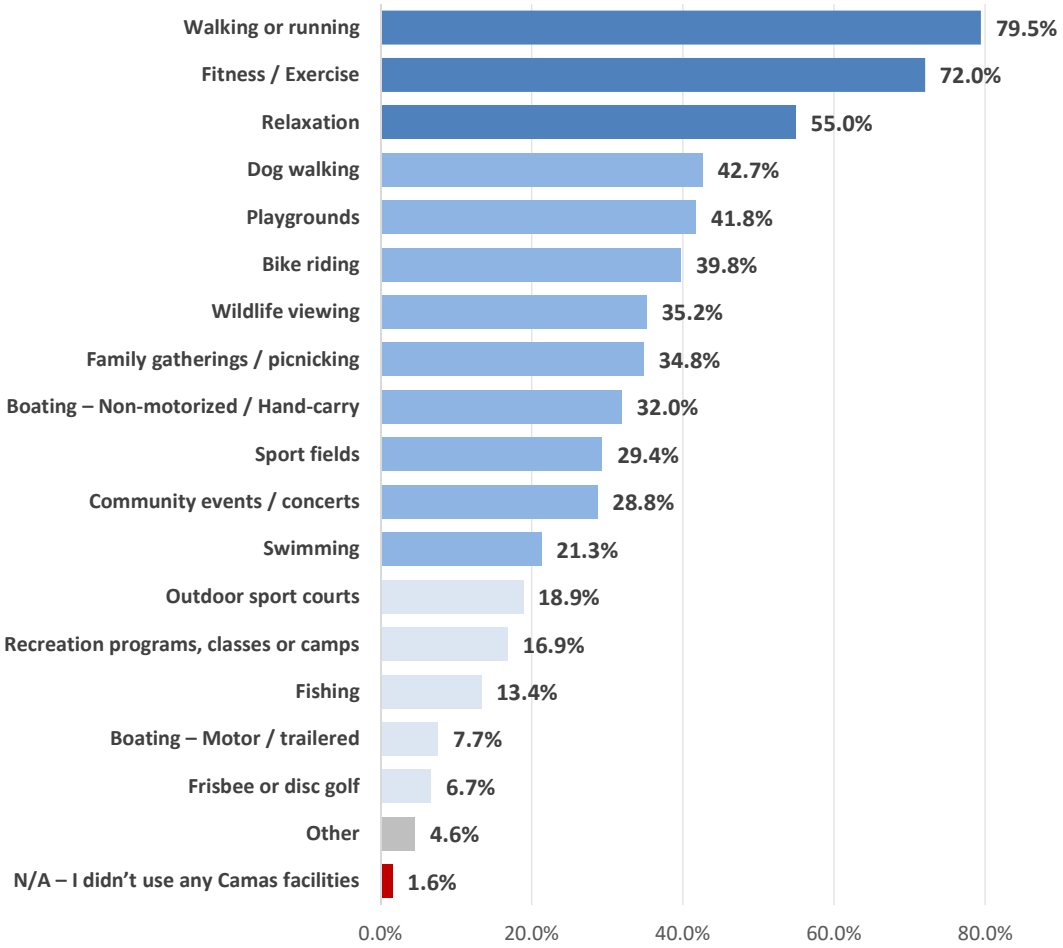
Survey respondents were asked to rate the condition of a variety of park and recreation facilities on a scale from poor to excellent. Respondents gave overwhelming high marks to the condition of the City's trails in parks and greenspaces and the parks themselves. Overall, the Lacamas Lake Lodge & Conference Center received the highest condition ratings, with 95% of respondents who provided a ranking rating it as excellent or good.

Figure 10. Sentiment of Condition of Park and Recreation Facilities.



Survey respondents visit local parks and recreation facilities for a variety of reasons. The most popular activities are walking or running (80%), followed by fitness and exercise (72%), and relaxation (55%). More than three in ten respondents visited to walk their dog (43%), visit a playground (41%), ride their bike (40%), view wildlife (35%), or attend a family gathering or picnic (35%). Relating to statewide and national trend statistics, the popularity of walking and running have consistently ranked as top outdoor activities – in alignment with Camas' survey responses.

Figure 11. Main Reasons For Visiting Local Parks and Recreation Facilities.



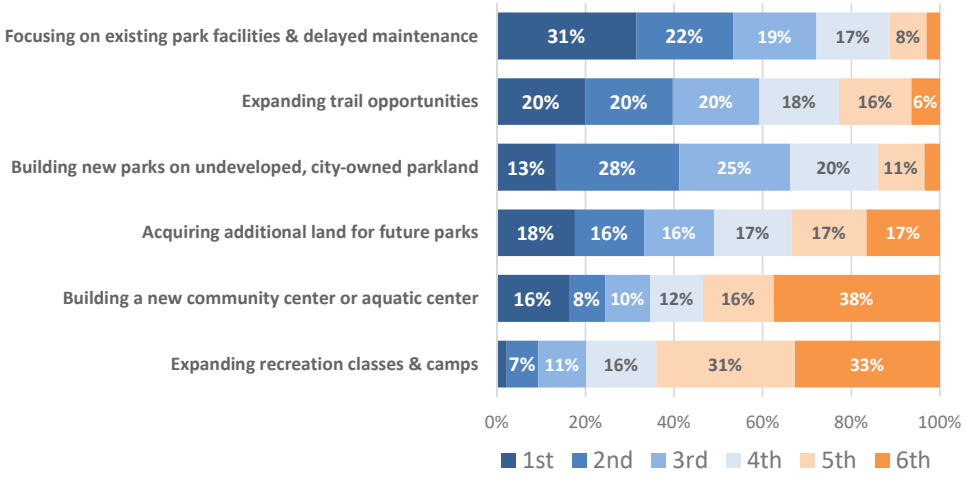
More than three in four respondents are very or somewhat supportive of adding walking trails (88%), updated or renovated playgrounds at existing parks (82%), all-abilities accessible playground equipment (81%), and more picnic shelters (80%) to the City's existing parks. A majority of respondents are also supportive of developing more biking trails, splash pads, off leash dog areas, pools or aquatic centers, tennis or pickleball courts, a new community center, disc golf course, and basketball courts. However, through the community survey, approximately two out of three community members are willing to travel for an unmet recreational amenity in Camas (such as splash pad, aquatic/pool center, community center and bike skills park) versus increasing taxes to pay for development of a new facility.

Recognizing the significance of trail access to the Camas community, the survey also inquired about different trail types. Respondents overwhelmingly rated unpaved trails in natural areas (94%) as very or somewhat important. Majorities of respondents also feel paved, shared use paths for pedestrians and cyclists (87%) and accessible trails (73%) are either very or somewhat important. An online open house followed the community survey to dive deeper into the community's strong interest in trails. Respondents to the online open house, 74 respondents total, noted the need to acquire land and develop trails to fill gaps in trail corridors as a top priority. Also, respondents were particularly interested in improving trail connections for the North Shore of Lacamas Lake, the Mill Ditch, Lake Road, and the Lewis & Clark Regional Trail.

Respondents were asked to rank a list of potential recreation, park, and open space investments. Generally, respondents ranked maintaining existing parks, expanding trail opportunities, building new parks, and acquiring land for future parks as top priorities. Respondents ranked offering building a new community or aquatic center and expanding program offerings as their lowest priorities. Respondents of different ages prioritized the investment options similarly, with the exception of building a new community or aquatic center, which was a higher priority for significantly more younger respondents. Respondents with children in their home tended to rate building a new community or aquatic center higher than those without children in the home, who were more likely to rate expanding trail opportunities as a high priority.



Figure 12. Park Amenities to Consider Adding to Camas Park System



Common Themes from Community Outreach

Considering all of the community feedback from the survey, online open house, stakeholder interviews, and stakeholder focus group discussions, a number of core themes and interests emerged.

Trails

- Trail connectivity is important. Complete loops and circuits, and focus on trail connectivity (connecting trail gaps).
- Enhanced linkages between residential neighborhoods and downtown via pedestrian- and bicycle-friendly routes are an important focus area.
- COVID has accelerated the trends toward higher trail usage, which include more users on trails and a wider age distribution of off-road bike riders.
- There is broad interest and excitement for the potential of expanded trail connections via the Mill Ditch property for walking/hiking and the Green Mountain acquisition for mountain biking and hiking. The Mill Ditch property for walking/hiking and the Green Mountain acquisition for mountain biking and hiking are two examples of potential projects.

Parks & Open Space

- The maintenance of existing parks and open spaces remains a key priority.
- Building new parks on undeveloped, city-owned parkland was one of the highest rated priorities.
- There has been strong interest in expanding recreational options in the park system that include the installation of a splash pad, bike skills/pump track, off leash dog areas, and tennis or pickleball courts.
- The City should provide space and amenities for programming (sport fields & courts, shelters for outdoor education, etc.) and increase sport field capacity by improving field quality and adding lighting where appropriate.
- Coordination with the school district might result in benefits for more community access to existing school fields and the development of additional sport fields.

Convenience & Support Amenities

- Upgraded and expanded access to restrooms and parking is a highly-desired user convenience improvement.
- Wayfinding, maps and communications were noted as ways to improve the user experience and familiarity with the park and trail system.







Park System Conditions Assessment

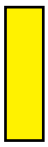
The overall condition of park infrastructure and amenities is one measure of park adequacy and assurance of public safety. Proper stewardship of park infrastructure requires developing a long-term maintenance and capital plan to ensure the safety of park users that aligns with community needs and allocates limited funding resources properly.

The current conditions of the Camas park system were assessed to identify existing site maintenance issues and opportunities for future capital improvements. The assessment included walkways, parking lots, park furniture, drainage and irrigation, lighting systems, vegetation, and other amenities. The following conditions assessment matrix summarizes the results of these assessments. They will inform the PROS Plan, including developing the project prioritization strategy for park improvements, identifying funding strategies, and updating the recommended parks six-year Capital Facilities Plan.

Park infrastructure and amenities were rated based on the following scale:



1 – Good Condition: Generally, amenities in good condition offer full functionality and do not need repairs. Good facilities have playable sports surfaces and equipment, working fixtures, and fully intact safety features (railings, fences, etc.). Good facilities may have minor cosmetic defects and encourage area residents to use the park.



2 – Fair: In general, amenities in fair condition are mainly functional, but need minor or moderate repairs. Play surfaces, equipment, fixtures, and safety features that are operational and allow play, but have deficiencies or periods where they are unusable. Fair facilities remain essential amenities for the community but may slightly discourage the use of the park by residents given the current condition.



3 – Poor: In general, amenities in poor condition are largely or completely unusable. They need significant repairs to be functional. Some examples include athletic fields that are too uneven for ball games, irreparably broken features, buildings that need structural retrofitting, etc. Poor facilities discourage residents from using the park and may present safety issues if left open or operational.

In general, good conditions should be the goal for the management and stewardship of park facilities. Where infrastructure or amenities are rated as “fair,” strategies should be developed for repair or restoration. Park features, structures, amenities, or landscapes rated as “poor” should receive immediate attention and be prioritized for near-term maintenance, capital repairs, or a new capital project. Facilities in “poor” condition should also be evaluated and taken out of operation if they are deemed unsafe. Based on this assessment, the City’s sport courts, trails, site furnishings, turf and ADA compliance are in the greatest need of attention.

Detailed site conditions and site enhancement recommendations are noted in Appendix D for the park sites visited.

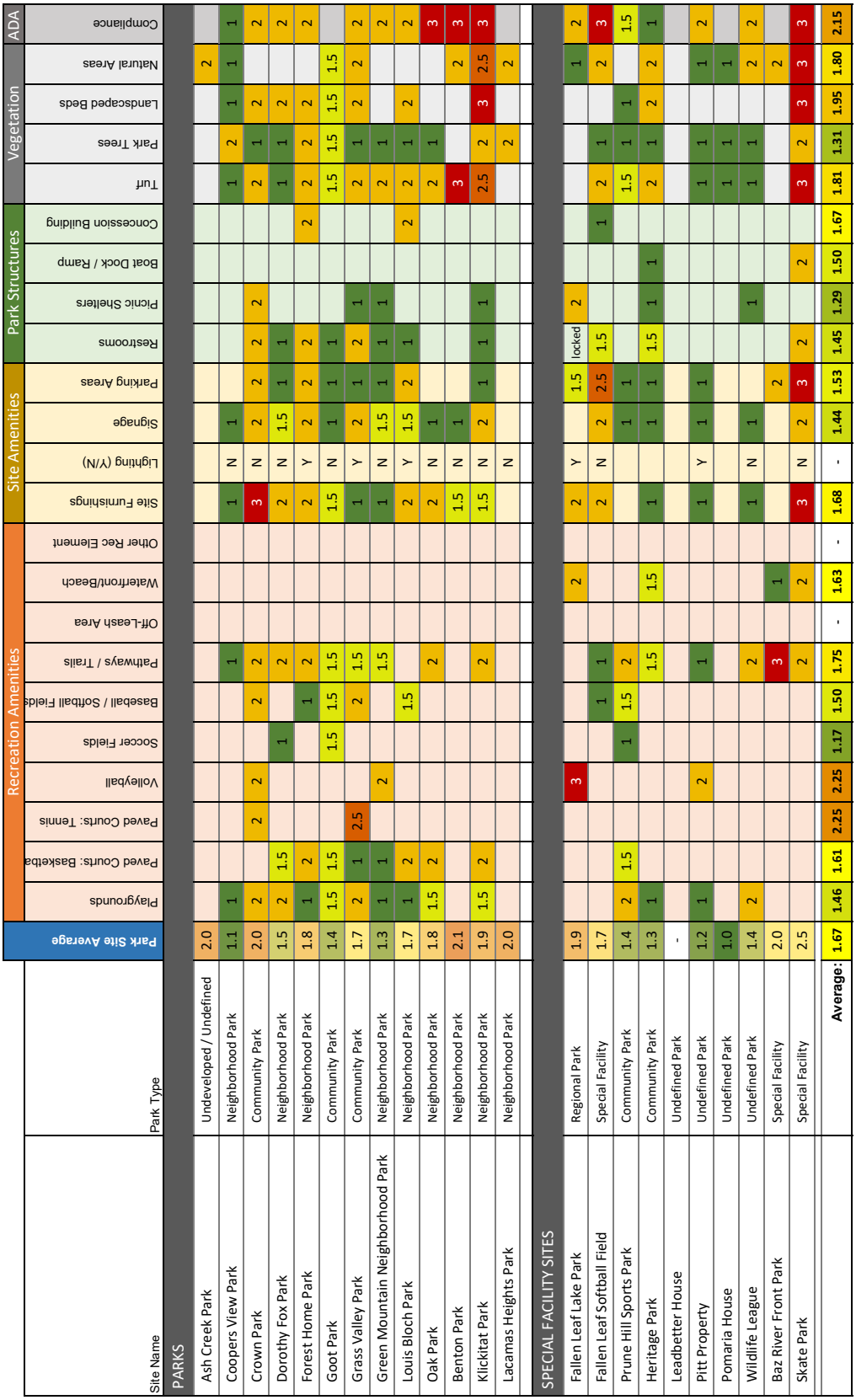
Overview of Condition of Existing Parks

The following list summarizes some of the key observations and recommendations to enhance the City's park and trail system, its visual character, and longer-term sustainability.

1. Overall, the level of maintenance observed at the developed parks appears to be very good.
2. Consider upgrades to City Park Standards for signage and furnishings. For future park improvements and prior to implementing new master plans for undeveloped parks, it would be beneficial to use the same standard design, style and color for benches, picnic tables, other site furnishings and signs to provide a consistent identity to the park and trail system and reduce future maintenance costs.
3. As the trail system develops with additional connections, a wayfinding system would be beneficial. Coordinated with the graphic style for the park identification signs, this wayfinding signage would help trail users navigate the connections and know the destinations along the trails. Distances, destinations, trail etiquette, and other essential information should be planned and located at strategic sites to inform walkers, runners, and bikers.
4. Consider adding more destination amenities into the park system, such as splash pads, rock climbing, fitness equipment, nature play, inclusive play and/or themed designs to add a more diverse character to the system.
5. Many of the developed sites need ADA upgrades. Among the most common deficiencies observed are:
    - Current park standard trash and recycling receptacles are not ADA
    - The minimum ratio of ADA compliant tables and benches is below the required ADA standards
    - Lack of companion spaces adjacent to ADA compliant benches
    - Minimum clearances surrounding picnic tables are often not met
    - Several ADA compliant amenities are not along accessible routes
    - Many of the playgrounds lack ADA ramps leading into the play pit areas
    - All of the playground surfacing consists of engineered wood fiber. Although it is considered accessible when it is properly maintained; however, infrequent maintenance and refilling is fairly common. Consider transitioning to more stable playground safety surfacing options for the heaviest used playgrounds.
    - Several playgrounds do not have the minimum number of ADA accessible features
6. Several parks have vegetated open space within or adjacent to the property and may be good candidates for trail locations. Some open spaces connect residential neighborhoods with parks together and could provide alternative routes to City parks.
7. Camas has multiple storm facilities and or wetlands throughout the City, some of which are adjacent to existing developed parks. These facilities might offer opportunities to incorporate interpretive and educational experiences within the parks for a relatively low implementation cost. Proposed educational amenities might include wildlife viewing blinds and overlooks accompanied by interpretive signage.

Most of the undeveloped open space that was observed consisted of dense vegetation, including invasive species. The City should consider an invasive weed removal program, along with a more broadly framed open space management plan to identify resources and tactics to care for the City's nearly 700 acres of natural areas.

Figure 13. Park Condition Assessment



Site Name	Park Type	Park Site Average	Recreation Amenities											Site Amenities			Park Structures			Vegetation			ADA
			Playgrounds	Paved Courts: Basketba	Paved Courts: Tennis	Volleyball	Soccer Fields	Baseball / Softball Fields	Pathways / Trails	Off-Leash Area	Waterfront/Beach	Other Rec Element	Site Furnishings	Lighting (Y/N)	Signage	Parking Areas	Restrooms	Picnic Shelters	Boat Dock / Ramp	Concession Building	Turf	Park Trees	Landscaped Beds	Natural Areas	Compliance
PARKS																									
Ash Creek Park	Undeveloped / Undefined	2.0																						2	
Coopers View Park	Neighborhood Park	1.1	1						1				1	N	1						1	2	1	1	1
Crown Park	Community Park	2.0	2		2	2		2	2				3	N	2	2	2	2			2	1	2		2
Dorothy Fox Park	Neighborhood Park	1.5	2	1.5			1		2				2	N	1.5	1	1				1	1	2		2
Forest Home Park	Neighborhood Park	1.8	1	2				1	2				2	Y	2	2	2			2	2	2	2		2
Goot Park	Community Park	1.4	1.5	1.5			1.5	1.5	1.5				1.5	N	1	1	1				1.5	1.5	1.5	1.5	
Grass Valley Park	Community Park	1.7	2	1	2.5			2	1.5				1	Y	2	1	2	1			2	1	2	2	2
Green Mountain Neighborhood Park	Neighborhood Park	1.3	1	1		2			1.5				1	N	1.5	1	1	1			2	1			2
Louis Bloch Park	Neighborhood Park	1.7	1	2				1.5					2	Y	1.5	2	1			2	2	1	2		2
Oak Park	Neighborhood Park	1.8	1.5	2					2				2	N	1						2	1			3
Benton Park	Neighborhood Park	2.1											1.5	N	1						3				3
Klickitat Park	Neighborhood Park	1.9	1.5	2					2				1.5	N	2	1	1				2.5	2	3	2.5	3
Lacamas Heights Park	Neighborhood Park	2.0												N											
SPECIAL FACILITY SITES																									
Fallen Leaf Lake Park	Regional Park	1.9				3					2		2	Y		1.5	locked	2						1	2
Fallen Leaf Softball Field	Special Facility	1.7						1	1				2	N	2	2.5	1.5			1	2	1	2	2	3
Prune Hill Sports Park	Community Park	1.4	2	1.5			1	1.5	2						1	1					1.5	1		1	1.5
Heritage Park	Community Park	1.3	1						1.5		1.5		1		1	1	1.5	1	1		2	1	2	2	1
Leadbetter House	Undefined Park	-																							
Pitt Property	Undefined Park	1.2	1			2			1				1	Y	1	1					1	1		1	2
Pomaria House	Undefined Park	1.0																			1	1		1	
Wildlife League	Undefined Park	1.4	2						2				1	N	1			1			1	1		2	2
Baz River Front Park	Special Facility	2.0							3		1					2								2	
Skate Park	Special Facility	2.5							2		2		3	N	2	3	2		2		3	2	3	3	3
	Average:		**1.46**	**1.61**	**2.25**	**2.25**	**1.17**	**1.50**	**1.75**	**-**	**1.63**	**-**	**1.68**	**-**	**1.44**	**1.53**	**1.45**	**1.29**	**1.50**	**1.67**	**1.81**	**1.31**	**1.95**	**1.80**	**2.15**

Page Left Intentionally Blank

Gap Analysis

Understanding the known gaps in the park system and evaluating the City's existing levels of service for parks (i.e., snapshot in time of how well the City is meeting its adopted standards) will provide a foundation for strategic planning as a basis for a balanced distribution of parks, trails and recreation amenities in the future.

To better understand where acquisition efforts should be considered, a gap analysis of the park system was conducted to examine and assess the current distribution of parks throughout the City. The analysis reviewed the locations and types of existing facilities, land use classifications, transportation/access barriers and other factors as a means to identify preliminary acquisition target areas. In reviewing parkland distribution and assessing opportunities to fill identified gaps, residentially zoned lands were isolated, since neighborhood and community parks primarily serve these areas. Additionally, travelsheds were defined for neighborhood parks using a ¼-mile primary and ½-mile secondary service area with travel distances calculated along the road network starting from known and accessible access points at each park. Travelsheds for community parks were derived using ¼-mile, ½-mile, 1-mile and 2-mile travel distances to acknowledge that these park types (including athletic fields) serve a wider array of users and driving to such sites is typical.

Maps 2 through 5 illustrate the application of the distribution criteria from existing parks. Areas in white do not have a public park within reasonable walking distance of their home. The illustrated 'travelshed' for each existing Camas park highlights that certain areas within the city do not have the desired proximity to a local park.

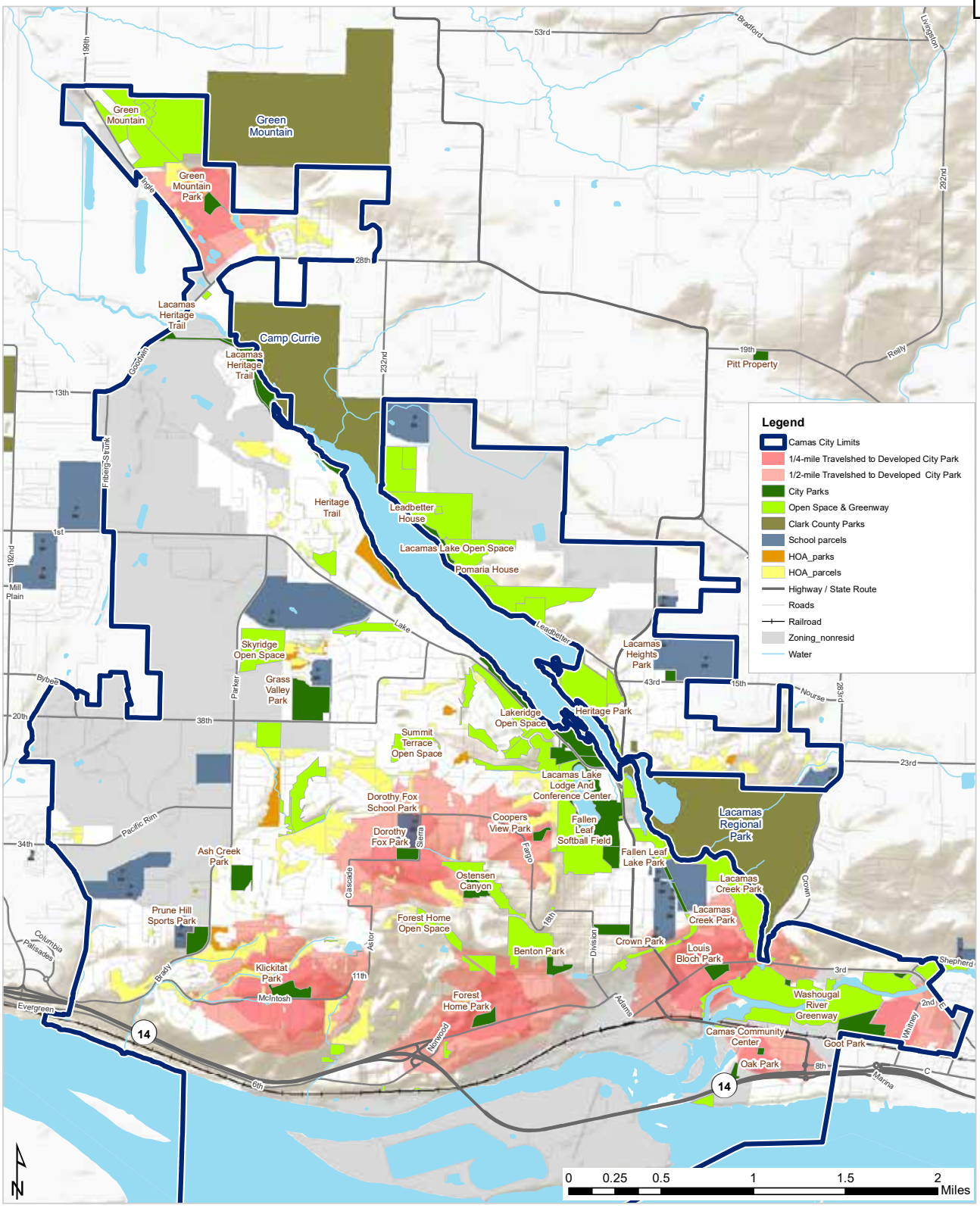
Striving to provide a neighborhood park within a reasonable walking distance (e.g., ½-mile) may require acquiring new park properties in currently under-served locations or improving multi-modal transportation connections to allow local residents to safely and conveniently reach their local park. As Camas develops and acquisition opportunities diminish, the City should consider taking advantage of acquisition opportunities in strategic locations and as funding allows to fill remaining gaps. In concert with the search for developable park land, the City should continue to coordinate with proposed residential land development projects to consider when and how a public park (or trail connection) could be incorporated into the planning of newly developed residential areas.

The mapping of park distribution and 'travelsheds' helps to illustrate the underserved neighborhoods in Camas. Areas of southwest Camas and north-central Camas have limited access to public parks or open space as indicated by white areas on Map 6. These areas of the City should be targeted for future acquisitions to help create more equitable access for all residents.

Camas has been very successful in securing park and open space as the community has grown, and the small number of potential acquisition sites is a testament to that effort. It should also be noted that the City owns several properties that are intended to serve as neighborhood parks, but are as of yet undeveloped. The future planning and development of these sites will further improve the overall distribution of parks for the Camas community, and these sites have been accounted for in the gap analysis. These future parks include:

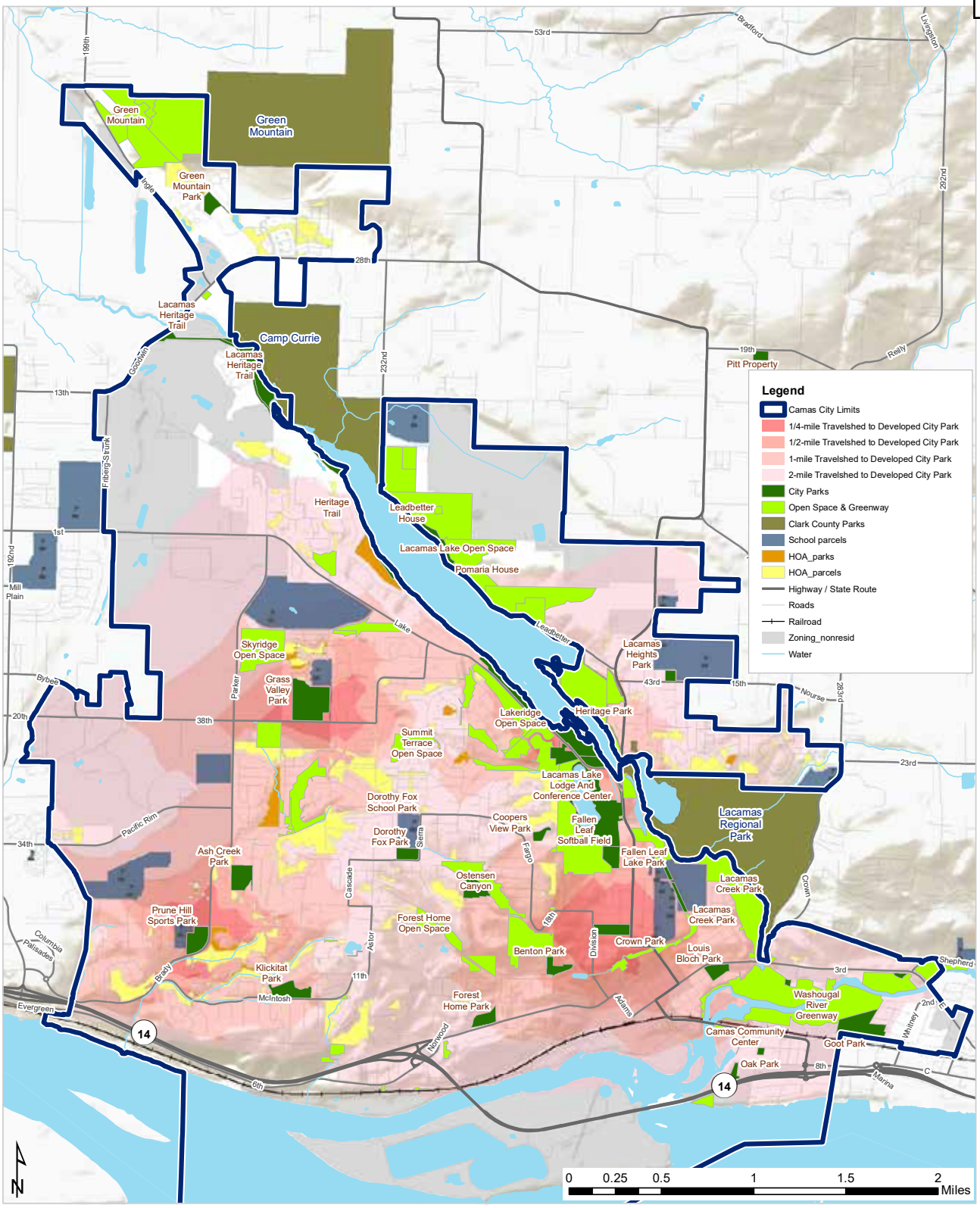
- Ash Creek Park (future neighborhood park)
- Ostensen Canyon Park (future neighborhood park on approximately 8 acres of upper shelf)
- Lacamas Heights Park (future neighborhood park adjacent to Camas High School)
- Green Mountain property (pending community planning)
- North Shore Lacamas Lake (TBD, pending community planning)

Page Left Intentionally Blank



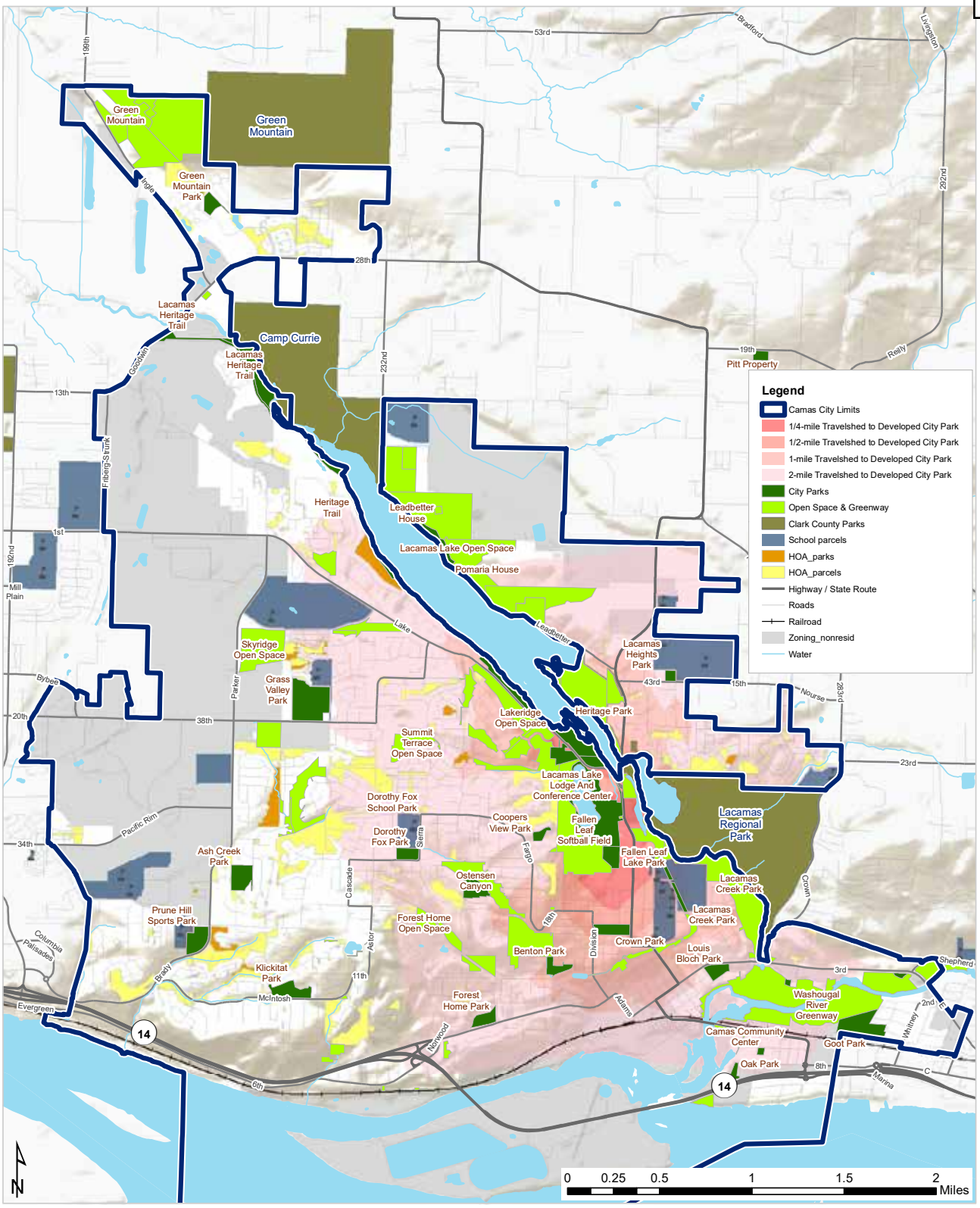
Map 2: Travelsheds for Neighborhood Parks (½-mile)

Page Left Intentionally Blank



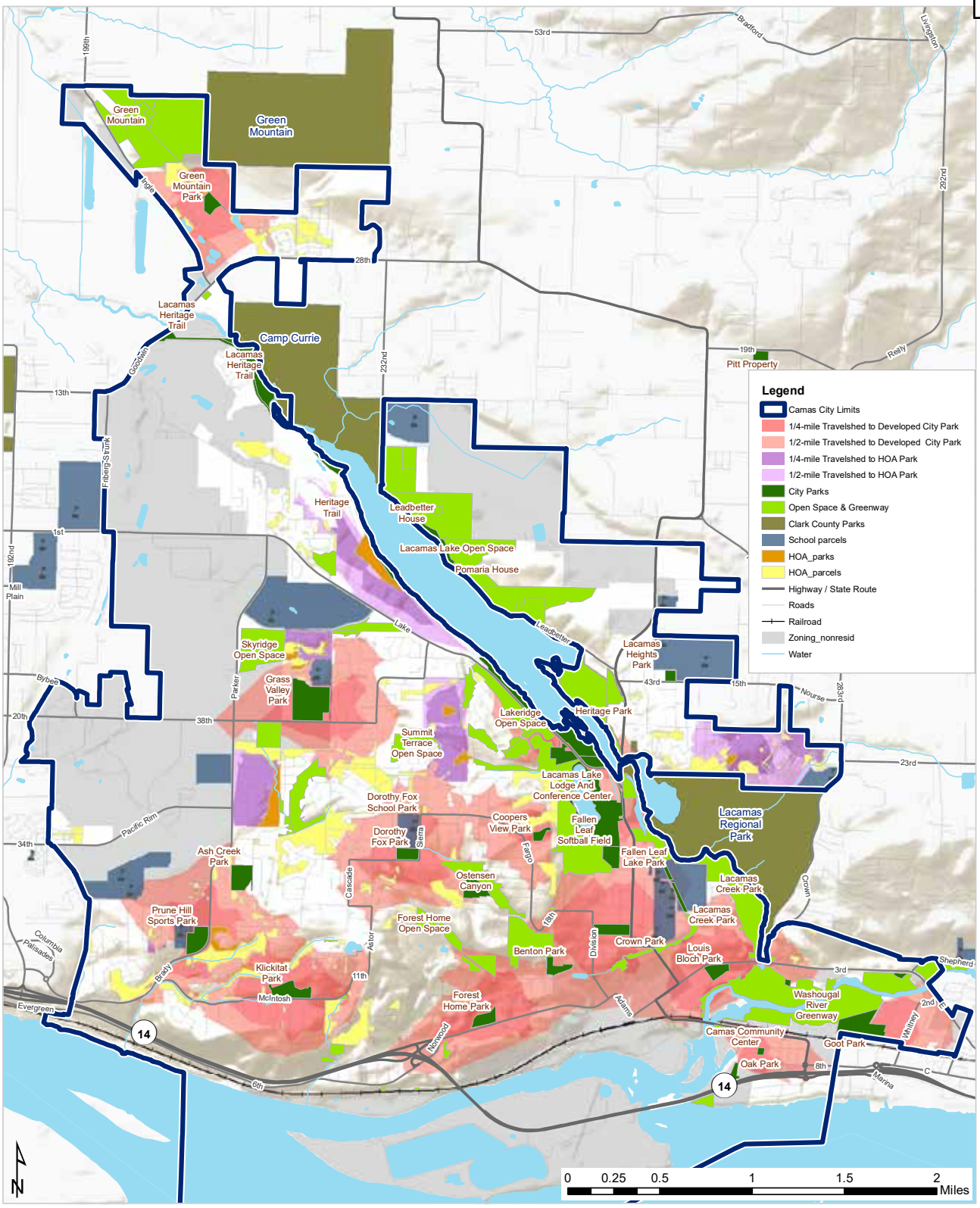
Map 3: Travelsheds for Community Parks (2-miles)

Page Left Intentionally Blank



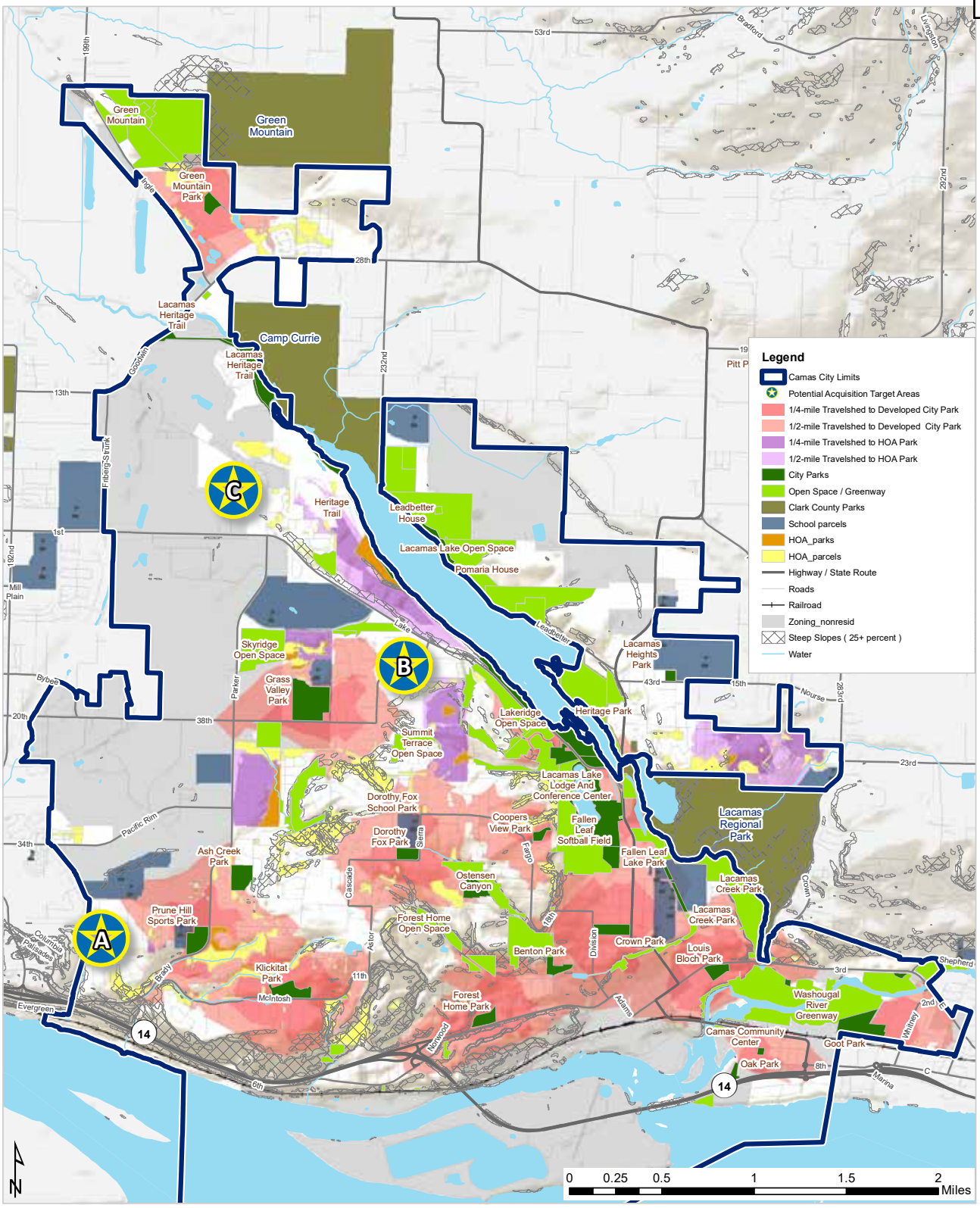
Map 4: Travelsheds for Special Use Areas (2-miles)

Page Left Intentionally Blank



Map 5: Travelsheds for All Parks & HOA Parks (½-mile)

Page Left Intentionally Blank



Map 6: Potential Acquisition Target Areas

Page Left Intentionally Blank

Trails

The City of Camas consistently has been working to create a network of trails to connect important destinations and help create a more walkable community. Individual parks typically have internal (and usually paved) pathways that provide walking opportunities within the park. While these are popular amenities for park visitors and help provide access to recreational amenities, their isolation from other destinations limits their value. The lakefront, riparian areas and woodlands in Camas also have provided locations for aligning recreational, off-road trails as opportunity arises. Trail connections and walking or biking linkages have been noted as the highest priority for future improvements to Camas' park system.

The Heritage Trail offers the longest, singular trail at 3.7 miles within City ownership, and Lacamas Creek Park provides an additional 2.4 miles within a forested, park setting. Other significant trails within City open space include those at Fallen Leaf Lake (1.7 miles), Heritage Park (1.3 miles) and the Washougal River Greenway (1.5 miles). In total, Camas has almost 12 miles of walking or biking trails dispersed across its park system.

Figure 14.. Trail Inventory in Camas

Trail Owner Type	Mileage
Camas Recreational Trails	11.9
Camas ROW* Trails	6.8
Clark County Park Trails	10.9
Private / HOA Trails	8.4
School District Trails	1.2
Total Trail Miles	**39.2**

* Right-of-Way (ROW) trails utilize sidewalk and/or bike lane connections

Figure 15. City of Camas Park Path & Trail Inventory

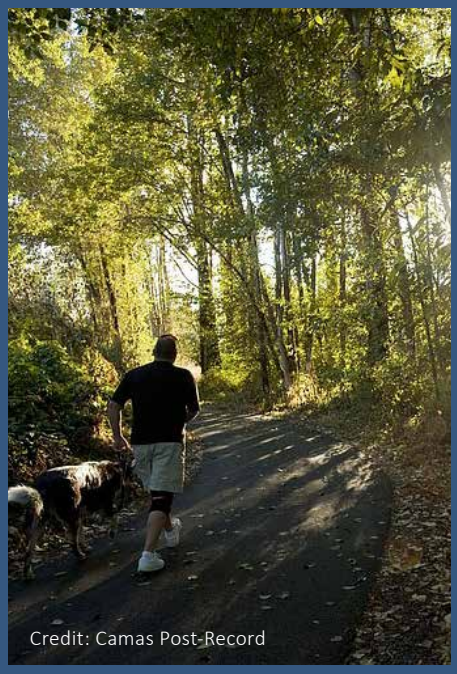
City Trails	Mileage
Benton Park	0.2
Dorothy Fox Park	0.2
Fallen Leaf Lake Park & Open Space	1.7
Goot Park	0.1
Grass Valley Park	0.4
Heritage Trail	3.7
Klickitat Park	0.6
Lacamas Creek Park	2.4
Oak Park	0.1
Ostensen Canyon Greenway	0.5
Prune Hill Slope Open Space	0.6
Washougal River Greenway	1.5
Total City Trail Miles	**11.9**





Trails for Walkable Communities

Parks are known to contribute to a healthier community by providing accessible outdoor recreation particularly through the walking trail within each park. Getting to the park by foot or bike can also offer a healthier choice integrated with the park destination and its amenities. In the NRPA publication *Safe Routes to Parks*, the elements of walkable, healthy community design are outlined as convenience, comfort, access & design, safety, and the park itself. Sidewalks, bikeways and trails should provide an integrated alternative transportation system for residents to access parks and other destinations within their community. As further emphasis for the importance of a walkable community to promote public health, the Surgeon General has issued a *Call to Action* to "step it up" and promote more walking and build a more walkable world. A more connected network of trails, sidewalks, and bike lanes with links to public transit also provides economic values.



Credit: Camas Post-Record

Trails for Aging Populations

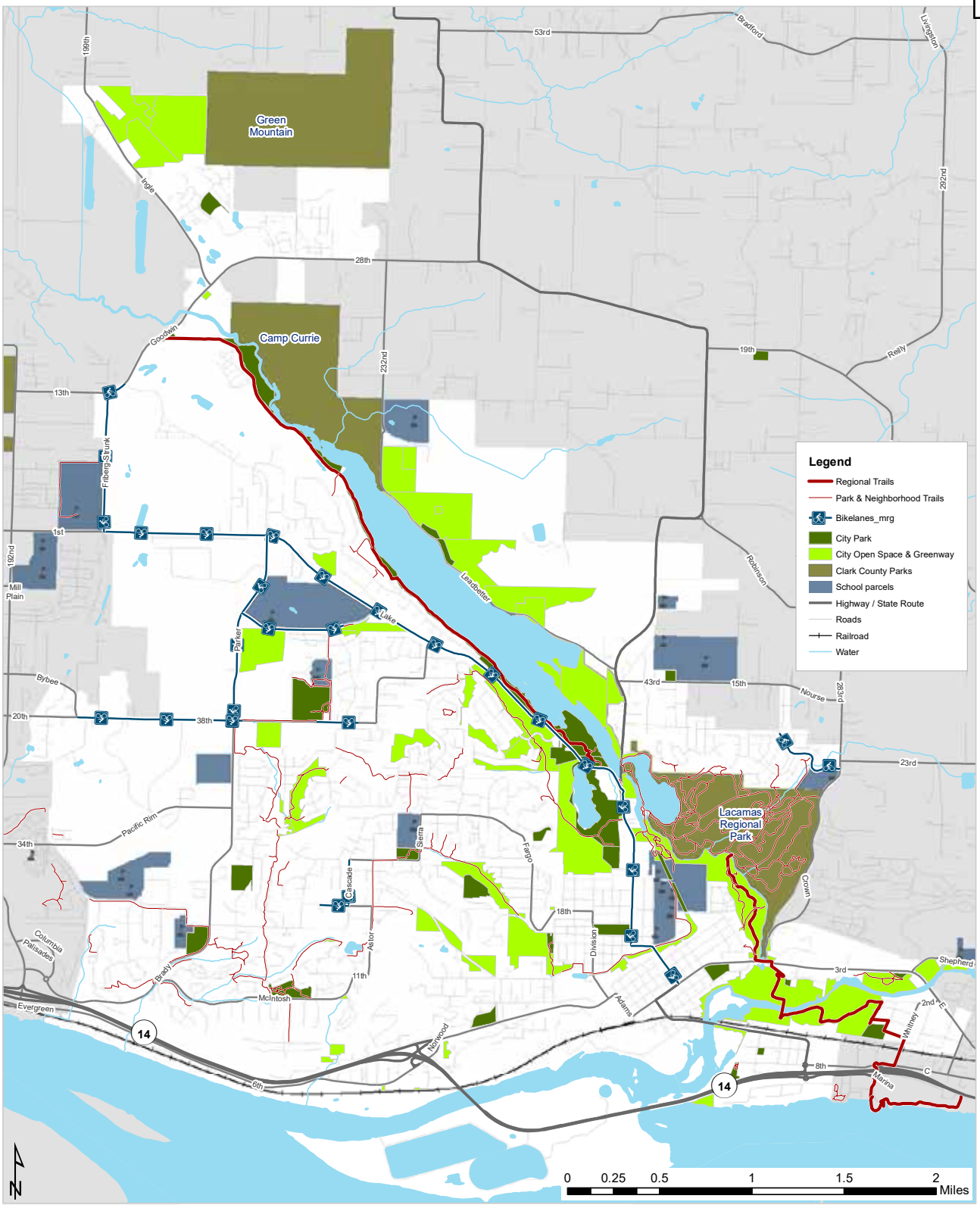
Today's active seniors are looking at retirement age differently, as many are retooling for a new career, finding ways to engage with their community and focusing on their health and fitness. It will be critical for Camas' park and recreation system to take a comprehensive approach to the city's aging population needs. Accessibility and barrier-free parking and paths, walkability and connectivity will be paramount to future planning. Providing programming for today's older adults includes not only active and passive recreation, but also the type of equipment needed to engage in certain activities. Trails provide the infrastructure for the most popular and frequent outdoor recreation activity of older adults: walking.



Credit: Camas Post-Record

Trails for Economic Health

In the 2009 report, *Walking the Walk: How Walkability Raises Housing Values in US Cities* by Joe Cortright for CEOs for Cities, research cited the connection between home value and walkability. Higher WalkScore measurements, where more typical consumer destinations were within walking distance, were directly associated with higher home values. Homes located in more walkable neighborhoods command a price premium over otherwise similar homes in less walkable areas. The National Association of Realtors reports in their *On Common Ground* publication with numerous articles citing the preference of walkable, mixed-use neighborhoods and the role of walkability in creating healthier communities. These preferences translate into higher housing values. Even the National Association of Homebuilders (March 2014 publication: "Walkability, why we care and you should too") have recognized that walkability is desired by consumers, creates lower development costs and allows flexibility in design. As part of the system of walkability and bike-ability, recreational trails are real estate assets that enhance community connections and contribute to economic health, and these attributes should be considered as Camas enhances trail connections to downtown and plans the future of the North Shore.



Map 7: Existing Trails

Page Left Intentionally Blank

Trail Demand

Park & Neighborhood Trails

During the public outreach, 80% of the community clearly identified that walking or running was a top reason for visiting Camas' parks. Park pathways are popular recreational amenities and significant contributors for promoting physical activity. This recreational trend is notable in state and national recreation surveys. Running, jogging and trail running are the most popular outdoor activities across the nation, based on levels of participation. Also, the need for more walking and biking trail connections that link parks together has been reinforced in the community survey and other public feedback. The online open house polled opinions about potential trail links and which were the highest priority. The Mill Ditch connection and safe crossings along Lake Road were also noted as important.

With the array of existing park trails and pathways within homeowner association lands, the City should prioritize a couple other connections to close existing gaps and improve options for loop trail routes, to include:

- Ostensen Canyon gap to link Dorothy Fox Park to Benton Park
- Prune Hill Sports Complex to Forest Home Park via Forest Home Open Space (will require on-street connections in coordination with transportation system planning)

Regional Trails

A regional trail system helps knit communities within Clark County together. Public feedback deemed longer trails segments, such as the Lewis and Clark Regional Trail along the Columbia River and a North Shore Lacamas Lake connection important for Camas. The ongoing development of the North Shore Subarea Plan and conceptual trail planning outlined in the North Shores Lacamas lake - A Vision for Conservation and Recreation will guide more specific planning of trails through the North Shore Lacamas Lake area, including completing the loop to Heritage Trail. Future trail connections should link Round Lake to Camp Currie to Green Mountain, in addition to neighborhood and commercial area connections, trailheads, parking and signage.

Transportation Planning

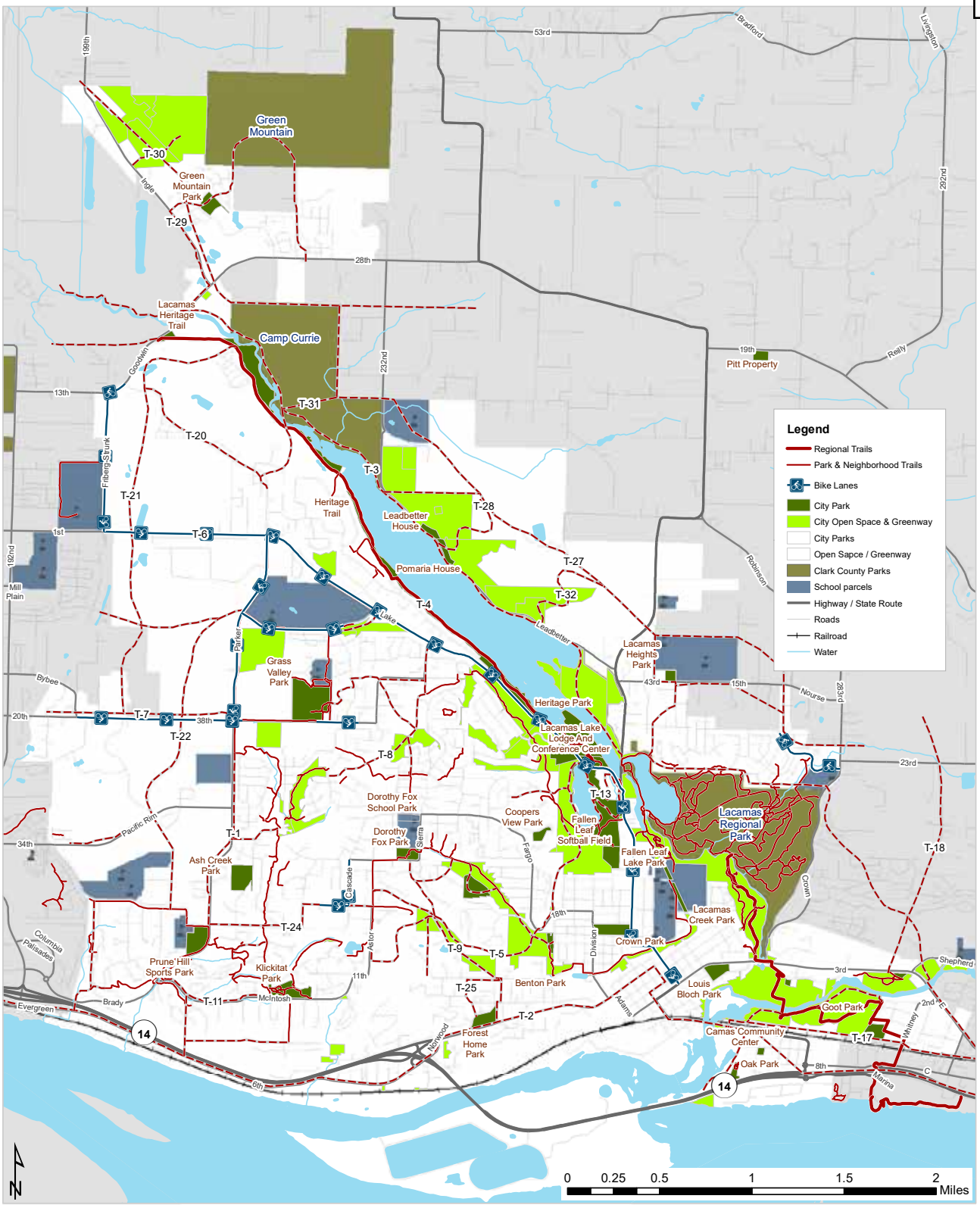
The City is currently in the process of preparing an updated Transportation System Plan, and a review of existing pedestrian and bicycle infrastructure and discussion of future needs will be included in that plan. The existing conditions memo for the plan noted that paved, shared-use paths exist along portions of NW Parker Street, NW 18th Avenue, Lacamas Lake, Washougal River, and are also scattered throughout the residential neighborhoods. Regarding pedestrian routes and sidewalk coverage, a few areas do not have complete sidewalks, and gaps are most significant in southwest, southeast and northeast Camas.

Additionally, the City of Camas has a number of targeted improvement projects that will help further the alternative transportation options for residents. The City's Six-Year Transportation Improvement Program (TIP) from 2022 to 2027 lists planned road, intersection, sidewalk and bikeway projects. Funding and project partners are identified for each planned improvement project. The TIP includes 15 road projects that include bike lanes that will improve connectivity and rider safety along Camas streets.



I just love the natural spaces, so if they're there and accessible (and safe), I'll be so grateful to walk for miles and miles. Thank you!

- Online Open House participant



Map 8: Potential Trails

Page Left Intentionally Blank

Trail Design Considerations

Alignment

The future growth of the trail network will need to balance between alignments that are optimal from trail user, trail experience and connectivity perspectives and those that are practical from cost, design and engineering, regulatory and availability perspectives. Future consideration should be given toward finding alignment options that can accommodate different trail use types (i.e., commuter vs. recreational/destination oriented, and ADA accessibility), as well as potentially interim solutions that rely on wider sidewalks to serve trail users or routing that utilizes existing or planned sewer lines or utility corridors. Accommodating alignments for local, neighborhood link trails as connections to regional, shared-used trails or major park trails is important for providing access and reducing the sole reliance on trailheads for providing access to the trail network.

Access & Trailheads

Safe, convenient entryways to the trail network expand access for users and are a necessary component of a strong, successful system. A trailhead typically includes parking, kiosks and signage and may include site furnishings such as trash receptacles, benches, restrooms, drinking fountains, and bicycle parking. Trailheads may be within public parks and open space or provided via interagency agreements with partner organizations (e.g., county, school district, etc.) to increase use and reduce unnecessary duplication of support facilities. Specific trailhead design and layout should be created as part of planning and design development for individual projects and take into account the intended user groups and unique site conditions. Trail connections and walking or biking linkages also are good access point to designated local and regional trails.

Trail Development Limitations

One underlying tenet of the recreational trail system is to enable the placement of trails within or close to natural features to provide access to the city's unique landscapes, as well as accommodate outdoor recreational access to creeks, hillsides and waterfront. The future planning and design of trail routes through natural areas should be based on sensitive and low-impact design solutions that offer controlled access that protects the resource, while providing for a positive experience for trail users. Trail routes should consider intended and unintended impacts to natural areas, such as soil erosion, especially near streams and shorelines. The determination of future trail alignments should place high priority on natural resource and natural hazards planning and protections, in part to meet local land use policies as well as Washington State requirements.

Ongoing Maintenance

Following trail construction, ongoing trail monitoring and maintenance will keep the trails functioning as designed, while working to protect capital investments in the network. Future trail renovation projects should be included in the Capital Improvement Plans as a means to identify and secure appropriate resources for needed enhancement, such as adding additional capacity to the trail. The City should maintain and expand their connection to and communications with the robust network of local volunteers to provide support as appropriate.

Trail Signs & Wayfinding

Coordinated signage plays a crucial role in facilitating a successful trail system. A comprehensive and consistent signage system is a critical component for the trail network and is necessary to inform, orient and educate users about the trail system itself, as well as appropriate trail etiquette. Such a system of signs should include trail identification information, orientation markers, safety and regulatory messages and a unifying design identity or element for branding. The following signage types should be considered and consistently implemented throughout the network:

- Directional and regulatory signage
- Trail user etiquette and hierarchy signage
- Continuous route signage for route identification and wayfinding
- Mileage markers or periodic information regarding distance to areas of interest
- Warning signs to caution users of upcoming trail transitions or potential conflicts with motor vehicles
- Interpretive information regarding ecological, historical and cultural features found along and in proximity to the trail
- Add QR codes to signs to provide links to additional information

Also, the installation of kiosks at trailheads is a best practice that should continue and provides important trail information, while reinforcing the visual brand of the Camas trail experience.

Level of Service Assessment

A level of service (LOS) review was conducted in addition to and in support of the gap analysis as a means to understand the distribution of parkland acreage by classification and for a broader measure of how well the City is serving its residents with access to parks, trails and open space. Service standards are the adopted guidelines or benchmarks the City is trying to attain with their park system; the level of service is a snapshot in time of how well the City is meeting its adopted standards.

Many jurisdictions are developing guidelines that are customized to their community and its unique and often changing park and recreation demands, rather than solely applying the historic National Recreation and Park Association's (NRPA) published park standards that primarily focused on parkland acreage per capita. The use and application of standards continues to evolve and develop diverse approaches. This Plan evaluates the City's current parkland level of service through a variety of characteristics, including acreage per capita, as a snapshot in time and means to describe the performance of the park system.

Figure 16. Existing & Projected Levels of Service by Park Classification

Type	Current Inventory	Existing Level of Service (2020)	Projected Level of Service (2035)
Regional & Community Park	219.1 acres	8.4 ac./1000	**6.4** ac./1000
Neighborhood Park	75.9 acres	2.9 ac./1000	**2.2** ac./1000
Special Facility	15.9 acres	0.6 ac./1000	**0.5** ac./1000
Trail / Linear Park	61.8 acres	2.4 ac./1000	**1.8** ac./1000
Open Space & Greenway	691.5 acres	26.5 ac./1000	**20.3** ac./1000
	1,064.1 acres	**40.8 ac./1000**	**31.2 ac./1000**

The National Recreation and Park Association (NRPA) conducts annual surveys to generate a Park Metrics database (formerly known as PRORAGIS) that reflects the current levels of service of park agencies across the country based on a variety of factors: population size, population density, number of full-time equivalent employees, number of park facilities, acres of parkland, and more. The Park Metrics survey data are used to compare different park and recreation providers in widely different communities across the country; however, the Park Metrics database relies on self-reporting by municipalities. Some agencies only include developed, active parks, while others include natural lands with limited or no improvements, amenities or access. The comparative standards in the table below should be viewed with this variability in mind.

A few highlights from the NRPA agency comparison provide perspectives on Camas' park system. Figure 17 compares jurisdictional populations served by park and recreation agencies against certain performance metrics. The number of residents per park and acres of parkland per 1,000 residents implicate the potential wear and tear on park facilities. Compared with similar population sizes, Camas provides considerably more parkland acreage (40.8 acres, including open space) per 1,000 residents. Comparing just developed park properties, the City has 6.4 acres per 1,000 residents. Looking at the numbers of residents per playground, Camas has more playgrounds (at 1,862 residents per playground) than similar-sized jurisdictions (at 3,157 residents per playground).

Figure 17. Service Levels Comparing Park Metric (NRPA) Data

Metric	Median Value		
	All Agencies	Pop. Range 20-50,000	Camas
Residents per Park	2,281	1,963	1,629
Acres of Parkland per 1,000 population	9.9	9.6	40.8
Miles of Trails *	11	8.5	39.2
Number of Residents per Playground	3,750	3,157	1,862
Number of Residents per Recreation Center**	31,141	25,716	6,516

* Note: Includes trails in County parks

** Note: Assumes 25% of Camas population for Camas Community Center and Lacamas Lake Lodge as neither facilities function as traditional recreation centers

The use of numeric standards is a blunt and limited tool to assess how well the City is delivering park and recreation services, since the numeric values alone neglect any recognition for the quality of the facilities or their distribution (i.e., the ease to which residents have reasonable, proximate access to park sites). While public ownership of a broad range of recreation lands is crucial to the well-being of the city, the simple use of an overall acreage standard does not match with the citizen input received during this planning process. Residents were particularly interested in the availability of trails, water access, and open space within a reasonable distance from their homes.

The City's park system also was assessed using Washington Recreation and Conservation Office's (RCO) level of service metrics provided in their planning manual. In reviewing the park system as a whole, Figure 18 illustrates the current levels of service across different performance measurements. From the community survey results, public satisfaction of the facilities and amenities that Camas provides ranked as the strongest indicator for the park system. Future development of Ash Creek Park, Lacamas Heights Park and Ostensen Canyon Neighborhood Park will further improve the distribution rating noted in the figure.

Figure 18. Levels of Service with RCO Metrics (System-wide)

Quality Criteria	
Public Satisfaction	
Condition of City Parks (rated as Excellent or Good)	**75.8%**
LOS Grade	**B**
Condition of Trails in Greenspaces (rated as Excellent or Good)	**81.7%**
LOS Grade	**A**
Agency-based Assessment	
Condition Assessment Rating of Existing Parks (3-point scale)	**1.67**
LOS Grade	**B**
Distribution Criteria*	
Parkland Access (within 1/2-mile travelshed)	
Percent Service Area with Access to Active-Use Parks	**71%**
LOS Grade	**C**
Usage / Visitation Criteria	
Frequency of Park or Trail Usage	
Percent Visiting Parks at Least Multiple Times per Month	**86.9%**
LOS Grade	**A**

* Note: The percentage of land area covered by service area walksheds is a proxy for the population within the residential portion of the City.

Scale: Condition Assessment

A	= <1.2
B	= 1.2 - 1.74
C	= 1.75 - 2.24
D	= 2.25 - 2.79
F	= >2.8

Scale: Satisfaction, Distribution & Usage

A	= >80%
B	= 70 – 79.9%
C	= 60 – 69.9%
D	= 40 – 59.9%
F	= <40%

No numeric standards are recommended or proposed for open spaces. While numerical planning standards are common for helping to determine a desirable number of neighborhood parks per thousand residents, they do not translate easily to open space because of the uniqueness of the land base itself. Rather than being guided by numerical standards for open space, the priority for future open space acquisitions, if any, should be focused toward those lands that expand ownership of adjacent City-owned properties or to ensure sufficient property is available to accommodate public access and future trail connections.

As with roadway system and transportation planning, planning for recreational trails should be geared toward connectivity, rather than mileage. Considering a mileage standard for paths within the Camas park system would provide only an isolated and inadequate assessment of need for the community and its plans for better connectivity, and as such no numeric standards are recommended or proposed for trails. This Plan recommends a connectivity goal that re-states and reinforces the desire to improve overall connections across the City and enhance off-street linkages between parks and major destinations, as feasible.

Other Considerations

While this Plan uses total parkland acreage and parkland access as primary indicators of parkland need, the City could also consider other factors as its population grows, including:

- Park pressure, or the potential user demand on a park: Residents are most likely to use the park closest to their home. This measure uses GIS analysis to assign all households to their nearest respective park and calculates level of service (in acres of parkland per 1,000 residents) based on the acreage of the park and the number of residents in the 'parkshed'. Areas with lower levels of service are more likely to be underserved by parkland and to see higher degrees of use and wear and tear on park amenities.
- Availability of park amenities: Park systems should include an equitable distribution and quantity of the most common amenities like playgrounds, picnic shelters, sports courts, sports fields and trails to meet local needs and help distribute the potential usage of individual parks. Working to provide well-distributed basic park amenities, while also offering unique outdoor experiences, will result in a varied park system with a range of different recreational opportunities for residents. See Appendix G for considerations.



Credit: Camas Post-Record

Park & Trail System Recommendations

Acquisitions and Development for Trail Connections

Additional trail connections are needed, as well as sidewalk and bike lanes improvements, to help link destinations across the community and park system to offer more walkability and promote healthier outdoor lifestyles. Acquisitions of easements, corridors and parcels will be needed to create the comprehensive linkages for Camas' future trail system. The Public Works and Parks and Recreation Departments will need to collaborate on the project planning to ensure the most appropriate links that improve the park and trail system. This should also include coordination with the Transportation System Plan (and subsequent updates), as well as coordination with local subdivision and site development projects.

Park Development & Improvement Projects

The preparation of an updated site master plan for Ash Creek Park and a new site plan for the flat, upper shelf of Ostensen Canyon Park will be beneficial to guide future decision-making and development of those two parks. Once master plans have been adopted, phased park development should be planned as part of the capital facilities program.

Field drainage problems are observed issues at various parks. The City should conduct a city-wide field assessment to create a capital improvement project list and on-going maintenance plan. Ongoing coordination with local leagues and the school district should inform other field improvements, including turfing existing fields, installing lights to expand play seasons and the development of additional fields to accommodate demand.

Expanding Recreation Options

Splash Pads / Spray Parks

Spray parks are water play features that are very popular and provide a means of integrating aquatics into parks at a relatively low cost. Camas currently does not have a splash pad in the park system, and strong public support exists for this feature. The City should consider at least one spray park to serve residents as an option for summertime water play that doesn't require lifeguarding. This special use amenity typically is supported by parking and restrooms, since it draws users from a wider area. Any spray park facility should be designed to recycle water, if practical.

Bike Skills

Engaging older youth, teens, and adults in more intense physical activity within parks requires amenities that support challenging active movement. The City should plan for a pump track and connecting flow track in a visible location that can accommodate parking and can enable a synergy with other park uses. These features would add new challenges for riders and add to the range of outdoor recreational opportunities across older youth and teens.

Alternative Sports

Providing facilities for alternative or emerging sports, such as skateboarding, BMX, mountain biking, climbing and parkour, can offer residents a more diverse range of recreational experiences, while creating destinations that attract local and regional visitors. Camas currently has an outdoor, concrete skatepark located next to the Washougal River Greenway, and opportunities and facilities for other alternative sports should be considered as new parks, such as Green Mountain, are designed and developed.

All-Inclusive Playgrounds

Upgrading play areas for ADA-accessibility will be necessary to ensure compliance and universal access; however, providing for ADA-accessibility should not be the City's only goal. As new parks or playground replacements are planned, Camas should consider opportunities for fully-accessible all-inclusive play areas to provide for users of all abilities.

Off-Leash Dog Area

Walking with a dog is a very popular recreational activity, and off-leash areas have become desired amenities for dog owners living in urban environments who may otherwise have limited opportunities to exercise their pets. Recreational trends and community input indicate an existing

need for an off-leash area. The City of Camas currently does not have an official off-leash dog area; however, the City of Washougal has prioritized implementation of a dog park within the next year with opportunities for Camas residents to use.

Appropriate sites should be safe, not isolated, and noise impacts on neighbors should be considered. Ideally, a dog park would be a component to a larger (future) community park, where infrastructure (e.g., parking, restrooms and garbage collection) exists and supports multiple activities. The development of a dog park may require code revisions, the development of rules and policies, and community support for self-policing for behavioral issues and waste pick-up. Communities throughout the Northwest have relied on grassroots or non-profit organizations, such as DOGPAW, for the ongoing operations and maintenance of such facilities.

Sport Courts

A limited variety of sport courts exists within Camas. Two tennis courts, three volleyball courts and nine basketball courts are provided at City parks. Tennis court surfacing will require attention in the coming years, and Camas has an opportunity to transition one or both courts to multi-sport use. Camas currently has no outdoor, dedicated pickleball courts available within public parks.

Pickleball continues to rank as one of the fastest -growing sports and has seen significant jumps in participation over the past decade, attracting a wide range of age groups. As an interim step, the City should plan to convert some tennis courts to multi-sport courts through striping and examine the need for additional multi-sport courts in the future.

Community Gardens

Community gardens provide common space for residents to grow fruits, vegetables and flowers. Gardens have been shown to increase healthy food consumption, while providing opportunities for active living, social interactions and lifelong learning. Community gardens are becoming more popular park amenities in urban environments, where residents may have limited outdoor space. Gardens are also popular with a diverse range of residents. Additional gardens could be sited in community or neighborhood parks or in stand-alone locations with parking and access to water. Due to limited staffing, the City should continue to seek partnerships for garden management with local community groups.

Water-oriented Recreation

Camas' location on the Columbia River and with three major lakes provide substantial opportunities for water-based recreation, including both motorized and non-motorized boating, fishing, paddle sports, wildlife watching, and beach activities. The City has made significant investments in waterfront acquisitions and water-oriented infrastructure over past decades, and this infrastructure, which includes docks, ramps and other water access amenities, should continue to be monitored.

Outdoor recreation businesses in the Camas-Washougal community benefit from the close proximity of the rivers, forests and mountains that provide venues for mountain biking, backpacking, rock climbing and similar outdoor activities. The cities of Camas and Washougal should coordinate and partner with local businesses to run classes that provide an introduction to these outdoor sports and broaden the outreach to new participants.

Acquisitions for a Complete Park System

Camas' park system has been expanding as the City grows and the need for more facilities triggers additions of both parkland and recreational amenities. The City is expected to continue its growth as a desirable place to live and, thus, must press forward to acquire more parkland and develop more amenities within existing parks. The mapping of existing parks within Camas' residential neighborhoods illustrated the need for three more strategically located park sites to ensure reasonable access to walkable parks for the bulk of the community. Acquiring parkland requires a proactive approach and may need to look beyond undeveloped or partially developed properties. In addition to fee-simple purchases, the City should continue to work and coordinate with local residential developers to include public parks in new subdivisions and utilize tools, such as park impact fee credits, to facilitate the process.







User Conveniences

Restrooms

Supporting park and trail use through the provision of restrooms is a critical element in any park system. Based on the park site assessments, several parks should have the restrooms replaced or upgraded; and where possible add new permanent bathrooms to parks and trailheads.

Parking

Camas has several park and trail assets that are heavily used during the summer, especially those that are adjacent to water or have access to water-oriented recreation such as Heritage Park and Heritage Trail. The City should evaluate such locations for parking and transportation constraints and needs and consider improvements to add capacity for heavy seasonal uses.

Picnic Areas & Shelters

Improving access to existing picnic areas and shelters for ADA compliance should be a core focus. Additionally, the City should assess and consider installation of new picnic shelters by city quadrants. Site master plans for Ash Creek Park and Ostensen Canyon Park should guide the future decisions about the need and location of picnic areas and shelter facilities.

Wayfinding

The City of Camas can benefit from enhanced wayfinding and signage supporting its overall park and trail system. Opportunities exist to help visitors navigate and inform them about the public spaces they are entering. A good wayfinding system can provide a consistent identity and display valuable and accessible information to orient the user. This guidance system ensures efficient use of the trail, park, or other public space and conveys safety to the user by translating the environment into a known geography. Signs, symbols, mapping, color, and standardized site amenities combined with good design of the physical environment (i.e., trail or park) help the user navigate the space and stay comfortably oriented.

ADA compliance

Minor improvements to access, such as providing ramped entrances, for site furnishings are necessary to conform to the Americans with Disabilities Act (ADA) and ensure universal accessibility. Also, the City should evaluate the play equipment and its signage for code compliance and replace outdated equipment, as appropriate. The Capital Planning section includes a line item for covering small upgrades and improvements to remove barriers and improve universal access. In general, the City should complete a system-wide ADA assessment and make improvements to existing parks as needed to ensure proper maintenance, usability and quality of park features and grounds.

CHAPTER 6

Open Space & **STEWARDSHIP**

Camas' open space, greenways and waterways are a critical component of the City's green infrastructure and play critical roles in supporting healthy, well-functioning ecosystems. These many benefits include maintaining and enhancing air and water quality, mitigating impacts of climate change, capturing stormwater runoff, and providing recreational and scenic opportunities to connect with nature that promote physical and mental well-being.



Open Space

The Camas community is fortunate to have retained several significant natural areas across the City. Over 700 acres of open space properties and natural lands are either owned or managed by the City, in coordination with the acreage of the developed park areas. These open space properties include forested lands, riparian corridors, wetlands, and steep slopes across 31 different sites. Together, the open space properties around Lacamas Lake comprise the most extensive and contiguous public open spaces, accounting for 49% of the open space in the City. Several other significant natural areas, ranging in size from 11 to 125 acres, also provide substantial forested areas. Smaller open space properties, under 10 acres in size, are distributed across Camas.

The open space classification distinguishes natural lands from parks developed for active recreation and other highly managed landscapes. Open space may refer to public properties that are exclusively natural areas or portions of larger parks that are managed as natural areas. These open space lands are managed to preserve, restore, and conserve ecosystem functions, water quality, native vegetation, and wildlife habitat. Open space properties are undeveloped, primarily left in their natural form, and are managed to retain or enhance natural or



Would like to see development of parking, picnic shelters, and water entry to Fallen Leaf Lake on opposite side of Lake Road.

- Online Open House participant

scenic resources. However, open space may include trails or interpretive signs, along with modest support amenities such as parking or restrooms. Additionally, some properties that are acquired and held as future, active-use parks are managed as open space until they are developed as parks, which may last five to ten years or even longer from the time of purchase.

Figure 19. City-owned Open Space Areas

Open Space Area	Acreage
Larger Open Space Properties	
Fallen Leaf Open Space	52.30
Forest Home Open Space	19.71
Grass Valley Open Space	11.26
Lacamas Creek Open Space	65.79
Lacamas Lake Open Space	52.41
Lakeridge Open Space	59.49
North Lacamas Lake Open Space	159.91
Ostensen Canyon Greenway	47.70
Prune Hill Open Space	22.96
Skyridge Open Space	29.63
Summit Terrace Open Space	12.34
Washougal River Greenway	124.29
Subtotal	**657.78**
Smaller Open Space Properties	
6th Ave Open Space	0.60
Columbia River Open Space	2.81
Columbia View Terrace Open Space	0.24
Crown Road Open Space	1.37
Goodwin Road Open Space	0.84
Lake Road Open Space	6.99
Meadows Open Space	3.37
Mill Ditch Open Space	9.12
Renaissance Summit Open Space	0.33
Sunningdale Open Space	1.67
Tidland Heights Open Space	1.46
Top Fallen Leaf Open Space	0.41
Triangle Open Space	9.41
View Ridge Open Space	0.33
Subtotal	**38.95**
Undeveloped Park Properties	
Ash Creek Park	9.54
Benton Park	4.77
Green Mountain	114.21
Lacamas Heights Park	2.30
Ostensen Canyon Park	8.23
Subtotal	**139.05**
TOTAL OPEN SPACE	**835.78**

Large Open Space Properties

The City manages several other sizable open space properties. At more than 10 acres, significant habitat for wildlife and a quiet experience for park visitors is buffered by nature from the surrounding urban environment. These areas, in addition to the Lacamas Lake and Washougal River Greenway areas, include Ostensen Canyon, Prune Hill, Skyridge, Forest Home, and Grass Valley. These large open space areas contain a variety of distinct habitats, such as wetlands and creeks, adding to the diversity of plant species they host. Some of these open spaces also include developed trail systems, serving as recreation opportunities and valuable pedestrian connections for local streets and neighborhoods.

Smaller Open Space Properties

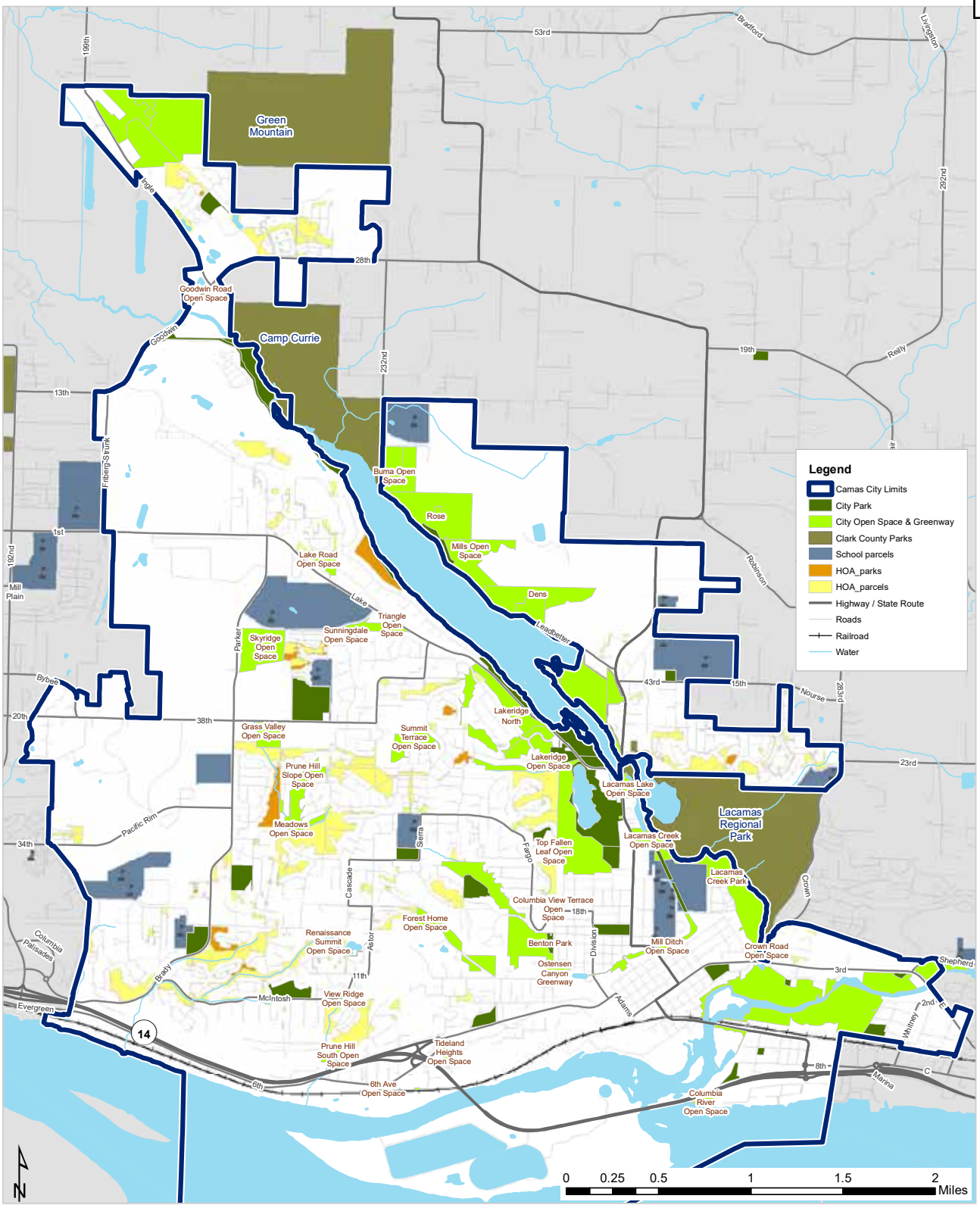
Smaller open space areas, ranging from less than one acre to ten acres, are distributed across the City. Though small, these pockets of natural area serve as refuges for wildlife traveling between larger forested areas, and in some cases, provide meaningful trail connections between adjoining neighborhoods. Several of these areas have no developed trails or site improvements and are managed exclusively as natural area set-asides and to preserve or enhance their ecosystem functions. These include Crown Road Open Space, Lake Road Open Space, Meadows Open Space, Mill Ditch Open Space and Triangle Open Space, among others. Development of these sites for public recreational use, including the construction of trails, may be limited, or restricted by natural characteristics of the land, including steep slopes, wetlands, and other features.

Other Open Space Properties

Other significant natural open space areas include sites owned by Clark County, such as Lacamas Regional Park and Camp Currie, and a significant collection of privately-held parcels owned by various homeowners' associations throughout the City.

Figure 20. Other Open Space Areas

Non-City Open Space Lands	Acreage
Clark Co	891.10
HOA Parks	43.25
HOA Open Space	341.65
TOTAL NON-CITY OPEN SPACE	**1,276.00**



Map 9: Existing Open Space by Provider

Page Left Intentionally Blank

Land Conservation

The City of Camas has demonstrated its commitment to conserving its natural resources within the context of a major metropolitan region. The preservation of the network of open space around Lacamas Lake and the Washougal River Greenway are shining examples of the importance of land conservation to the community. The City has also preserved a variety of public waterfront access and public park amenities along Lacamas Lake and the Washougal River.

Many of the public lands that the City owns and manages host unique, high-value landscapes, such as intact forests, waterfronts, and vistas. These areas are prioritized for conservation, acquisition, and restoration activities to ensure that they continue to thrive and provide their distinct ecosystem functions and benefits. High-quality waterfronts, watercourses, and wetlands are all vital to protecting water quality of these environments and preserving Camas' diversity of habitats. Providing safe public access to and within these areas needs to be carefully balanced with the crucial goal of environmental stewardship and natural habitat protection.

Waterfronts

Camas' diverse waterfronts present some of its most aesthetic and environmentally important characteristics. With only small exceptions, nearly the entire waterfronts of Lacamas Lake, Round Lake and Fallen Leaf Lake are in public ownership. Water access sites are provided at Heritage Park, Fallen Leaf Lake Park, Lacamas Regional Park and along Leadbetter Road. River access is provided within the Washougal River Greenway, and the Port of Camas-Washougal provides water access to the Columbia River. Through ongoing planning and coordination with Clark County, the City should continue to explore options to expand its waterfront ownership along the Columbia River. The conservation and continued restoration of these open spaces further highlight the conservation values of the Camas community.

Watercourses

The City's stormwater management area includes three major watersheds: the Columbia River, the Washougal River, and the Lacamas Lake watersheds. The Stormwater Management Program aims to inform and assist in the development of water quality management policies and strategies to protect local waterways, consistent with the state and federal requirements. Watercourses traversing the numerous sub-basins within the three main watersheds are naturally occurring or partially altered streams characterized by perennial or seasonal flows that contribute to water filtration, stormwater buffering, erosion control, and the provision of wildlife habitats. Within City-owned properties, preservation and restoration of the land surrounding watercourses are a priority, ensuring that these areas continue to provide their unique ecosystem services.

Wetlands & Steep Slopes

The City code also protects and regulates wetlands and steep slopes in Camas. The City's natural open space areas include several wetland areas, including riparian or lakeside wetlands and perched wetlands in upland forest areas. Steep slopes exist throughout the drainage basins and small canyons, such as Ostensen Canyon. These areas continue to be a high priority for protection and restoration efforts. Generally, they represent fragile ecosystems that host unique plant communities and serve as a valuable habitat for many animals, including bird and amphibian populations. These areas should be included in future open space management planning.

Forest Lands

Healthy and resilient forest lands are crucial for the preservation of Camas' high-value ecosystems. The City is fortunate to have acquired and protected many of the forested hillsides and canyons and open spaces around the three major lakes. Ongoing monitoring and management of these forest lands will be necessary to control impacts to water bodies and water quality, control invasive vegetation, maintain native plant communities and accommodate appropriate recreational access and usage.

Land Acquisition

Conservation may also take the form of acquiring important lands that contribute to the ecological health of Camas' forests, wetlands, and watercourses. For many years, the City has partnered and planned with Clark County on the Legacy Lands Program to secure such lands adjacent to the North Shore of Lacamas Lake.

The 2021 update to the Clark County Natural Areas Acquisition Plan provides a vision for preserving and enhancing a system of natural lands that includes greenways, habitat, farm, and forest resource lands. The plan provides a regional perspective, identifying specific acquisition opportunities, as well as accommodates future opportunities for park development, trail creation, and restoration. Within Camas, this county-wide plan continues to identify high-value conservation lands along the Columbia River shoreline (including Lady Island) for open space and to accommodate the Lewis and Clark Regional Trail, in addition to lands along Lacamas Creek.

Undeveloped lands or sections of existing properties are often restricted in their potential development by steep slopes, wetlands, or critical areas. These features are often highly valued for habitat conservation. These areas may extend existing natural areas or serve as essential habitat corridors between larger open space lands. Conservation easements and public access easements are tools that could be applied to increase habitat benefits and access across the parks and open space system.

Stewardship

With the growth of the open space network, the City has initiated several studies to guide the stewardship and management of these lands, informed by quantitative data and best practices.

Open Space Studies and Management Plans

Lacamas Lake Management Plan

The City has begun a process to develop a Lake Management Plan to outline actions to improve water quality in Lacamas, Fallen Leaf, and Round lakes. The project will address algae blooms, along with other water quality concerns that City Council has identified as a top priority. The planning effort will include water sampling and monitoring to better understand current water quality and to develop potential management strategies to improve the overall health of the lakes.

North Shore Subarea Plan

The area north of Lacamas Lake is anticipated to experience substantial growth and redevelopment within the next 20 years, and the City is actively planning the future of the North Shore through an ongoing community process. Current uses are primarily agriculture and single-





family residences, and most of the subarea is in private ownership. Planned transportation infrastructure will improve connectivity and support the employment and retail uses desired in the North Shore area. A large portion of the land in this area is zoned Business Park and Multi-Family, with some Commercial and lower density residential zoning. An eight-point vision statement, adopted by City Council in September 2020, includes as the first two points the intent to preserve the natural beauty of the North Shore and plan for connected greenspace.

1. Preserve the North Shore's natural beauty and environmental health. Policies, regulations and design rules must protect significant trees, tree groves, and surrounding lakes. Identify and preserve views to the treed hillside and the lake.
2. Plan a network of green spaces and recreational opportunities. Integrate a variety of parks, playgrounds, trails, and open spaces into residential and employment areas throughout the North Shore area. Create a "green corridor" along the lake that completes the Heritage Trail, provides lake access, and buffers the lake from adjacent development.

System-wide Open Space Management

In 2003, the City prepared Policy Guidelines for an Open Space Management Plan, which was intended to give staff the basis for effective resource management decisions. The plan identified nine management goals and eight policies to guide open space management. The plan identifies high-level issues related to land management and trail development in and through the open space network.

Since 2003, the City's open space network has grown by over 50% in terms of city-owned acreage, and an updated, more specific and science-oriented open space management and urban forest management plans are required to better guide City staff in the care, maintenance and stewardship of open space and forested lands. In particular, these new plans should reflect the realities of limited program funding and the challenges presented by climate change to include the following considerations:

1. Maintain the functional benefits of open space vegetation.
2. Foster resilient plant communities that can recover from disturbances and adapt to climate change and its impacts, such as forest fires.
3. Implement work based on the value of these functional benefits, the community's priorities for the open space properties and the condition of the vegetation found there.
4. Maximize the return on available funding through volunteers, matching grants, and donations.

Sustainable Stewardship Practices

The management of landscapes in City parklands, whether formal plantings in developed parks or diverse forest ecosystems in open space areas, requires continual attention and an investment of significant resources to properly steward and maintain the living landscape. Regardless of the use of these landscapes, the desired outcomes are the same – to sustain healthy, thriving plants.

Past practices and traditional horticultural methods to achieve this goal have become less reliable in recent years. Changes to the Pacific Northwest climate have increased summer heat and drought, causing more stress for mature and establishing plants. This change has been accompanied by a shift toward more sustainable landscape maintenance practices, reducing potential impacts on the surrounding environment and its inhabitants.

Water Conservation

Despite the rainy winters, water is not an unlimited resource in the mid Columbia River valley, and summers are expected to get even hotter and drier as climate change intensifies. It is increasingly likely that not just voluntary, but mandatory, water conservation measures will become necessary on occasion to preserve supplies for the most critical uses, such as domestic consumption.

In landscaped areas where shrubs and trees rely on some summer water, maintenance staff have adjusted the irrigation systems to water before sunrise to reduce water waste and maximize plant uptake. Depending on the landscape, watering also may need to be shifted to a deeper and less frequent watering schedule to reduce evaporation and encourage plants to root more deeply. In addition to reducing irrigation volumes and frequency, the City should consider shifting to planting more drought-tolerant species and schedule the majority of new plant installations in the early part of the rainy season to maximize root growth and establishment before the onset of the dry season.

Plant Selection

Selecting appropriate plants species for park landscapes is the source of a great deal of discussion, both on the local and regional scale. While drought-tolerant plants will be better able to establish in the short term, consideration is also given to how well newly established plants will survive in the long term. In recent years, cities across the Pacific Northwest have seen many mature native trees decline and die in recent years, unable to adapt quickly to the increased summer temperatures and lack of summer moisture. Plant selection for tree replacements or renovations that consider the anticipated climate in 10-50 years will be more likely to create resilient, mature landscapes that can better transition to warmer, drier conditions.

In natural areas, generally replanted with trees and shrubs native to the immediate area, staff should begin selecting new plants from seed zones that reflect the greater Portland-Vancouver area's projected climate. This focus on plant provenance (the original geographic source of seed, pollen, or propagule) will allow staff to plant the same native species better adapted to future conditions.

In addition to considering the climate in the selection of plants for developed parks, other factors must also be considered, including the mature size of the tree or shrub, any known pests or diseases that may affect the species, and how a fully developed root system will interact with nearby paved surfaces.

Invasive Species Management

The control of invasive species is a critical element of the restoration process and essential in maintaining a healthy natural landscape. Many invasive and non-native species exhibit strong adaptability to Pacific Northwest environments and displace native species, especially within the disturbed landscapes proximate to urban development. In relation to the need for an updated open space management plan, the City should expand resources to managing invasive species and enhanced partnerships to help with these efforts. While removal efforts may be ongoing, those sites cleared of invasives will require continuous monitoring and intervention to reduce or limit the re-establishment of the invasive plants. Through proper management of public open spaces and natural areas, the City and its partners can maintain and enhance its open space areas and the critical ecosystem and community benefits they provide.

Stormwater Management

The Pacific Northwest region is experiencing more severe rainstorms due to climate change, and more of that rain is falling on impervious surfaces: roads, parking lots, and rooftops. This untreated surface water runoff is a source of contamination along the Columbia River, Washougal River, Lacamas Lake, and in other riparian areas, impacting both people and wildlife, especially salmon populations.

State requirements for surface water management are becoming more stringent and costly for both developers and the City. Ongoing updates to and management of the City's NPDES Phase II Permit, Stormwater Design Standards, Stormwater Management Plan, and Stormwater Management Program should be acknowledged in relation to park and open space system management.

Runoff volumes, peak stream flows, and local flooding can be reduced by incorporating trees into stormwater management planning, lessening the need for expensive detention facilities (e.g., catch basins) and the cost of treatment to remove sediment and other pollutants such as lawn chemicals. Green infrastructure is far more cost-effective than grey infrastructure.

Using open space areas and greenspaces to capture stormwater runoff encourages infiltration into the soil, prevents excessive streambed erosion, and reduces sedimentation in major waterways. In addition, a healthy tree canopy increases carbon sequestration potential, encourages local biodiversity, and enhances overall environmental resilience by reducing heat island effects and offering cooler, shaded air.



CHAPTER 7

Recreation & EVENTS

...my top priority "Outdoor adventure summer camps, including archery..." I would be very interested in these types of activities/camps not only for children and youth, but adults as well. I would love to participate in all of the activities that were listed, not only to learn more but also to meet more people in the community.

- Online Open House participant



The recreation facilities and services available within Camas are a major community asset and support the physical, mental and social health of community members. Recreation services are available through a range of public and private recreation, health and fitness providers and facilities. The City currently provides nearly all of its programing through partnerships and program contractors and does not provide a full suite of 'traditional' recreation offerings, such as fitness and aquatics, due to limited facility space and staffing.

RECREATION MACROTRENDS

The following national and state data highlights some of the current trends in recreation and may frame future considerations in Camas' recreation programs. Additional trend data are provided in Appendix E.

- Nationwide, eighty-two percent of U.S. adults believe that parks and recreation are essential. (1)
- Seventy-seven percent of survey respondents indicate that having a high-quality park, playground, public open space or recreation center nearby is an important factor in deciding where they want to live. (1)
- Nearly all (93%) park and recreation agencies provide recreation programs and services. The top five most commonly offered programs include holiday or other special events (65%), educational programs (59%), group exercise (59%), fitness programs (58%), and day or summer camps (57%). (2)
- Youth aged 6 to 17 were active outside far less in 2019 than in previous years – the average

number of outings per child dropped 15% between 2012 and 2019. [4]

- Adults over the age of 65 showed significant change in inactivity rates in the six year period between 2014 and 2019, decreasing 6.8%. The rise in popularity of low impact exercise like aquatic exercise, swimming for fitness, yoga, and barre could be attributing to the decline of inactivity in this older age group. [5]
- Nearly all park and recreation providers in the U.S. experienced a decline in revenue in 2020 due to the COVID-19 pandemic. As early as May 2020, most providers had to close facilities temporarily in accordance with health and safety directives. Nearly half had also furloughed or laid off staff due to the funding and facility impacts of the pandemic. [3]

Sources:

(1) American Engagement with Parks Survey

(2) 2020 NRPA Agency Performance Review

(3) 2020 State of the Industry Report

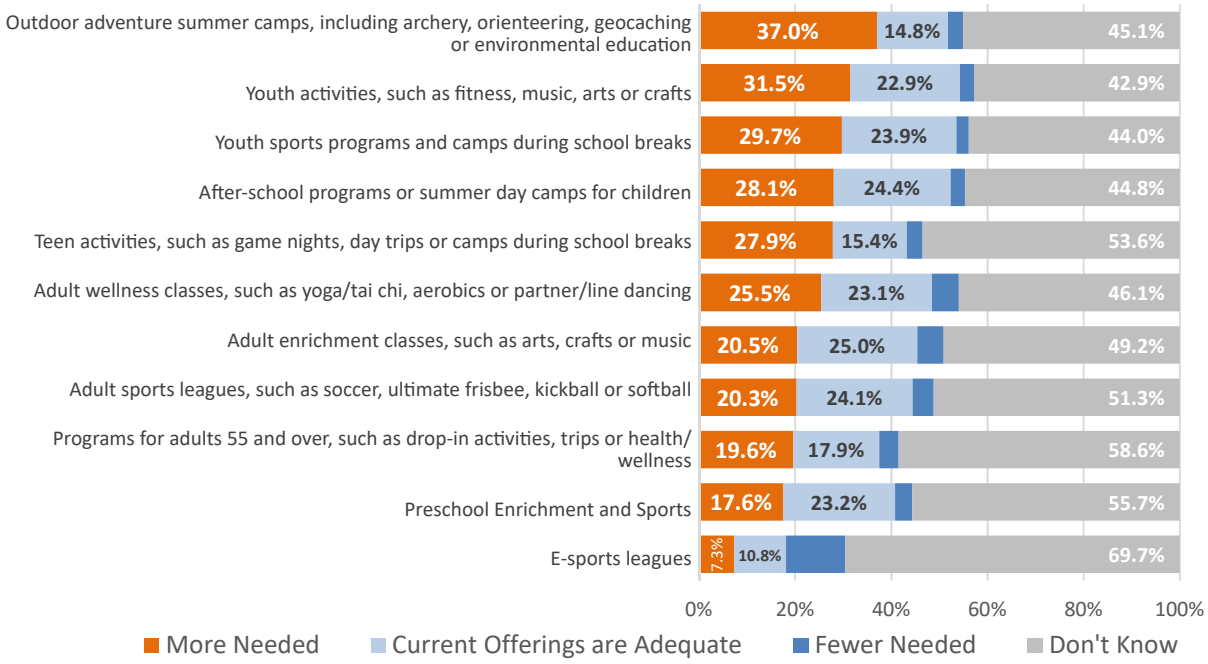
(4) 2020 Outdoor Participation Report

(5) 2020 Sport & Fitness Industry Association Sports, Fitness, And Leisure Activities Topline Participation Report

Local Perspectives

The community survey conducted as part of this PROS Plan update asked respondents which types of recreation programs, classes and activities they would like to see more of. Notably, approximately half of respondents indicated that they did not know whether current offerings were adequate or not. Of those who expressed an opinion, more than half felt the City needed more outdoor adventure summer camps, teen activities, adult wellness classes and programs for adults over 55. Respondents under 34 years of age were more likely to feel the City needs more adult sports leagues, youth camps and after-school programs, preschool activities, and E-sports leagues.

Figure 21. Adequacy of Current Recreation Options



Additional insight was gleaned from the online open house, which asked participants to prioritize the list of recreation programs and activities that ranked strongly from the above community survey. The top three recreation program priorities were noted as the following:

(1) After-school programs or summer day camps for children

(2) Outdoor adventure summer camps, including archery, orienteering, geocaching or environmental education

(3) Youth sports programs and camps during school breaks

The online open house also included a question about community events. Participants were asked to rate the priority (high, medium or low) from a list of ten program options. The top three event priorities were noted as the following:

(1) Hometown Holidays

(2) Movies in the Park

(3) Concerts in the Park

- Outdoor Recreation – Environmental education, hiking, camping, kayaking, and other activities
- Sports – Team and individual sports including camps, clinics and tournaments, as well as adventure/non-traditional sports
- Seniors – Programs and services that are dedicated to serving the needs of seniors
- Special Events – City wide special events that are conducted throughout the year
- Teens - Programs and services that are focused on serving the needs of teens. This can include all of the activity areas noted above (except seniors)
- Youth – Before and after school programs, summer/school break camps, and preschool

Figure 22 highlights the major areas of focus for current Camas recreation programs, segmented by general program classification and age group. The programs noted are based on a review of program offerings for 2018-2021, that were provided by the Department.

Recreation Programs

Interest in the City providing recreation programs appears to be strong; however, the number and types of activities the City can offer is very limited due to the lack of staffing and indoor facility capacity. The City should consider incremental growth in recreation programs and initially focus on facilitating programs via contract vendors who provide their own staff and/or focusing on those programs that are not currently offered by local or regional providers.

Programming Classifications

Recreation program offerings can be classified and segmented into general program categories to assist in the planning and provision of programs and activities. The following general program categories have been applied to a review of programs offered by the City to illustrate the range and variety of program options:

- Education – Language programs, tutoring, science (STEM) classes, computer, financial planning, and CPR/AED/First Aid
- Fitness – Group fitness classes, personal training, education, and nutrition



Figure 22. Existing City Programs by Classification

Area	Focus	Programs
Sports	Youth Sports	Sports Camps, Soccer, Skyhawks Sports Camps, Co-ed Flag Football
	Adult Sports	Adult Co-ed Softball, Men's Softball
Fitness / Wellness	Youth	Fencing, Kung Fu, Fitness Classes, Tiny Tots Tumbling
	Adult	Fitness Classes, Yoga, Tai Chi, Women's Self Defense, Barre
Youth		Spring Kids Camp, Preschool, Preschool Summer Camp, Brickzone Summer Camp, School Break Camps
Teens		Camtown Art Show, plus Sports & Fitness (see above)
Education	Youth	CPR/AED/First Aid. Busy Bee Preschool
	Adult	CPR/AED/First Aid
Specialty / General Interest	Youth	Music Together, Craft Workshops, Family Paint Night
	Adult	Craft Workshops, Family Paint Night
Special Events		Easter Egg Hunt, Camtown Youth Festival, Movies in the Park, Summer Concerts, Family Fun Fridays, Hometown Holidays
Outdoor Recreation	Youth	Spring Adventure Camp
	Adult	N/A
Seniors		Fitness Classes, Tai Chi, Self-Defense, Cultural Bus Tours, Casino Tours

Programs Available by Age Groups

Below is listed the general program categories that are available for different age groups. Full dots represent categories where Camas has an established set of programs, and hollow dots represent categories where Camas currently provides some program options and is working to grow the programming.

Figure 23. Segmentation of City Programs by Age Group

Program Category	Preschool	Youth	Teen	Adults	Senior
Education	●		◎	◎	◎
Fitness		●	◎	●	●
Outdoor Recreation		●			
Seniors					●
Special Events	●	●	●	●	●
Sports	●	●	●	◎	◎
Teens			●		
Youth		●			

For the programs it provides, Camas serves all of the major age groups to a degree. Education and Outdoor Recreation have very limited programs in place and should be supplemented as staff and resources allow. Education programs could include language programs, tutoring, science (STEM) classes, computer classes and financial planning. Outdoor recreation programs could occur at many of the local parks and include environmental education, birding, hiking, camping, kayaking and other activities.

As shown in the community survey conducted as part of this Plan, the Camas community considers youth programs to be a high priority for City recreation services. More than three in ten survey respondents indicated that there were not enough youth activities, such as fitness, music, arts or crafts (31.5%) and outdoor adventure summer camps, including archery, orienteering, geocaching or environmental education (37%). To address community needs and demand, the City should explore how to provide adequate resources to expand and diversify its youth programs to meet the growing need for engaging, affordable, safe options for children and teens. The City should continue to work with the school district, community partners, recreation providers, and sports organizations to explore facility options and availability. In utilizing existing parks and outdoor resources during the summer months, the City should explore specialized outdoor youth camps focusing on hiking, climbing or orienteering, as well as expand and strengthen its Adventure Camp program.

If opportunities are created for additional indoor or classroom space, the City should consider whether to expand the quantity and breadth of youth and adult programs offered. In particular, the City should consider health and fitness classes, additional team sports programs, classes in alternative sports, art and music classes, and educational programs, such as language, and personal and home improvement. Because recreational programming can be influenced by national and regional trends, staff must stay abreast of current trends and continue to evaluate and adjust program offerings within its contractor-reliant service model and if indoor program space becomes available.

The City also should continue to coordinate with the school district and explore options to partner with the district for the use of school facilities (e.g., gymnasiums and classrooms) as space for expanded program options, especially during non-school summer months. Such an option would require the loosening of COVID restrictions, as the school district has stopped allowing outside organizations to use their spaces for activities.

Regarding programs for adults over 55, the depth and breadth of programming for seniors may need to increase or be adjusted as the overall population ages, with a greater emphasis on the wide-ranging needs and expectations of the Baby Boomer generation. As noted in the Community Profile chapter, Camas has a slightly higher median age than the county and state, and nearly one-quarter of the city population is 55 years of age and over. Today's seniors are generally more active than previous generations and would benefit from a diverse array of recreational and educational programs that promote active, healthy lifestyles. The City will likely see an increased demand for programs offered on evenings and weekends, as older community members maintain employment or volunteer activities later in life.

Additionally, the following program categories are not provided due to the limited nature of the City's facilities and staffing capacity to support these programs:

- Aquatics – Learn to swim classes, aqua exercise classes, competitive swimming/diving, SCUBA, and other programs (synchro, water polo, etc.).
- Cultural Arts – Performing arts classes, visual arts classes, music/video production and arts events.
- Self-Directed – This includes the opportunities for individuals to recreate on their own. This can include activities such as open gym, use of weight/cardio space, and lap/recreational swimming.
- Special Needs – Programs for the physically and mentally impaired, as well as inclusion programs.
- Social Services – This can include nutrition and feeding programs, job training, life skills training, childcare and other activities, such as health screenings.

Recreation Facilities

Camas Community Center

The Camas Community Center is a historic school building located south of the Washougal River and downtown Camas, in the Oak Park neighborhood. The center is used for community meeting and private event space, recreation programs, senior activities, as well as storage for non-profit partners, special event and recreation program supplies. The facility has limited function due to its small size, limited amenities, location, and inability to expand. Built in 1915, the Center was not designed for recreation programming and does not have a full-size gym. In the future, if a new recreation center is approved, the City should reexamine the use of the existing community center to avoid duplication of services.

Lacamas Lake Lodge

The Lacamas Lake Lodge is located adjacent to Heritage Park on Lake Road, along Lacamas Lake. Located on the site formerly occupied by the Camas Moose Lodge, the new building provides community meeting and event space, adult and youth recreation programs, as well as improved access to Lacamas Lake and public parking. This facility is intentionally designed for multiple uses but is especially well suited to rent for events. The City should continue to program this facility to support recreation programs, but in a manner balanced with rental use of the facility, which provides the greatest revenue to support this facility and other City services.

Private Fitness

Several private fitness and aquatic clubs are located in or near Camas. These facilities vary in their offerings and clientele, and their strength in the marketplace is an indicator that the wider Camas-Washougal community seeks out and has a need for fitness-related activities and programs.

School District Facilities

In addition to school gymnasiums and sport fields, the Camas School District also operates the Jack, Will and Rob Center. The facility was opened in 2002 and run as a Boys & Girl Club until 2017. At that time, the Camas School District assumed operations. The center provides after-school programs, classes and rentals, and the facility offers a gym, classroom space, art room, computer lab and Family Community Resource Center.

Future Recreation & Aquatic Center

In 2019, Camas voters rejected a $78 million bond to build a community recreation and aquatics center with a recreation pool and competitive pool, in addition to sport field improvements. Although the outcome of that vote was clear, the outreach conducted through this planning effort indicates that many in the Camas community still have interest in an aquatics facility and indoor recreation space.

Traditional guidelines from the National Recreation and Parks Association for service demand for recreation centers are based on a population benchmark, with the idea that one recreation center could be supported by a population of 40,000. With the City's current population and projected growth, the City should continue to explore the potential to site and finance an indoor facility and continue the dialogue with the community about what could be included in a new facility, its projected costs, and the community willingness to support such an endeavor – at a scale that would be supported by voters. Partnerships will be necessary to offset development and operational costs of a community recreation center, so the City should continue discussions with local agency partners (e.g., City of Washougal, Camas School District) and with operators (e.g., YMCA) to explore options for the development and operations of a future center.

Special Events

The main recreation program area that is directly offered by Camas Parks and Recreation is special events, which include the following (pre-COVID):

- Easter Day Egg Hunt
- Camtown Youth Festival
- S'more Stories Under the Stars
- Concerts in the Park
- Camas Days Kids Parade
- Family Fun Fridays
- Movies in the Park
- Family Halloween Night
- Hometown Holidays

Community and special events should continue to be an area of emphasis. Special events draw communities together, attract visitors from outside the community, and are popular with residents. However, due to resource requirements of coordinating special events, the overall growth in the number of events should be carefully managed. This will ensure the City can adequately invest in its overall recreational offerings and maintain high-quality special events. Other community groups should be encouraged to be the primary funders and organizers of as many community-wide events as possible. If the City decides to offer more events, it should obtain sponsorships to offset costs and develop a series of seasonal activities.



Program Enhancement & Development

Staff should periodically review data from the following sources to determine community needs for programs and services:

- Historical registration trends/success of current programs and services
- Surveys and questionnaires
- Washington SCORP and national trend data
- Suggestions provided by current instructors and current employees
- Suggestions submitted by prospective instructors/ employees

Staff should continue to evaluate and assess the City's program offerings and prioritize future programs based on a mix of criteria that include:

- Current or potential importance for community-wide or broad individual benefit
- Community needs or deficiencies
- Potential for increased participation
- Revenue potential, affordability and accessibility

With the City of Washougal's interest in expanding recreation options, the City of Camas should directly coordinate and plan with Washougal staff to provide a balanced suite of programs in a complementary manner. This should be in parallel with the development of Camas' programming philosophy to detail how the City will deliver recreation programs and services in the future, which also is framed by the availability of flexible, indoor space for programs and classes. As part of the programming philosophy, the City must determine what programs and services will be offered directly by recreation staff and which will be contracted to other individuals or organizations. The City's current model of utilizing program contractors could be expanded or supplemented as indoor space is available via arrangements with the school district and/or the construction of a larger recreation center that can accommodate fitness, athletics and classes.

Before determining which programs and services to contract or have provided by others, an assessment of the specific pros and cons of such a move needs to be completed. A major aspect of this analysis should be to determine the financial impacts and

quality of the services that will be provided. Key questions to be asked include:

- Is this program offer consistent with community wants and needs?
- Do we have the facility capacity to provide the program? If not, can we partner with someone who has the space?
- Will this be the most cost-effective method to obtain the program, service or function?
- Does the Department have the knowledge, equipment, staffing resources and systems to provide the program, service or function?
- Are there other more qualified organizations that should provide the program, service or function? Will the quality of the program, service or function suffer if it is contracted to other organizations?
- Is the program, service or function only available from a contract provider?
- Are the safety and liability risks too high to provide the program or service in house/
- How will we effectively and efficiently market this program?

Communications & Marketing

As staffing and resources allow, the City should take a stronger role in coordinating and delivering recreation programs and services in the community to ensure that there is a broad base of inclusive programming options available. This will require strong communications with other providers to determine roles, tracking of programs offered and number of participants, plus actively promoting the availability of services. Strong marketing efforts will be needed to inform and promote the recreation programs that are available and should focus on the following areas:

- Website enhancement to better promote programs and services
- The development of an updated program catalog, circulated multiple times a year
- Promotion of program registration options
- Programs and services offered by other providers
- Using appropriate communication channels to effectively market to various demographic segments.
- Cross marketing and/or promotional opportunities with other organizations such as the Camas School District, Camas Library, Meals on Wheels, Camas-Washougal Rotary and others.

There must be a strong recognition of the different demographic markets that have to be served. The youth, senior and family populations in the area should be specifically addressed, as should the different ethnic groups. Cross marketing programs with the school district and using social media to highlight programs by target audience also should be employed.



CHAPTER 8

Operations & MAINTENANCE

> ***Near-term – increase field capacity by improving field quality.***
> **- Stakeholder Focus Group participant**

The City of Camas aims to provide a quality park, recreation, natural open space, and trail system that is efficient to administer and cost-effective to maintain. The previous 2014 PROS Plan outlined a set of objectives for operations and maintenance to help achieve this goal. These included staff training, updated equipment, the exploration of additional resources through alternative staffing, a volunteer coordinator position and the investment in preventative maintenance and upgrades to park facilities to maximize long-term benefits. Camas has since purchased larger mowing equipment, added two FTE positions in the fiscal 2019/20 period and added a playground inspection program with funding for playground equipment repair. This park management effort is ongoing as resources are available but further progress



is needed. Park Operations staff have demonstrated their dedication to keeping parks functioning while the parkland system, city population, and park use has been expanding rapidly.

This chapter will provide data and assessments to help identify existing resource gaps and explore opportunities that may improve the capacity of park operations and maintenance.

Background

The City of Camas has doubled its population since 2000 and has been very successful at implementing its plans for acquiring and preserving open space in the face of development pressures. The City has worked diligently to create its open space network with a connecting system of trails around Lacamas Lake and linked to regional trails. In the last decade alone the City has added over 316 acres of open space and over 146 acres for future parks. The ten years of successful acquisitions increased the 2010 park system size by over 75%.



Figure 24. Camas Parklands Acquisitions since 2010

	Acquisition Acreage		
Year	Park	Open Space	Total
2011	7.02	4.92	**11.93**
2012		48.92	**48.92**
2013		23.59	**23.59**
2014		5.82	**5.82**
2015	25.12		**25.12**
2016			**0**
2017			**0**
2018		75.57	**75.57**
2019		37.99	**37.99**
2020	58.55	119.66	**178.22**
2021	55.65		**55.65**
Subtotals	**146.34**	**316.47**	
	Total Acquisitions since 2010		**462.81**

While the park system in Camas increased by over 462 acres, the park maintenance staffing remained at the same equivalent employee level. There is some degree of maintenance outsourcing that accomplishes tree pruning or removal and invasive weed control.

Figure 25. Camas Park Maintenance Staffing Levels from 2010-2020

Metrics	2010 Actual	2020 Budget	2020 Actual
Parks Maintenance Expenditures	$842,449	$1,284,856	$1,246,099
Parks Maintenance Staffing (FTEs)*	7.3	7.3	*

* No seasonal workers were hired in 2020 due to COVID
2010 FTE's combined full-time and seasonal equivalents

In 2010, park maintenance was conducted by 5.3 full-time employees (FTE) and two FTE equivalents for summer seasonal work. Having added two FTEs in 2019, park maintenance was executed by 7.3 FTEs with two additional seasonal positions. In 2020, no seasonal workers were hired due to COVID restrictions. While the park maintenance budgetary expenditures increased by about 48%, the actual personnel level was similar to 2010. Those budget increases were mainly from normal inflation, additional playground repair/maintenance, and cost of living adjustments. Clearly, the operational resources have not kept up with the increase in the park system.

National Park and Recreation Agency Comparisons

The National Recreation and Park Association (NRPA) 2020 Agency Performance Review provides some park metrics that offer perspectives on the Camas park system. Selected findings from their benchmarking tool illustrate some disparities with park acreage, population size and Park Operations staffing levels.

Figure 26. NRPA Agency Performance Comparisons with Camas' City-owned Park Facilities

Metric	All Agencies	Pop. 20,000-49,999	Camas
Number of Parks	20	-	**18**
Park Acres	437.1	-	**240**
Parks & Open Space Facilities (# sites)	27	-	**70**
Parks, Open Space & Non-Parks Acres	530	-	**1,064**
Residents per Park	2,281	1,963	**1,448**
Park Acres per 1,000 Residents	9.9	9.6	**40.8**
Trail Miles	11	8.5	**18.7**

The City of Camas, with 1,064 acres of parks and natural areas, has more than double the acreage of parks and open space than the median park and recreation agency (at 530 acres). That acreage comparison uses only city-owned parklands excluding the parklands owned by Clark County. The City also manages much more than the median trail mileage as typical agencies across the country. For Camas residents, these additional park facilities help improve the quality of life. However, the existing park operations staffing level does not provide enough resources to oversee, monitor or steward this extent of open space and natural parkland. A review of additional NRPA metrics provides further comparison with other agencies and jurisdictions of similar size. The number of park FTE positions relative to the population size for most park and recreation providers is 8.9 FTEs per 1,000. The Camas park and recreation system has 0.4 FTEs per 1,000 population; the number of FTEs is considerably lower. The operating expenditures per capita is much lower than comparable cities.

Figure 27. NRPA Agency Performance Metrics Comparisons – Park & Recreation Staffing

Metric	All Agencies	Pop. 20,000-49,999	Camas 2020
Park & Rec FTEs*	41.9	27.3	**11.1**
P&R FTEs per 1,000 Residents	8.1	8.9	**0.4**
Annual Operating Expenditures	$4,342,495	$2,885,847	**$1,771,272**
Operating Expenditures per Capita	$81.19	$95.34	**$67.96**
Operating Expenditures per Park Acre	$7,160	$8,522	**$1,665**

**No seasonal FTEs for Camas in 2020 due to COVID*

The comparison with NRPA metrics predicts the need for additional staffing resources to effectively manage the extensive system of parklands owned by the City. As the City continues to work to fill in the gaps in its open space network and to further develop its comprehensive trail system, park operations will need to be expanded to meet the need for more active stewardship and care.

Additional agency performance review findings are located in the 2020 NRPA Agency Performance Review summary in Appendix E.

Washington Cities Park and Recreation Provider Comparisons

Park and recreation operations can be highly variable, particularly at different population sizes and residential densities. A more refined comparison of park metrics was prepared using several cities in western Washington with population sizes within range of the population size of Camas. This comparison used budgetary and staffing numbers from 2018 to avoid the highly variable impacts from the COVID-19 shutdown and ensuing restrictions.

Figure 28.. Comparable Washington Cities' Park & Recreation Performance Measures

		City Park Providers				Park District Providers	
Performance Measure	**City of Camas**	**Port Angeles**	**Maple Valley**	**Mercer Island**	**Mountlake Terrace**	**Si View**	**PenMet**
Population	**26,065**	19,960	28,013	25,748	21,286	25,410	37,485
P&R total spending (2018)	**$1,020,000**	$3,462,300	$2,525,940	$5,209,047	$3,623,851	$7,645,050	$14,567,517
Spending per resident (2018)	**$39.13**	$173.46	$90.17	$202.31	$170.25	$300.87	$388.62
Operating Budget (2018)	**$2,050,000**	$3,356,600	$2,525,940	$5,864,507	$3,623,851	$5,042,038	$6,297,517
Operating per Resident	**$78.65**	$168.17	$90.17	$227.77	$170.25	$198.43	$168.00
Annual Capital Spending (2018)	**-**	$1,024,000	$8,100,000	$3,154,753	-	$1,460,952	$8,270,000
Capital Spending per Resident	**N/A**	$51.30	$289.15	$122.52	-	$57.50	$220.62
Park & Rec FTE (2018)	**5.25**	25.6	11.75	29.75	44	14.5	22.3
Seasonal FTE positions	**3.75**	7.6	(combined)	(combined)	(combined)	-	(combined)
P&R FTEs per 10,000 Residents	**3.45**	16.6	4.2	2.6	2.1	5.8	4.6
Total Developed Parks (acres)	**240**	270	320	259.9	269	46	266.1
Park acres per 1,000 Residents	**9.2**	13.5	6.9	10.1	12.6	1.8	7.1
Total Parks & Natural Areas (ac.)	**1064**	270	370.8	479	269.0	890	570.9
Parkland acres per 1,000 Residents	**40.8**	13.5	13.2	18.6	12.6	35.0	15.2
Parkland acres per P&R FTE	**118.2**	8.1	31.6	16.1	6.1	61.4	25.6
Population Density (people/sq. mi.)	**1,853**	1,865	4,669	4,036	5,243	941	742
Park Facilities	**18**	23	9	52	15	65	19
Trails (miles)	**18.7**	8.5	3	24.9	-	-	1.6

Note: 2018 budget numbers were used for the provider comparison to avoid the highly variable budget impacts from COVID.

In reviewing the comparisons, a few observations about the Camas system stand out.

- Overall spending per resident for park and recreation services was considerably lower for Camas ($39.13 per resident). The average across the other comparable cities was $220.95 per resident.
- Also, Camas parks and recreation budget allocated the equivalent of $78.75 per resident compared with an average $170.46 per resident for the other cities.
- Overall, Camas had more total park and open space acres per 1,000 population (40.8 per 1,000) than the comparable agencies. However, when comparing staffing for that larger parkland system, Camas measured at 118.2 parkland acres per FTE significantly higher than the averaged 24.8 parkland acres per FTE of other comparable cities.

This comparison indicates some off-balance traits for Park Operations charged with stewardship of the entire Camas park system.

Open Space Management

The City provides conserved public lands and undeveloped parklands temporarily held as greenspace totaling over 830 acres. Recent additions of Green Mountain and properties in the north Lacamas Lake area have helped create a significant network of contiguous natural areas with high ecosystem value. Park Operations currently manage to accomplish field mowing in open space lands such as Goot power lines, Ostensen Canyon, etc. and have performed annual invasive species spraying in areas identified by the County Weed Management Board in the spring.

However, the capacity of the Park Operations staffing has not kept up with the more extensive need for open space management that may involve proactive hazard tree removal, vegetation monitoring, invasive plant control and addressing any ecological restoration needs. The open space network has grown by over 50% in terms of City-owned acreage since 2000.

With the growth of its open space network, the City has responsibilities for extensive conserved landscapes and has conducted several studies to guide the stewardship and management of these lands.

To highlight the intended need for open space management, past planning efforts have been summarized below.

The 2003 City of Camas Policy Guidelines for an Open Space Management Plan established the overall policies to guide the management of both public and private property within the Open Space Network. The Open Space Network was identified and mapped as part of the 2000 Parks & Open Space Comprehensive Plan. The Policy Guidelines document was intended to set the direction of open space planning and to provide staff with the foundation for effective resource management decisions. The Management Goals for open space policy included nine directives that coordinated best management practices in natural areas and funding for an open space management program by the City. The Parks and Recreation Department was designated with the responsibility for administration, management and maintenance of the open space network. Trails are considered to be an integral part of the open space network. The Parks and Recreation Department is designated with the responsibility for trail safety and security, inspection and monitoring, and maintenance.

The 2014 PROS Plan included Design and Development Guidelines for the City's Natural Open Space Areas that recognized natural areas should be protected for their environmental value with only limited improvements for passive recreation where appropriate. The guidelines encouraged public use of the natural open space through trails, viewpoints and other features while ensuring protection of ecologically sensitive areas. A minimum of park features were cited for improving natural open space including trails and site furnishing such as benches, picnic tables, bike racks, trash receptacles, and signs. The guidelines suggest additional park features for consideration such as parking, restrooms, picnic shelters, gathering spaces (for education), interpretive exhibits, trailhead or entry kiosks, and restoration areas.

The Legacy Lands Master Plan – 2020 Draft Design Report, was the culmination of a consensus-building process for guiding the future development of the north shore of Lacamas Lake. The City had secured significant lands intended for shoreline protection, conservation and recreation. The Legacy Lands Master Plan built on the concepts that were put forth in the 2016 North Shore Lacamas Lake Vision Plan whose guiding principles included recreational trails with connections to the regional trail network, active recreational facilities, native habitats, and preserving key visual landmarks along the shore. Acknowledging future population growth and development pressures, the City is undergoing the North Shore Subarea Plan that encompasses 800 acres north of Lacamas Lake, and will incorporate the concepts developed in the draft Legacy Lands Master Plan.

None of the above planning efforts addressed the predictable need for more maintenance staffing or the necessary increased funding for management and maintenance.

Trail Maintenance

Camas' trail network provides tremendous value to its residents and visitors with walking and biking infrastructure for healthy outdoor recreation and connections to destinations across the city. With limited Park Operations staffing, trail maintenance, upkeep and capital repairs will fall behind or be deferred on a recreational asset that receives continual, daily use. Park Operations are currently able to manage brush clearing on significant trail on the Washougal River Greenway and Heritage Trails. Trail resurfacing is scheduled when pathway tread conditions deteriorate. Other maintenance activities tend to be triggered by public comments or complaints.

The planned expansion of Camas' trail network along the north shore of Lacamas Lake, Mill Ditch and connecting to Green Mountain will add miles of public shared-use trails. To ensure safe and beautiful trails, park operations estimates one FTE to maintain trails, at .04 FTE per trail mile. The current level of service for trail maintenance is estimated at .02 FTEs/mile. As miles of trail are added, additional FTE resources should be increased concurrently.

To help convey the importance of trail upkeep, parks operations may want to consider adding one or two trail counters along the busier trail sections. Measuring the trail use can help communicate how many people are affected daily by the trail conditions. A record of trail use can also help when providing quantifiable data for grant support or submittals.

Sport Field Maintenance

Camas has sport fields in ten of its park facilities. Some of its sport fields receive extensive maintenance and care through partnering sports organizations (such as Little League) while other fields may only receive mowing, annual weed control and litter control. In parks where local sports organizations are not providing added level of care, Camas should address deficiencies to ensure that access and equity for sports facilities is maintained across the city. Additional maintenance on these sport fields calls for turf maintenance, including over seeding, fertilization, and top dressing; athletic field fence maintenance, including backstops and fence perimeters; and goal post maintenance.

Park Facilities Maintenance

Park maintenance staffing has been stretched to care for the City's aging park facilities, while the system continues to expand to meet the increased park use. Additional attention needs to be given to bolster existing general park maintenance tasks: playgrounds inspections, maintenance and repairs, and noxious and invasive weed control. Updating the older park amenities can help lighten the load on needed repairs and ongoing maintenance tasks, but as newly developed parks are added to the system, additional operational and maintenance resources will be necessary to ensure those park assets are managed for safe and enjoyable public use and longevity. Park Operations has not been able to proactively perform tree assessments within parks to ensure proper care of its tree canopy resource or to mitigate for potential tree hazards. Additionally, Park Operations is tasked with managing and maintaining the Camas Cemetery.

Asset Management

The NRPA has developed a quality risk assessment tool called "Park Check" to provide an analysis of an agency's risk profile. The online tool uses a series of questions to explore the likelihood of problems due to lack of resources available over time. The Park Check risk assessment tool rates your responses to these questions to determine if your agency's ability to deliver quality park and recreation amenities and services to all members of your community in the future is at "low," "moderate" or "high" risk. The online tool generates a customized report that could help department's further articulate their needs for dedicated and reliable funding and local support.

More specifically, the conditions assessment conducted in this PROS planning process reveals a number of areas where more attention in needed to physical amenities with park facilities. Whether the need to repair site furnishings, reduce ADA barriers, or correct deficiencies is identified, the conditions assessment should be used to help improve public safety in the parks and reduce public risk.

As an example, playgrounds across the city are in different stages of their life cycles. Some play equipment has aged beyond its life expectancy and may not meet current safety standards.

While the city has started regular scheduled safety inspections, additional funding needs to be evaluated to ensure timely repair or replacement of play equipment. In addition, the inspection report could include assessment of the likelihood and consequence, in terms of financial, community and environmental impact, of the future failure of its assets, such as shelters and other structures. Such an assessment can provide key information for the strategic prioritization of limited resources toward those assets whose failure would have the greatest negative impact on the Camas community.

As an element of Park Operations, the management of physical assets requires proactive planning for capture cost efficiencies. Tracking repairs, maintenance tasks, routine operations and seasonal work can help predict the needs for future labor resources as the system grows. The 2014 PROS Plan recommended developing a detailed list of the assets at each park facility site and evaluating asset conditions annually. Such a tracking schedule would create a framework for long-term management of the Camas park system. Detailed inventories with conditions tracking will inform replacement needs, monitor safe use, and assist in assigning maintenance frequency.

Most built park amenities have limited lifespans. Buildings, play equipment, pavement, etc. can be tracked from installation dates. As repairs are needed, those assets can have predictable replacement dates that are added to the capital facilities program. Life-cycle planning can help avoid extra time spent repairing outdated amenities and foster more cost effective labor resource use.

Following on a program of asset management tracking and life-cycle planning, a regular capital repair program should proactively address minor repairs and help extend the life of some amenities. The delay of small repairs can lead to more frequent maintenance that could be avoided. When existing staffing is stretched to its limit, park agencies must rely more heavily on outside contractors for implementing even the small capital repair projects. Without adequate staffing, a backlog of needed maintenance and repairs usually exists. With a sufficient skilled labor force, the City can capitalize on using existing staff resources to complete the smaller capital repair projects during off-season capacity.

Americans with Disabilities Act Compliance

The Americans with Disabilities Act of 1990 (ADA) prohibits discrimination on the basis of disability. Titles II and III of the ADA require, among other things, that newly constructed and altered state and local government facilities, places of public accommodation, and commercial facilities be readily accessible to, and usable by, individuals with disabilities. Recreation facilities, such as play areas, are among the types of facilities covered by Titles II and III of the ADA.

The U.S. Department of Justice 2010 ADA Standards for Accessible Design provide guidelines that are intended to address design conditions to ensure that barriers or obstacles blocking outdoor recreation facilities are prevented or removed, such that all park patrons have reasonable access to site amenities. As older facilities are in the process of renovations and replacements and new facilities are added to the system, Camas will need to ensure compliance with ADA accessibility requirements.

Invasive Species Management

The control of invasive species is a critical element in the stewardship of open space lands to ensure their continued conservation values and ecosystem services. An active invasive species control program is also necessary to ensure that the City is meeting the requirements of RCW 7.10 Noxious Weed regulations. This may involve direct control measures for known and identified noxious weed problems, pre-construction prevention of noxious weed spreading, and evaluating new parkland or conservation land noxious weed coverage. Clark County's Vegetation Management Division currently handles some of the invasive weed control for the Camas park system but more work needs to be accomplished to effectively meet the regulations. Camas should consider hiring and training its own staff to perform an invasive weed control program for all its park and open space lands.

In-House vs. Outside Contractors

Park and recreation agencies throughout the country should continually weigh the costs of service provision through internal staffing versus external contracts. Full-time staffing weighed against seasonal resources should explore the off-season workload, training time for new part-time seasonal employees, the availability of seasonal labor, and the specialized skill sets for some types of operations. One-time projects and specialized repairs and renovations may require outside contractors while some park agencies have enough trained in-house staff to accomplish smaller capital projects.



Staffing Needs

The assessments and comparisons of park operations staffing have indicated the need for a stronger labor force for maintaining Camas' parks and open space/natural lands. The 2014 PROS Plan recommended adding specialized trail position, an urban forester or arborist, and a natural resource specialist to the operations team to build the level of expertise needed to effectively manage the existing natural resources owned by the City. Since the 2014 PROS Plan, several additional open space properties have been acquired, increasing the natural lands owned by the City from 440 to 691 acres.

For the Clark County park system that includes extensive natural areas, regional parks, community and neighborhood parks, many years of tracking maintenance tasks and labor expenditures produced some five-year averages for the amount of labor required to adequately care for its park system.

Figure 29. Performance Metrics for Clark County Parks Maintenance

Predictive Labor Staffing Needs	Total Park Acres	Labor Hours/Acre	Total Labor Hours	FTE # (1,820/yr)
Neighborhood Parks	75.9	152	11,536.8	6.3
Community Parks	67.7	111	7,514.7	4.1
Regional Parks	151.4	98	14,837.2	8.2
Open Space/Natural Areas	691.5	21	14,521.5	8.0

Using those metrics can help predict the potential park maintenance staffing needs for the Camas park system as it ramps up its stewardship of natural areas and adds new developed parks.

Figure 30. Predictive Staffing Levels for Camas Park System

Annual Labor Expenditures per Acre	5-yr Average
Greenspace Labor Hours per Acre	21
Neighborhood Parks Labor Hours per Acre	152
Community Parks Labor Hours per Acre	111
Regional Parks Labor Hours per Acre	98

The table in Figure 30 (above) uses acreage that includes both developed and undeveloped parkland acreage. If only the currently developed park acreage was calculated in this staffing prediction and included special facilities sites, the 240 acres of developed facilities (not including trails or open space) would suggest the need for 15 full-time equivalent employees, double the size of the current staff level. Staffing resources are needed to implement the updating and renovations for older parks, to provide maintenance for expanded trail connections and to steward its hard-earned open space lands. Camas should be prepared to support its park system with adequate operations and maintenance staffing to ensure protecting and preserving the value of its outdoor assets now and in the future.

CHAPTER 9

Goals & OBJECTIVES



Add interpretive cultural and historical information to the parks or trails to honor local heritage. Highlight tribal history. This information can draw people into a park, and it helps teach kids. Provide signage in a blind/deaf-friendly way.

- Stakeholder Focus Group participant

The goals and objectives described in this chapter define the recreation and park services that Camas aims to provide. These goals and objectives were derived from input received throughout the planning process, from City staff, the Parks and Recreation Commission, City Council and community members.

The Growth Management Act (GMA) adopted by the Washington State Legislature in 1990 provided a foundation for land use planning in selected cities and counties throughout the state, including Clark County and the City of Camas. The GMA's purpose is to help communities manage efficiently with the challenges of growth to ensure their long-term sustainability and high quality of life. It identifies 14 planning goals to guide the development of comprehensive plans and development regulations (codified in Chapter 36.70A of the Revised Code of Washington). Four of these goals directly affect the development and implementation of this plan.

- "Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks." RCW 36.70A.020(9)
- "Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water." RCW 36.70A.020(10)
- "Identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance." RCW 36.70A.020(13)
- "Carry-out the goals of the Shoreline Management Act



with regards to shorelines and critical areas." RCW 36.70A.020(14)

Furthermore, the Camas Comprehensive Plan, the previous park system plan and county-wide planning policies provide a framework for this PROS Plan.

The following goals matrix is structured by functional areas and thematic goals, as follows:

Functional Areas

- Administrative
- Projects & Programs
- Policy

Goal Themes

- Welcoming For All
- Stewardship of Land, Parks & Programs
- Plan for & Fill Known System Gaps
- Organizational Excellence

Goals are stated within each thematic area and associated to the functional areas. Under each goal, action item(s) will be listed.

A goal is a general statement that describes the overarching direction for the park and recreation system. Action items are more specific and describe an outcome or a means to achieve the stated goals. Near-term recommendations are specific and measurable actions or projects intended to implement and achieve the goals, and will be contained within the Needs Assessment and Capital Planning chapters of the PROS Plan.

Page Left Intentionally Blank



WELCOMING FOR ALL



STEWARDSHIP OF LAND, PARKS & PROGRAMS



PLAN FOR & FILL KNOWN SYSTEM GAPS



ORGANIZATIONAL EXCELLENCE

PROJECTS & PROGRAMS

Actively communicate and improve outreach and marketing to increase participation.

- Promote and increase participation in youth and senior scholarships.
- Keep park and trail facilities map updated.
- Pursue opportunities for alternative outreach and education to diverse groups, such as piloting youth parks stewardship programs and active communication through faith groups and non-profit organizations that work with people of color and underserved communities.
- Pursue partnership opportunities with health care organizations to promote active recreation and wellness activities and events.

Opportunities for dogs to recreate with their human family.

- Partner with non-profits for more pet and animal and animal friendly events.
- Explore a partnership with DOGPAW to develop and manage off leash areas.

Increase capacity for sports field users.

- Explore opportunities through joint use agreements with school districts to use existing fields or interim use of other lands.
- Enable an effective scheduling system.
- Implement creative design options, such as multi-use fields, upgrade field turf surfacing, and/or install lights.

Improve Asset Management.

- Improve the asset management system; to include parks facilities and amenities assets along with tree and plant assets.
- Update levels of service standards and develop a per acre maintenance budget.
- Develop an urban forestry program that articulates long-term strategy for tree protection, urban forestry management and education.
- Develop and implement improved natural area management practices to enhance ecological health and remove invasive plant species.
- Continue to build on playground equipment inspection program, prioritizing removal and replacement of unsafe/hazardous equipment and plan for a cycle of replacement based on equipment age and anticipated useful life.

Enhance parks and trails amenities.

- Refresh existing legacy parks with new features to reflect current community desires, such as Crown Park.
- Prioritize permanent bathrooms at neighborhood parks and trailheads.
- Increase portable restrooms when permanent bathrooms are unavailable during the summer.
- Provide additional picnic shelters, tables and benches.
- Maximize the multiple-use aspects of critical areas, stormwater detention ponds, etc. with addition of public trails or viewing access and education of ecological value of the area.

Design new parks, trails and amenities with environment, safety and accessibility in mind.

- Design and maintain parks and facilities to offer universal accessibility for residents of all physical abilities, skill levels and age; at a minimal in compliance with the Americans with Disabilities Act (ADA) Standards for Accessible Design.
- Identify and grow trail segments and trailhead amenities that can accommodates residents of all physical abilities.
- Standardize and install a more complete wayfinding and signage system.
- Incorporate sustainable development and low impact design practices into the design, planning and rehabilitation of new and existing parks, trails and facilities.

Enhance outdoor recreation opportunities.

- Identify and prioritize the acquisition of parklands based on factors such as contribution to level of service, connectivity, preservation and scenic or recreational opportunities for residents.
- Develop park master plans that reflect local needs, community input, recreation and conservation goals; with consideration for financial resources and availability of similar amenities/facilities within the city and region.
- Prioritize implementation of existing master plans with consideration for service gap delivery and available financial resources.
- Add new unique park amenities to the system such as nature play area, a splash pad, a bike skills pump track, and all-inclusive playgrounds.

Partner with Developers to fill parks and trails gaps.

- Actively pursue trail connections via rights-of-way or easements.
- Continue and maintain Parks & Recreation review and comment on private development proposals that includes park and trail siting and design.
- Partner with developer to create robust public engagement process for park and trail design projects within the development project site intended to be transferred to the city.

Continued...

Continue building strong partnerships.

- Collaborate with local arts organizations, business, education institutions, other non-profits and jurisdictions to deliver on recreational programs and community events.
- Partner with user groups of specialized facilities, such as sport fields, off-leash areas, disc golf, skatepark, bike skills/pump track, etc. to continually improve programing and maintenance.



PLAN FOR & FILL KNOWN SYSTEM GAPS

Continued...

Partner with neighboring jurisdictions to fill regional trail network gaps.

- Work with Clark County, City of Washougal, City of Vancouver and Port of Camas-Washougal to align trail connectivity priorities.
- Coordinate and connect the City's pedestrian and bicycle system with the Clark County regional system of on-street and off-street trails.

Promote water access and safety.

- Collaborate with other agencies regionally in developing and operating parks and/or programs that access our bodies of water.
- Promote water safety through educational and marketing program in partnership with County and School Districts.
- Evaluate the north shores city-owned Legacy Lands properties to expand trails and water access points around Lacamas Lake.

Page Left Intentionally Blank



WELCOMING FOR ALL



STEWARDSHIP OF LAND, PARKS & PROGRAMS



PLAN FOR & FILL KNOWN SYSTEM GAPS



ORGANIZATIONAL EXCELLENCE

ADMINISTRATIVE

Regularly review and renew recreational classes for all ages, interest and abilities.

- Provide annual recreational program summary to Parks & Recreation Commission for review and input.
- Pilot new classes each year that reflects current market trends and community desires.
- Provide Summer free pop-up classes to promote recreational programs.

Continue to host events and provide community spaces that bring people together.

- Continue to partner to implement legacy events.
- Have intentional engagement with diverse community groups to create and partner on new diverse events.
- Expand locally sourced food options at parks and events.

Maintain Parks and Facilities.

- Standardize park furnishings and amenities (trash cans, tables, benches, fencing, etc.) to reduce inventory and replacement costs and improve appearance.
- Continue growing volunteer parks enhancement and beautification program.

Continue to preserve, protect and restore natural area corridors, include shorelines.

- Strengthen partnerships with public agencies, tribes, and private partners to facilitate greenway corridor connectivity.
- Continue to support and actively participate in shoreline and/or bodies of water conservation and restoration projects lead by other city departments, agencies and/or non-profits.
- Pilot environmental education program.
- Add educational interpretive signage to natural areas, shorelines and trails.

Evaluate user satisfaction and use.

- Implement periodic surveys to gauge user satisfaction, program initiatives and statistical use of parks, facilities and programs, including trail counts.

Promote and support Parks & Recreation Commission.

- Promote P&R Commission meetings as forum to discuss parks and recreation topics.
- Provide more training and resources to build parks and recreation knowledge base within Commission members.

Encourage staff innovation and creativity.

- Provide professional development opportunities through training and affiliation with NRPA and WRPA, among others.
- Provide opportunities to explore and implement pilot programs.

POLICY

Enhance our parks and recreation system to make it more welcoming and accessible.

- Develop Diversity/Equity/Inclusion policy that removes accessibility barriers (socio-economic, language, physical, geographic, transportation) to programs, parks and trails, and in alignment with City vision and policies.

Better understand funding gaps and funding alternatives.

- Develop and implement a cost recovery policy that provides for an equitable fee structure for park facilities and recreation programs, with high-community benefit programs and event funded appropriately to ensure accessibility for all residents.
- Periodically revise the park impact fee methodology and rates to accurately reflect changes in level of service standards and/or the costs of expanding the park infrastructure to accommodate population growth.
- Review and update the adopted six-year Parks Capital Facilities Plan (CFP) every two years to remain current with local recreational interests and account for the capital needs of the parks and recreation system.
- Pursue alternative funding options and dedicated revenues, including engaging and exploring with the City of Washougal a feasibility study to assess the potential of establishing a regional financing tool for recreation service.

Provide equitable access to parks and open space system.

- Prioritize park and trail development in areas where service gaps exist (e.g., where households are more than ½-mile from a developed park, open space or trail) and in areas of the City facing population growth and residential and commercial development.
- Evaluate and update design and development standards for parks and recreation amenities within private development to promote and achieve equitable levels of service and provide amenities that are complementary to the city park.

Expand recreational services.

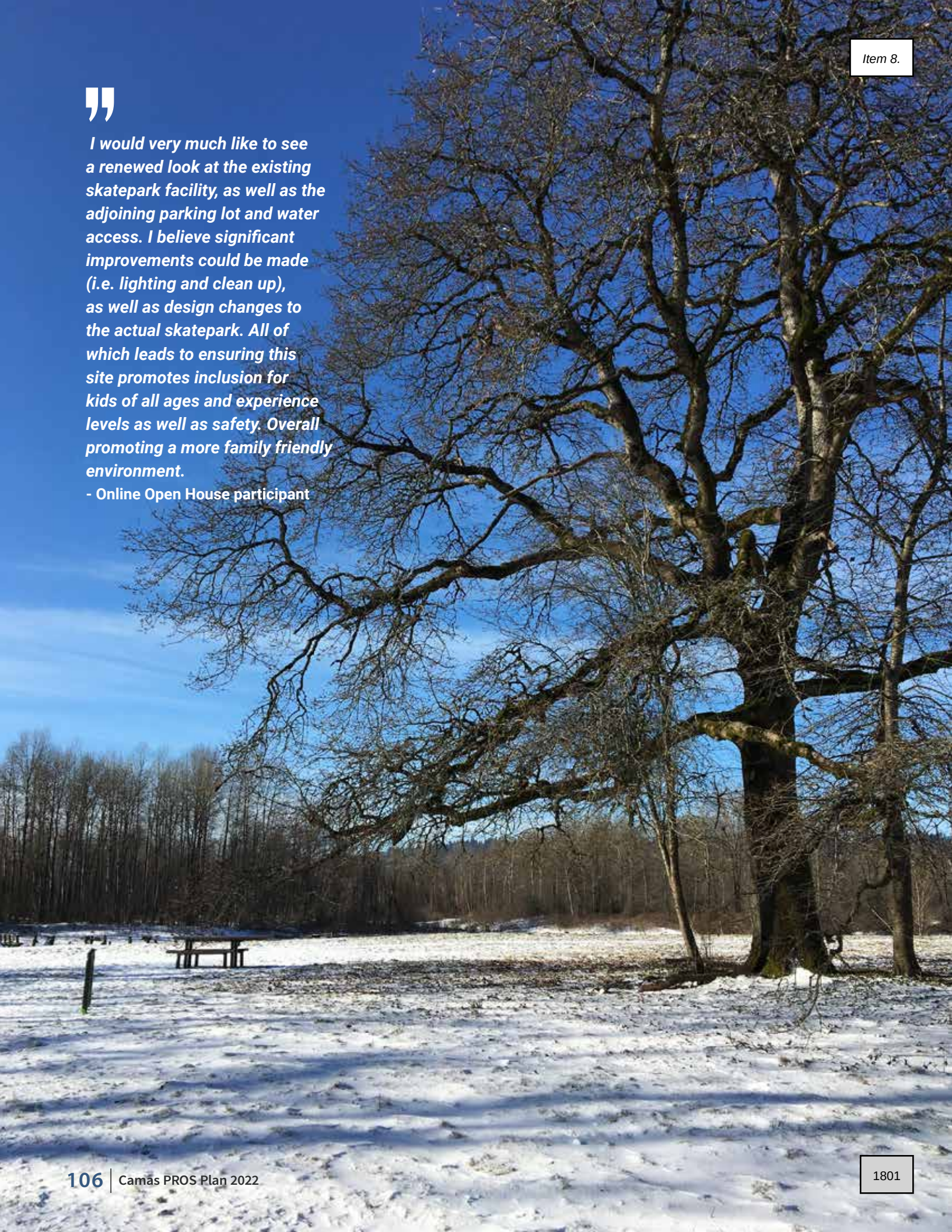
- Re-examine the opportunity for new recreational center with aquatics facility, taking into consideration financial feasibility and partnership opportunities.

Coordinate collaborative discussions on policy matters.

- Bring together Parks and Recreation Commission, City Council, and other standing City boards, such as the Planning Commission, to discuss policy matters pertaining to recreational resources, opportunities and funding.

Page Left Intentionally Blank

Page Left Intentionally Blank



I would very much like to see a renewed look at the existing skatepark facility, as well as the adjoining parking lot and water access. I believe significant improvements could be made (i.e. lighting and clean up), as well as design changes to the actual skatepark. All of which leads to ensuring this site promotes inclusion for kids of all ages and experience levels as well as safety. Overall promoting a more family friendly environment.

- Online Open House participant

CHAPTER 10

Capital Planning & **Implementation**

KEY PROJECT RECOMMENDATIONS

The following is a summary of key project recommendations which will require commitment from the City and its residents for the continued support of a healthy park and recreation system that preserves and enhances the safety, livability, and character of the community.



Trail Connections

Trail connections, including sidewalk and bike lane improvements, are needed to help link destinations across the community. Acquire easements, corridors and parcels to create the comprehensive linkages for Camas' future trail system. Develop larger trails desired by the community, such as North Shores of Lacamas, Mill Ditch, Lewis & Clark. Coordinate with the Transportation System Plan (and subsequent updates), as well as coordinate with local subdivision and site development projects.



Park Design & Planning

Prepare an updated site master plan for Ash Creek Park and a new site plan for the flat, upper shelf of Ostensen Canyon Park. As development and maintenance funding allow, prepare site plans for Lacamas Heights, Green Mountain and Benton Park.



Sport Field Improvements

Conduct a city-wide assessment of sport fields to plan for drainage improvements and other field improvements, including turfing existing fields, installing lights to expand play seasons, and the development of additional fields to accommodate demand.



Splash Pads / Spray Parks

Install at least one spray park to serve residents as an option for summertime water play in a park that provides parking and restrooms.



Bike Skills & Mountain Bike Trails

Plan for a pump track and connecting flow track in a visible location that can accommodate parking and can enable a synergy with other park uses. Pursue options for mountain bike trails during the planning for the new Green Mountain property.

Skate Park Upgrade

Upgrade and enhance the existing concrete skatepark to improve the design and flow, as well as improve adjoining recreational amenities such as access to the Washougal River.



All-Inclusive Playgrounds

Develop fully-accessible, all-inclusive play areas as new parks are built or playground upgrades occur to provide for users of all abilities.

Off-Leash Dog Area

Coordinate with the City of Washougal on off-leash dog park planning for the potential of a joint use facility for Camas residents to use.



Sport Courts

Convert existing tennis courts to multi-sport courts through striping and examine the need for additional multi-sport courts in the future.

Community Gardens

Partner with local community groups for the installation of community gardens in community or neighborhood parks or in stand-alone locations with parking and access to water.



Acquisitions to Fill Park System Gaps

Acquire strategically located sites for future parks to ensure reasonable access to walkable parks. Coordinate with local residential developers to include public parks in new subdivisions and utilize tools, such as park impact fee credits, to facilitate the process.



Universal Accessibility

Complete a system-wide ADA assessment and make improvements to existing parks as needed to offer universal accessibility of park features and grounds.

Water Access

Improve shoreline and water access for motorized and non-motorized launches, including user conveniences such as restroom facilities and parking.



Recreation Programming

Continue to foster agreements or partnerships with programming partners and contract vendors for providing recreation services. Coordinate and partner with the City of Washougal on programming options. Explore new pilot programs, and partner where possible, to broaden the portfolio of offerings to youth. Explore options for access to additional flexible indoor recreation space to accommodate programs, classes and fitness.



North Shore Subarea Plan

Maintain strong role in planning for future parks and trails along the North Shore.



Open Space Management Plan

Prepare an updated, science-oriented open space management plan to guide City staff in the care, maintenance and stewardship of open space, as well as forecast maintenance needs and staffing resources.

Urban Forestry Management Plan

Prepare an urban forestry management plan to examine the health and coverage of the urban forest, define maintenance and operations strategies, and respond to the challenges of climate change, as well as other environmental and fiscal factors on long-term tree health and forest resiliency.



Wayfinding & Signage

Continue to implement a wayfinding program that includes both visual graphic standards. Colors, sign types, and information can help users navigate the outdoor recreation experiences offered by the City.



Communications

Maintain the website for easy-to-access park system maps, trail maps and an up-to-date listing of park sites and amenities to enhance the experience of the on-the-go user. Continue to promote via social media and highlight events, volunteer opportunities and parks and trails to visit. Utilize QR codes or comparable technology on signage as a means to share with or receive information from visitors about maintenance, restoration or monitoring data. Utilize the network of partners to help disseminate information on parks and recreational programs and events.



Implementation Tools

A number of strategies exist to enhance and expand park and recreation service delivery for the City of Camas; however, clear decisions must be made in an environment of competing interests and limited resources. A strong community will is necessary to bring many of the projects listed in this Plan to life, and the Camas City Council has demonstrated its willingness in the past to support parks and recreation, legacy land acquisitions and a high quality of life.

The recommendations for park and recreation services noted in this Plan may trigger the need for funding beyond current allocations and for additional staffing, operations and maintenance responsibilities. Given that the operating and capital budget of the Parks and Recreation Department is finite, additional resources may be needed to leverage, supplement and support the implementation of proposed objectives, programs and projects. While grants and other efficiencies may help, these alone will not be enough to realize many ideas and projects noted in this Plan. The following recommendations and strategies are presented to offer near-term direction to realize these projects and as a means to continue dialogue between City leadership, local residents and partners. The tools presented only capture development of the capital improvements and not the long-term operations of the new assets.

Additionally, a review of potential implementation tools is included as Appendix F, which addresses local financing, federal and state grant and conservation programs, acquisition methods and others.

Enhanced Local Funding

According to the city budget, Camas maintains reserve debt capacity for local bonds and voter approved debt. The city's non-voted general obligation debt is under its debt capacity limit of $41 million for non-voted debt. Community conversations regarding the potential to develop a recreation center with aquatics and/or bundle several projects from the Capital Improvements Plan warrant a review of debt implications and operating costs for the City, along with the need to conduct polling of voter support for such projects.

Park Impact Fees & Real Estate Excise Tax

Park Impact Fees (PIF) are imposed on new development to meet the increased demand for parks resulting from the new growth. PIF can only be used for parkland acquisition, planning and/or development. They cannot be used for operations and maintenance of parks and facilities. The City of Camas currently assesses impact fees, but the City should review its PIF ordinance and update the methodology and rate structure, as appropriate, to be best positioned to obtain future acquisition and development financing from the planned growth of the community. The City should prioritize the usage of PIF to secure new park properties and finance park or trail development consistent with the priorities within this Plan.

The City currently imposes both of the quarter percent excise taxes on real estate, known as REET 1 and REET 2. The REET must be spent on capital projects listed in the City's capital facilities plan element of their comprehensive plan. Eligible project types include planning, construction, reconstruction, repair, rehabilitation or improvement of parks, recreational facilities and trails. Acquisition of land for parks is not a permitted use of REET 2. REET is used for other City projects, such as facility construction and public works projects, and may be used to make loan and debt service payments on permissible projects. Through annual budgeting and with discussions with City Council, the Parks and Recreation Department should seek access to REET funds and use the capital facilities plan to compile compelling projects to enhance service delivery of the amenities the community has provided voice to.

Conservation Futures & Legacy Lands Program

Clark County assesses the maximum allowable excise of $0.0625 per $1,000 assessed value to fund the Conservation Futures program and provides cities a venue to access these funds through a local grant process. The City should continue to submit applications for support in financing the acquisition of additional natural areas identified in the most recent Legacy Lands Program Natural Areas Acquisition Plan to facilitate the protection of these lands and enable improved linkages to expand the trail network.

Parkland Donations & Dedications

Parkland donations from private individuals or conservation organizations could occur to complement the acquisition of park and open space lands across the City and urban growth boundary. Gift deeds or bequests from philanthropic-minded landowners could allow for lands to come into City ownership upon the death of the owner or as a tax-deductible charitable donation. Also, parkland dedication by a developer could occur in exchange for Park Impact Fees or as part of a planned development where public open space is a key design for the layout and marketing of a new residential project. Any potential dedication should be vetted by the Department to ensure that such land is located in an area of need or can expand an existing City property and can be developed with site amenities appropriate for the projected use of the property.

Grants & Appropriations

Several state and federal grant programs are available on a competitive basis, including WWRP, ALEA, and LWCF. Pursuing grants is not a panacea for park system funding, since grants are both competitive and often require a significant percentage of local funds to match the request to the granting agency, which depending on the grant program can be as much as 50% of the total project budget. Camas should continue to leverage its local resources to the greatest extent by pursuing grants independently and in cooperation with other local partners.

Appropriations from state or federal sources, though rare, can supplement projects with partial funding. State and federal funding allocations are particularly relevant on regional transportation projects, and the likelihood for appropriations could be increased if multiple partners are collaborating on projects.

Internal Project Coordination & Collaboration

Internal coordination with the Public Works and Community Development Departments can increase the potential of discrete actions toward the implementation of the proposed trail and path network, which relies heavily on street right-of-way enhancements, and in the review of development applications with consideration toward potential parkland acquisition areas, planned path corridors and the need for easement or set-aside requests. However, to more fully expand the extent of the park system and recreation programs, additional partnerships and collaborations should be sought.

Public-Private Partnerships

Public-private partnerships are increasingly necessary for local agencies to leverage their limited resources in providing park and recreation services to the community. Corporate sponsorships, health organization grants, conservation stewardship programs and non-profit organizations are just a few examples of partnerships where collaboration provides value to both partners. The City has a variety of existing agency and community-based organization partners and should continue to explore additional and expanded partnerships to help implement these Plan recommendations.

Volunteer & Community-based Action

Volunteers and community groups already contribute to the improvement of park and recreation services in Camas. Volunteer projects include park clean-up days, invasive plant removal, tree planting and community event support, among others. Camas should maintain and update a revolving list of potential small works or volunteer-appropriate projects for the website, while also reaching out to civic groups and the high school to encourage student projects. While supporting organized groups and community-minded individuals continues to add value to the Camas park and recreation system, volunteer coordination requires a substantial amount of staff time, and additional resources may be necessary to more fully take advantage of the community's willingness to support park and recreation efforts.

Metropolitan Park District

Metropolitan park districts (MPD) may be formed for the purposes of management, control, improvement, maintenance and acquisition of parks, parkways and boulevards. Several years ago, the City started a preliminary look at a metropolitan park district as a tool for Camas Parks and Recreation. The City should continue to evaluate the potential of an MPD along with other implementation tools as part of a long-term funding strategy.

Other Implementation Tools

Appendix F identifies other implementation tools, such as voter-approved funding, grants and acquisition tactics, that the City could utilize to further the implementation of the projects noted in the Potential Projects List.

Capital Improvements Plan

The following Capital Improvements Plan (CIP) identifies the park, trail and facility projects considered for the next six to twenty years, along with brief project descriptions. The majority of these projects entail the maintenance, acquisition and development of parks, recreational amenities and trails. Based on survey results and other feedback, Camas residents have indicated an interest in park facility upgrades and enhanced trail connections as priorities, and the Capital Improvements Plan is reflective of that desire.

2022 Camas PROS Plan

Capital Facilities Plan

Amended per ORD 22-002

Project Type	Site	Project	Current Cost
A	Trail Corridors	Acquisition to link corridors	$2,500,000
D	Crown Park	Park development per site master plan	$6,200,000
P	Open Space Management Plan	Develop Plan	$200,000
P	Urban Forestry Management Plan	Develop Plan	$150,000
P/D	System-wide	Trails & Trailheads - planning and development	$1,800,000
D	T-3 Trail - East segment of N. Shore Trail	Development of trail	$350,000
P/D	Closing the Loop - Heritage and N. Shore trails	Planning and development	$1,500,000
P	Mill Ditch Trail	Trail corridor access point & stairway planning	$225,000
R	System-wide	Minor repair/replacement (parks amenities) projects	$250,000
D	Forest Home Park	Picnic shelter, drainage, building replacement & minor upgrades	$300,000
P	Skate Park	Phase I - Redesign and construct skate park	$250,000
D	3rd Ave. Trailhead	Trailhead development	$700,000
P	Legacy Lands - Phase I, develop site master plan	Using existing draft Vision Plan, phased approach to Master Planning. This would be Phase I.	$200,000
D	Legacy Lands - Phase I, implementation site master plan	Phase I Implementation - interim use, trails, trailhead, boat ramp, parking, Rose facility, Leadbetter facility	$4,000,000
D	Mill Ditch Trail	Shared-use trail development	$3,500,000
D	Skate Park	Phase II - Water access, trail and parking improvements	$2,000,000
D	Bike pump track	Install bike pump track at selected site	$350,000
D	Dog Park	Install dog park at selected site	$125,000
D	All-inclusive playground	Install all-inclusive playground at selected site	$600,000
P/R	System-wide	ADA compliance projects: facilities, pathway & amenities	$200,000
P	System-wide	Sports Field - assessment of existing fields & planning for system gaps	$100,000
R	Fallen Leaf Softball Field	Field improvements, new fence, infield dirt/grading, etc.	$200,000
P	Green Mountain property	Site master plan	$250,000
P/D	System-wide	Wayfinding and Park Signage program	$150,000
R	Heritage Park	Modify dock, staging to separate non-motorized launches and Gate access control upgrades	$125,000
R	System-wide	Playground replacements	$1,000,000
R	Dorothy Fox Park	Sport field drainage/renovations	$150,000
R	Grass Valley Park	Sport field drainage/renovations	$150,000
D	Green Mountain property	Park development (Phase 1 trails)	$1,500,000
R/D	Heritage Park	Picnic shelter installation & minor upgrades	$280,000
R	Prune Hill Sports Park	Sport field drainage/renovations	$150,000
R	Heritage Park	Install additional parking	$250,000
D	Prune Hill Sports Park	Picnic shelter installation & minor upgrades	$200,000
P/D	Sports Complex *	Site selection, site master plan, implementation	$20,000,000
P	Ash Creek Park	Site master plan	$90,000
D	Goot Park	Picnic shelter installation, replace bleachers & minor upgrades	$150,000
D	Louis Block Park	Upgrade baseball facilities (fencing, restroom, concession, etc.)	$750,000
P	Ostensen Canyon Park	Site master plan	$100,000
P/D	Leadbetter House redevelopment	Feasibility analysis and redevelopment	$2,000,000
D	Community garden support	New garden to fill gap in the system	$50,000
P	Lacamas Heights Park	Site master plan	$75,000
D	Oak Park	Restroom installation & minor site upgrades	$400,000
A	Neighborhood park	Acquisition to address distribution gap (Area A, 2-3 ac.)	$4,500,000
A	Neighborhood park	Acquisition to address distribution gap (Area B, 2-3 ac.)	$4,000,000
P/D	Camas Community Center *	Feasibility analysis and redevelopment	$10,000,000
R	Heritage Park	Upgrade playground & restroom	$450,000
R	Grass Valley Park	Replace playground	$250,000
D	Ash Creek Park	Park development per site master plan	$2,200,000
A	Neighborhood park	Acquisition to address distribution gap (Area C, 2-4 ac.)	$3,500,000
D	Fallen Leaf Lake Park	Park development per site master plan	$2,600,000
D	Lacamas Heights Park	Park development per site master plan	$1,000,000
D	Ostensen Canyon Park	Park development per site master plan	$3,000,000
P	Goot Park - area under powerline	Site master plan and development	$1,750,000
P/D	Aquatic Center *	Site selection, master plan, implementation	$19,000,000
P/D	Public Plaza	Master Planning and development	$1,000,000
P/D	Pickelball Courts	Master Planning and development (upto 8 courts)	$895,000

Total Estimated Project Costs $107,665,000

Project Type

A	Acquisition
P	Master planning
D	Development - new
R	Replacement/Upgrade

NOTES:

This list identifies planning-level cost estimates and does not assume the value of volunteer or other non-City contributions.

Detailed costing may be necessary for projects noted.

Legacy Lands and Green Mountain projects will have additional phase in the future (i.e. 20+ years).

This list is not an official budget and intended as a guiding document for City staff in the

*Additional public and policy discussion needed to refine project

Items highlighted in green are top priortity for the next 2-3 years (2022-24).

Items highlighted in blue bing high priority as opportunities arises.

Page Left Intentionally Blank



Appendix A
Survey Summary

To: Trang Lam, Parks & Recreation Director

From: Steve Duh, Conservation Technix, Inc.

Date: July 19, 2021

Re: **City of Camas Park, Recreation & Open Space Plan**
Community Survey Summary Results

Conservation Technix is pleased to present the results of a survey of the general population of the City of Camas that assesses residents' recreational needs and priorities.

KEY FINDINGS

Camas residents strongly value their parks and recreation facilities.

Nearly all respondents (97%) think parks and recreation are important or essential to quality of life in Camas. Very few, less than 4%, feel they are useful, but not necessary, or not important at all.

Residents visit frequently and are generally very satisfied with existing parks, trails and recreation facilities and programs.

Respondents visit the city's parks, trails, and recreation facilities frequently – most at least once a week – often for fitness or exercise, to walk or run, or to relax. Respondents are less likely to have participated in the City's recreation programs, classes, and camps, with less than one in four households participating in 2019. Those who had participated were most likely to have participated in youth-oriented classes and camps.

Overall, respondents feel that the City's parks and trails are in good condition. Not all respondents are familiar enough with Lacamas Lake Lodge & Conference Center and the Fallen Leaf Park Shelter, but those who are feel they are in very good condition. However, nearly six in ten respondents who rated the Camas Community Center responded that it is only in fair to good condition, signaling a potential need for maintenance and improvements at this facility.

Respondents generally feel the City has sufficient parks, water access, community events, and other recreation opportunities. The notable exception is trails, which 44% of respondents would like to see expanded. Most expressed a preference for more unpaved trails in natural areas over other trail types.

While residents prioritize maintaining existing parks and facilities, they are generally supportive of improving the City's park and recreation system as well.

When asked to rank their priorities for future City investment, respondents prioritized maintain existing parks, expanding trails, and building new parks. More than three in four respondents are very or somewhat supportive of the City adding walking trails, updated and accessible playgrounds, and more picnic shelters to the existing park system. A majority of respondents are also supportive of developing more biking trails, splash pads, off leash dog areas, pools or aquatic centers, tennis or pickleball courts, a new community center, disc golf course, and basketball courts.

As a whole, respondents are most supportive of raising revenue through reservation fees for rentals of part facilities, rather than through parking passes or raising taxes. Again, developing trails is a notable exception, where nearly six in ten respondents were willing to pay additional taxes to support improvements. Younger respondents and respondents with children at home are generally more supportive of expanding the City's park, trail, and recreation system and of increasing taxes or other revenue sources to support system expansion.

SURVEY METHODOLOGY

In close collaboration with City of Camas staff and the Parks and Recreation Commission, Conservation Technix developed the 17-question survey that was estimated to take less than ten minutes to complete.

The City mailed 2,500 surveys to randomly chosen households in Camas on May 29, 2021, of which 509 surveys were completed and returned. Online versions of the survey in English and Spanish were posted to the City's website on June 4, 2021. An additional 874 surveys in English and two in Spanish were completed from the general, community-wide online surveys. In all, 1,385 surveys were completed.

Information about the survey was provided on the City's website and on the EngageCamas site for the PROS Plan project. It was promoted via multiple social media postings, city email blasts and an email blast through Camas school district mailing list. Print copies were made available at the Camas library and the Camas School District Family Community Resource Center Also, flyers with QR codes were placed at numerous parks and local businesses. The survey was closed on July 2, 2021, and data were compiled and reviewed.

Although households were randomly chosen to receive the mail survey, respondents were not necessarily representative of all City residents. However, age group segmentation shows general alignment with current Census data. The table below shows the age demographics for the mail and online surveys, as well as comparative percentages for Camas' population.

	Survey Respondents			Camas population	
Age group	Mail	Online-only	Combined	All	Over 20
Under 20	<1%	<1%	<1%	31%	--
20 to 34	7%	9%	8%	12%	17%
35 to 44	25%	36%	32%	16%	23%
45 to 54	25%	31%	28%	19%	27%
55 to 64	17%	13%	15%	11%	16%
65 to 74	18%	8%	12%	9%	12%
75 and older	8%	2%	4%	3%	5%
Total	100%	100%	100%	100%	100%

This report includes findings of community opinions based principally on mailed survey responses. Each section also notes key differences between different demographic groups and among responses to the online-only survey, where applicable. Percentages in the report may not add up to 100% due to rounding.

DETAILED FINDINGS

Value and use of parks and recreation

How much do residents value parks and recreation?

Virtually all respondents (97%) feel that local parks, recreation opportunities are important or essential to the quality of life in Camas. More than eight in ten respondents feel that they are essential; while an additional 16% believe that they are important to quality of life, but not essential. Less than 1% of respondents believe parks are "Useful, but not important".

1. When you think about the things that contribute to the quality of life in Camas, would you say that public parks and recreation opportunities are…

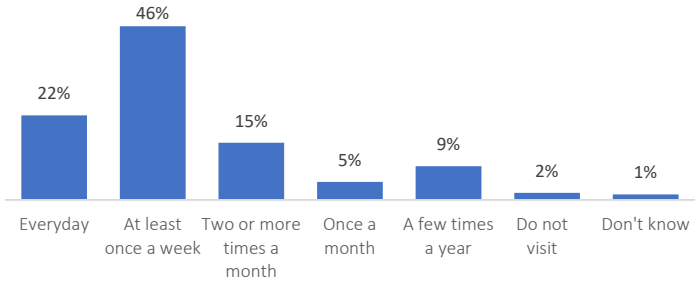
Response options	Mail		Online-only	
Essential to the quality of life here	81%	97%	88%	99%
Important, but not really necessary	16%		11%	
Useful, but not important	3%		<1%	
Not important or don't know	1%		<1%	

Though respondents of all ages value parks and recreation, younger respondents were significantly more likely to deem them essential to quality of life. Respondents with children at home, as well as those who responded to the online survey, also valued parks and recreation even more strongly than the general population.

How often do residents use Camas' parks, trails, recreation facilities, and natural areas?

Respondents were asked how often they, or members of their household, visited a City of Camas park, trail, recreation facility, or natural area (prior to the COVID-19 pandemic). Respondents tend to visit frequently, with more than two in three visiting at least once a week (68%) and another 20% visiting one to three times per month. Only 9% of respondents visit just a few times per year. Very few (2%) did not visit a park at all.

3. Prior to the COVID-19 quarantine, how often did you visit or use Camas' parks, trails, recreation facilities, or natural areas?



While younger respondents visit the City's parks, trails, and natural areas more frequently than older respondents, over half of respondents over 75 years old still visit at least once a week. Those in households with children also visit significantly more frequently than those without children, with participation increasing in correspondence with the number of children in the home. Respondents who live in the southwest portion of the city are less likely than respondents elsewhere to use parks and recreation facilities frequently. Online-only survey respondents tend to visit at similar frequencies as mail survey respondents.

Why do residents visit parks, trails and recreation facilities?

Respondents visit local parks and recreation facilities for a variety of reasons. The most popular activities are walking or running (80%), followed by fitness and exercise (70%), and relaxation (56%). More than three in ten respondents visited to walk their dog (40%), view wildlife (36%), visit a playground (33%), ride their bike (33%) or attend a family gathering or picnic (30%). Between 15% and 30% of respondents visit parks for non-motorized boating, like canoeing or kayaking, to attend a community event or concert, play on a sports field, swim, or use an outdoor sports court. Less than one in six respondents visit fish, participate in a recreation program, use a motorized boat, or play disc golf.

With a few exceptions, respondents who responded to the online-only survey were more likely to visit recreation facilities and parks for each reason listed than mail respondents were.

4. Prior to the COVID-19 Pandemic, what would you say are the main reasons you visited Camas recreation facilities, parks or open spaces in the past year?

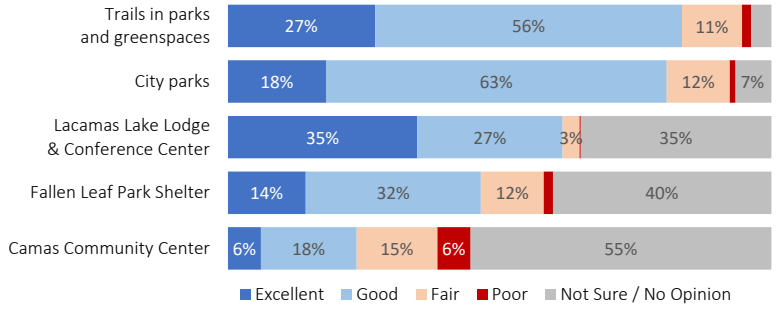
Reason	Mail	Online
Walking or running	80%	79%
Fitness / exercise	70%	73%
Relaxation	56%	54%
Dog walking	40%	45%
Wildlife viewing	36%	35%
Playgrounds	33%	47%
Bike riding	33%	44%
Family gatherings / picnics	30%	38%
Boating – non-motorized	28%	34%
Community events / concerts	23%	32%
Sport fields	21%	35%
Swimming	18%	24%
Outdoor sport courts	17%	20%
Fishing	13%	13%
Recreation program, class, or camp	10%	21%
Boating – motorized	9%	7%
Frisbee or disc golf	5%	8%

Respondents under 44 years of age are more likely than other groups to visit for community events, playgrounds and recreation programs. Respondents over 65 are more likely than younger respondents to visit to view wildlife. Some activities, including fitness and exercise, family gatherings, walking or running, and relaxation are similarly popular with all age groups. Respondents with children in their home are more likely to visit for playgrounds, recreation programs, sports fields, swimming, and family gatherings, than respondents without children who are more likely to visit to view wildlife.

How would residents rate the condition of Camas' parks and recreation facilities?

Respondents were asked to rate the condition of a variety of park and recreation facilities on a scale from poor to excellent. Respondents gave overwhelming high marks to the condition of the City's trails in parks and greenspaces and the parks themselves.

5. How would you rate the condition of the following parks or recreation facilities?



Overall, the Lacamas Lake Lodge & Conference Center received the highest condition ratings, with 95% of respondents who provided a ranking rating it as excellent or good. About 40% of respondents did not rate the condition of the Fallen Leaf Park Shelter – of those who did, nearly eighty percent rated its condition as either

excellent or good. The Camas Community Center received the lowest ratings, with 58% of respondents rating its condition as fair or poor (excluding those who responded not sure/no opinion). Notably, more than half of respondents were unsure and may have not visited this facility recently.

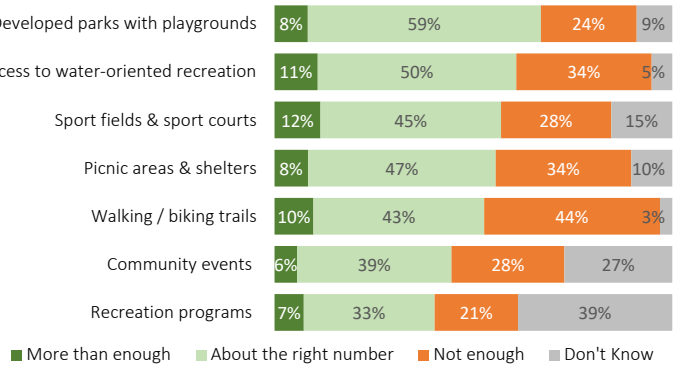
There were no significant variations in how respondents rated the condition of parks and facilities based on age, number of children in the home, or location of residence.

Does the number of existing park and recreation amenities meet residents' needs?

Respondents generally feel that the City already provides enough, or more than enough, of all of the amenities listed.

If respondents who answered "Don't Know" are excluded from the results, 46% of respondents believe there are not enough walking and biking trails. Between 33% and 39% of respondents who rated the options believe that there is not enough access to water-oriented recreation, picnic areas, sports fields and courts, community events, and developed parks.

2. When it comes to amenities provided by the City of Camas for meeting your needs for parks, trails and recreation facilities, would you say there are…



Younger respondents – those under 44 – were more likely than older respondents to feel there were not enough developed parks with playgrounds, picnic areas, recreation programs, and community events. Respondents between 55 and 64 years of age were far more likely than respondents of other ages to want more walking and biking trails in Camas. Respondents with children in their home are more likely than those without to believe there are not enough of every listed amenity except walking and biking trails. Respondents who live in southwest Camas (Council Ward 3) were more likely than respondents of other areas to feel there are not enough walking and biking trails.

Parks

What park improvements would Camas residents like to see?

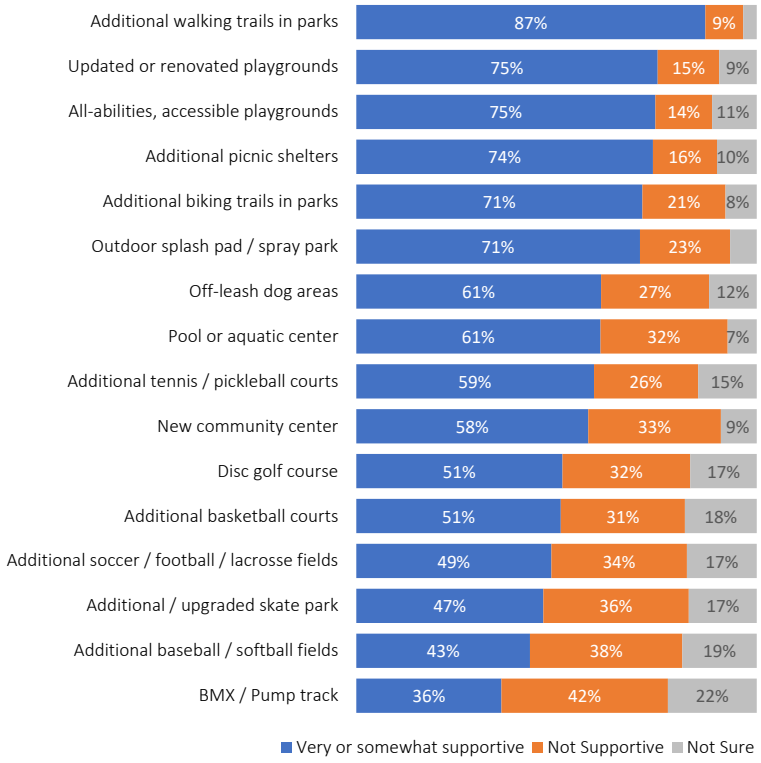
More than three in four respondents are very or somewhat supportive of adding walking trails (87%), updated (75%) and accessible (75%) playground features, and more picnic shelters (74%) to the City's existing parks.

A majority of respondents are also supportive of developing more biking trails, splash pads, off leash dog areas, pools or aquatic centers, tennis or pickleball courts, a new community center, disc golf course, and basketball courts.

Less than half of respondents were supportive of adding more basketball courts, sports fields, skate parks, and BMX or pump tracks.

Respondents under 45 years old were more likely than older respondents to support every improvement listed in the survey.

6. The following list includes park amenities that the City of Camas could consider adding to the park system. Please indicate whether you would be very supportive, somewhat supportive, not sure, or not supportive of each.



Respondents with children in their household were more supportive of city investment in playgrounds (including accessible playgrounds), sports fields and courts, community and aquatic centers, outdoor splash pads, BMX/bike skills courses, skate parks, and disc golf courses than those without children.

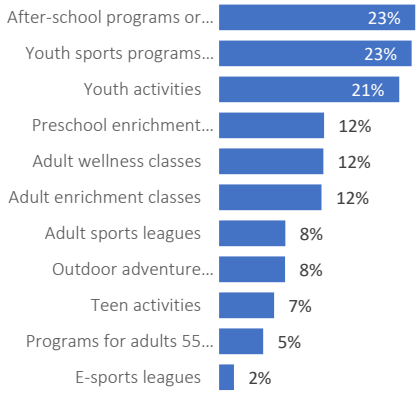
Recreation programs

What recreation programs have residents participated in?

Less than one in four respondents who took the mailed survey have participated in the City's recreation programs. Of the listed activities, the greatest number of respondents had participated in after-school programs or summer camps for children (23%), youth sports programs (23%), and youth activities (21%). In general, respondents were less likely to have participated in activities for teens, adults, and older adults.

Members of households of younger respondents (under age 44) were more likely to have participated in youth-oriented programming, while those of older respondents were more likely to have participated in adult programs and classes. Respondents with children in their home were significantly more likely to have participated in youth-oriented programs and camps than those without.

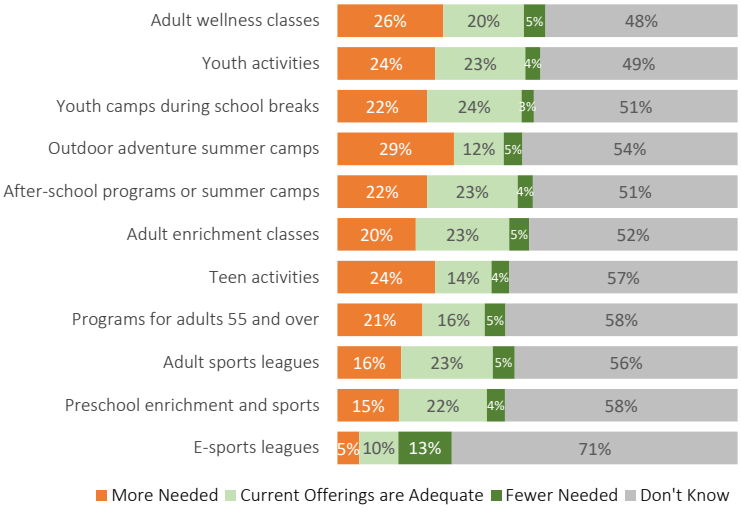
8. Please indicate if your household used each of the listed recreation program types in 2019 (pre-COVID-19).



What recreation options do residents have a need for?

The survey asked respondents which types of recreation programs, classes, and activities they would like to see more of. Notably, approximately half of respondents responded that they did not know whether current offerings are adequate or not. Of those who expressed an opinion, more than half felt the City needed more outdoor adventure summer camps, teen activities, adult wellness classes, and programs for adults over 55.

9. Please indicate whether you think there should be more less of each of the listed program types.



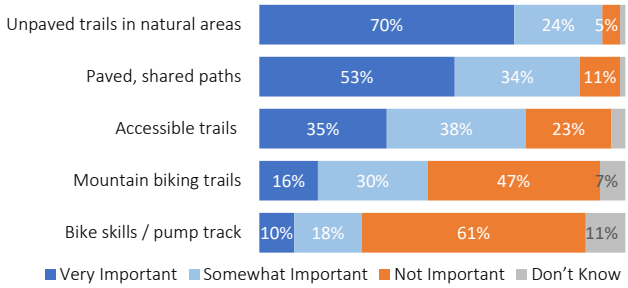
Respondents under 34 years of age were more likely than older respondents to feel the City needs more adult sports leagues, youth camps and after-school programs, pre-school activities, and E-sports leagues. Adults over 55 had the greatest unmet needs for classes and programs specific to people over 55. Respondents of all ages expressed similar levels of need for adult enrichment and wellness classes. Households with children were more likely than those without to feel like their need for youth activities were not well met. In general, respondents of southwest Camas (Ward 3) were more likely than respondents of other areas to feel that current offerings are adequate or more than enough.

Trails

What trail types do residents think are important?

Of various types of trails, respondents overwhelmingly rate unpaved trails in natural areas as important – 94% believe they are very or somewhat important. Majorities of respondents also feel paved, shared use paths for pedestrians and cyclists (87%) and accessible trails (73%) are at least somewhat important. Respondents are less likely to feel mountain biking trails (46%) and bike skills / pump tracks (28%) are important. In general, the importance of each type of trail decreased with the age of respondent. However, similar percentages of adults in each age group from 35 to 64 considered mountain biking trails to be very or somewhat important, with slightly stronger levels of importance noted by respondents between 45 and 64. There were no significant differences in importance based on where respondents live or whether they have children at home.

10. Please rate how important each trail type or amenity is to your household.



Investment and revenue priorities

What recreation and park investments would residents prioritize?

Respondents were asked to rank a list of potential recreation, park, and open space investments. Generally, respondents to both the mail and online survey ranked maintaining existing parks, expanding trail opportunities, building new parks, and acquiring land for future parks as their top priorities. Respondents ranked offering building a new community or aquatic center and expanding program offerings as their lowest priorities in both the mail and online surveys.

Respondents of different ages prioritized the investment options similarly, with the exception of building a new community or aquatic center, which was a higher priority for significantly more younger respondents. Respondents with children in their home tended to rate building a new community or aquatic center higher than those without children in the home, who were more likely to rate expanding trail opportunities as a high priority. Respondents did not vary significant in their priorities depending on which part of the city they live in.

8. For the following list, indicate how you would rank the priority for each.

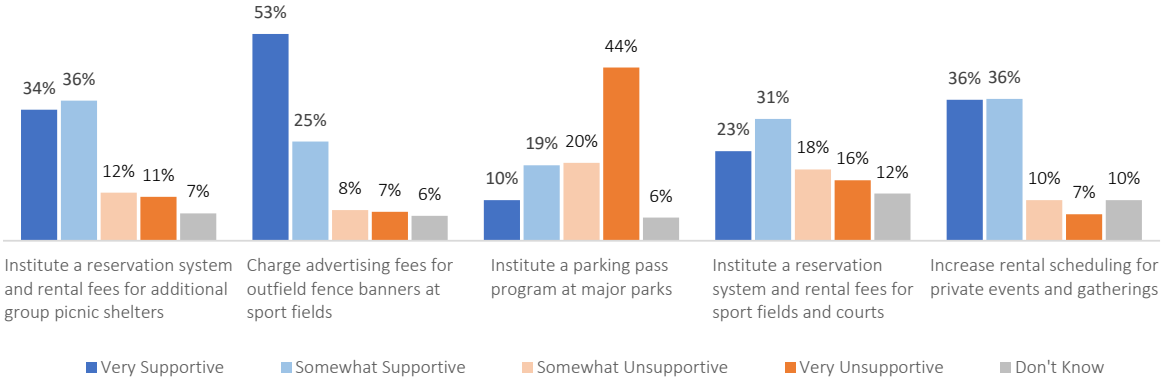
	Mail	Online
Highest	▪ Focusing on existing parks & delayed maintenance	▪ Focusing on existing parks & delayed maintenance
	▪ Expanding trail opportunities	▪ Building new parks on undeveloped, city parkland
	▪ Building new parks on undeveloped, city parkland	▪ Expanding trail opportunities
	▪ Acquiring land for future parks	▪ Acquiring land for future parks
	▪ Building a new community center or aquatic center	▪ Building a new community center or aquatic center
Lowest	▪ Expanding recreation classes & camps	▪ Expanding recreation classes & camps

What revenue generating options would residents support?

The survey asked respondents whether they would support various revenue generating options. Large majorities of respondents were either very or somewhat supportive of a) charging advertising fees for outfield fence banners at sports fields (88%), b) increasing rental scheduling for private events and gatherings (72%), and instituting a reservation system and rental fees for additional group picnic shelters (70%). A slight majority (54%) were supportive of instituting a reservation and fee program for sports fields and courts. Significantly fewer respondents (29%) were supportive of implementing a parking pass program at major City parks.

There were no consistent, significant differences in support for revenue generating options across respondents of various ages or between respondents with children at home and those without.

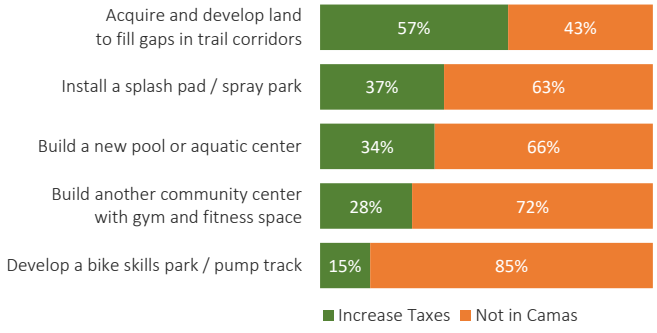
11. The Parks & Recreation Department has limited budget to deliver parks and recreational services, and the City is exploring options to enhance revenue generation to support the delivery of services. How would you rate your level of support for each of the following options?



Are residents willing to support increased taxes to fund new amenities and experiences?

Respondents with children at home were significantly more likely that those without to support increasing taxes for all improvements other than expanding trails (which received similarly high support levels). However, building a community or aquatic center was the only option for which more than half of respondents with children supported raising taxes. Respondents under 44 years of age were significantly more likely than older respondents to support raising taxes to fund a new pool or aquatic center or to install splash pads. There were no significant differences based on respondents' location of residence.

12. There may be some park and recreation experiences that are limited or not available in Camas but are available in neighboring communities. If it came down to a choice between increasing taxes to develop that facility in Camas versus not having that in Camas, which would you choose?



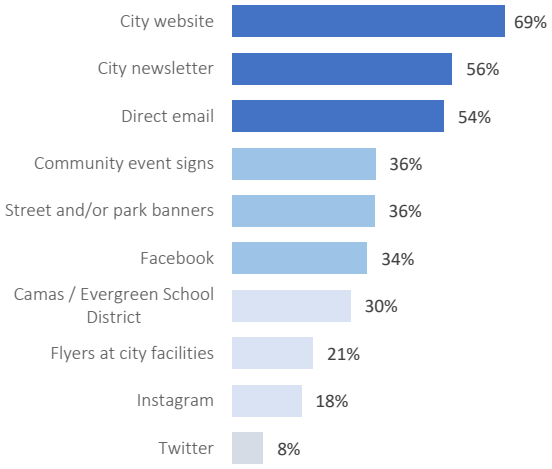
Communication preferences

How do residents want to hear about Camas' parks, programs, and events?

More than two-thirds of respondents would prefer to learn about City parks, programs, and events through the City's website. The City newsletter and direct email are also popular communication options, preferred by 56% and 54% of respondents respectively. These sources were popular with respondents to both the mail and online-only surveys and with respondents of all ages.

About a third of resident preferred to learn about City offerings through various types of promotional signs, including community event signs (36%), street or park banners (36%), and flyers at City facilities (21%). Thirty percent of respondents would like to hear about programs and events through local school districts.

13. Please check ALL the ways you would prefer to learn about Camas' parks, programs, and events.



Fewer than about one in three respondents would like to hear about park and recreation opportunities through social media (Facebook (34%), Instagram (18%), and Twitter (8%)). However, social media – especially Facebook and Instagram – is a significantly more popular source of information for respondents under 44 years of age. Respondents who responded to the online-only survey were also significantly more likely to prefer social media sources – 61% prefer Facebook, 29% Instagram, and 13% Instagram.

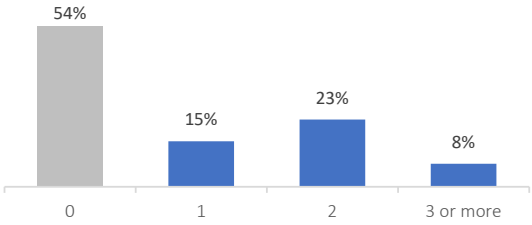
Respondents with children at home were significantly more likely to prefer receiving information through the school district than those without. There were no significant differences in communication preferences between respondents living in different areas of the city.

Demographics

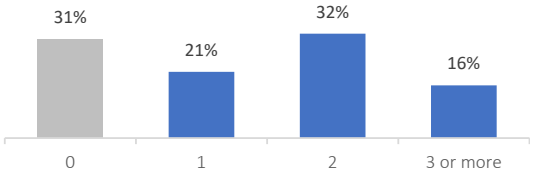
Number of children in household

The majority (54%) of respondents to the mail survey live in households with no children under 18, while about just under half live in a household with either one (15%), two (23%), or three or more (8%) children. Online-only survey respondents were significantly more likely to live in households with children than respondents to the mail survey – nearly 70% had children in the home.

Mail survey responses



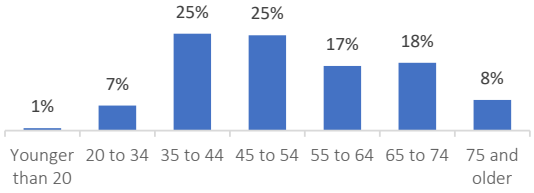
Online-only survey responses



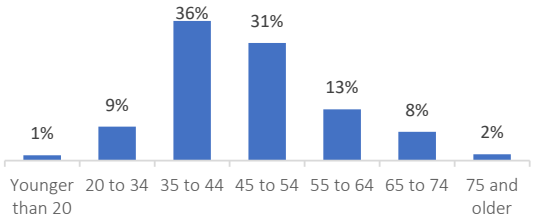
Age

Approximately half of respondents to the mail survey were between the ages of 35 and 54. Another 35% were between 55 and 74, while 8% were older than 75 years. Fewer than 8% of respondents were less 35 years old. The online-only survey tended to be younger than those who responded to the mail survey – 10% were under 35 years old, 67% were between 35 and 54 years, and only 23% were over 55.

Mail survey responses



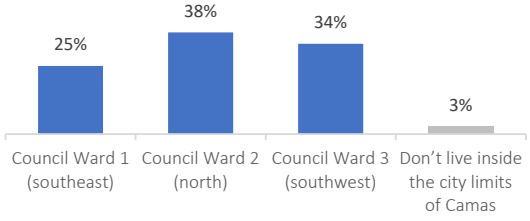
Online-only survey responses



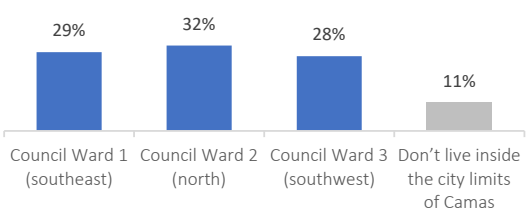
Location of residence

Respondents were relatively evenly distributed throughout the City of Camas. Thirty-eight percent live in Council Ward 2 (north Camas), 34% live in Ward 3 (southwest), and 25% live in Ward 1 (southeast). The mail survey garnered a few responses (3%) from people who live outside the City of Camas, however all live within the 98607 zip code. Respondents to the online survey were similarly distributed across the city, with slightly higher representation of residents in Ward 1. However, a larger portion (11%) of online-only respondents do not live in the city.

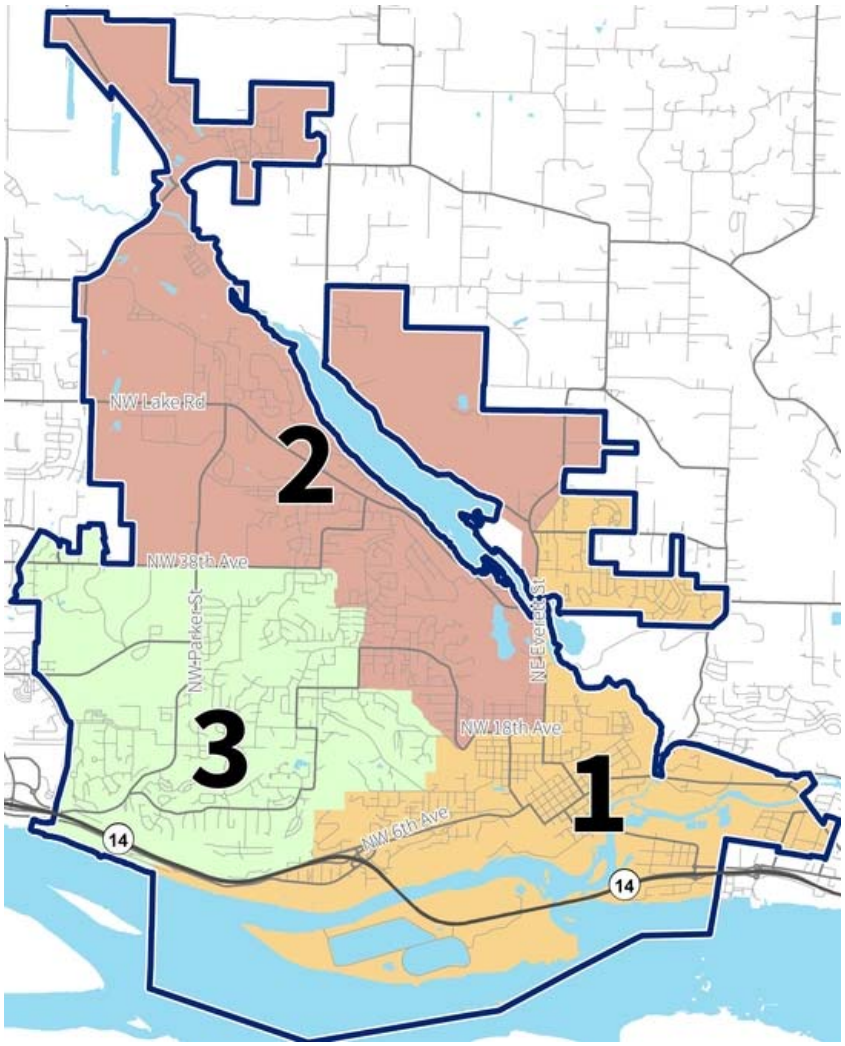
Mail survey responses



Online-only survey responses



Location Map



ATTACHMENT 1. SURVEY INSTRUMENT

City of Camas WASHINGTON

Community Survey on Parks and Recreation

Dear Camas Resident:

The City of Camas is beginning a community-led process to update its citywide Recreation, Parks and Open Space Plan (PROS Plan, for short). We need your help to determine how to prioritize projects and what we should focus on to keep our parks and programs thriving for the next 6-10 years. As an initial step, the City is conducting this short survey to assess the community's recreation needs. We understand that COVID-19 has impacted your ability to participate in programs and visit parks this year. We ask that you consider needs for the future as you evaluate recreation amenities. Your opinions are important to the City.

The survey has 16 questions and will only take a few minutes to complete. Use the QR code to take this survey online at https://www.surveymonkey.com/r/CamasPROS

1. **When you think about what contributes to the quality of life in Camas, would you say that public parks and recreation opportunities are... (CHECK ONE OPTION)**

   ☐ Essential to the quality of life here
   ☐ Important, but not really essential
   ☐ Useful, but not necessary
   ☐ Not Important
   ☐ Don't know

2. **When it comes to amenities provided by the City of Camas for meeting your needs for parks, trails and recreation facilities, would you say there are... (CHECK ONLY ONE BOX IN EACH ROW)**

	More than Enough	About the Right Amount	Not Enough	Don't Know
Developed parks with playgrounds	☐	☐	☐	☐
Walking / biking trails	☐	☐	☐	☐
Sport fields & sport courts	☐	☐	☐	☐
Picnic areas & shelters	☐	☐	☐	☐
Access to water-oriented recreation (lakes, rivers)	☐	☐	☐	☐
Recreation programs (camps & classes)	☐	☐	☐	☐
Community events (such as the Movies in the Park)	☐	☐	☐	☐

3. **Prior to the COVID-19 pandemic, how often did you visit or use Camas parks, trails, recreation facilities or natural areas?**

   ☐ Everyday
   ☐ At least once a week
   ☐ Two or more times a month
   ☐ About once a month
   ☐ A few times over the year
   ☐ Do not visit facilities / parks / open spaces
   ☐ Don't know

4. **Prior to the COVID-19 pandemic, what would you say are the main reasons your household visited Camas parks, recreation facilities or open spaces in the past year? (CHECK ALL THAT APPLY)**

   ☐ Fitness / Exercise
   ☐ Dog walking
   ☐ Playgrounds
   ☐ Walking or running
   ☐ Bike riding
   ☐ Family gatherings / picnicking
   ☐ Community events / concerts
   ☐ Recreation program, class or camp
   ☐ Sport fields
   ☐ Outdoor sport courts
   ☐ Wildlife viewing
   ☐ Fishing
   ☐ Swimming
   ☐ Boating - Non-motorized / Hand-carry (canoeing, kayaking)
   ☐ Boating - Motor / trailered
   ☐ Frisbee or disc golf
   ☐ Relaxation
   ☐ N/A - I didn't use any Camas facilities
   ☐ Other: _____

Save a stamp! Use the QR code and take this survey online:
https://www.surveymonkey.com/r/CamasPROS
Or send it back in the enclosed Return-Reply envelope provided. **Thank you in advance for participating!**

5. **How would you rate the condition of each of the following parks or recreation facilities?**

	Excellent	Good	Fair	Poor	Not Sure / No Opinion
City parks	☐	☐	☐	☐	☐
Trails in parks and greenspaces	☐	☐	☐	☐	☐
Fallen Leaf Park Shelter	☐	☐	☐	☐	☐
Camas Community Center	☐	☐	☐	☐	☐
Lacamas Lake Lodge & Conference Center	☐	☐	☐	☐	☐

6. **The following list includes park amenities that the City could consider adding to the park system. Please indicate whether you would be very supportive, somewhat supportive, not sure, or not supportive of each.**

	Very Supportive	Somewhat Supportive	Not Supportive	Not Sure
Additional picnic areas & shelters for group gatherings	☐	☐	☐	☐
Updated or renovated playgrounds at existing parks	☐	☐	☐	☐
All-abilities, accessible playground equipment	☐	☐	☐	☐
Additional walking trails in parks	☐	☐	☐	☐
Additional biking trails in parks	☐	☐	☐	☐
Pool or aquatic center	☐	☐	☐	☐
Outdoor splash pad / water spray park	☐	☐	☐	☐
New Community Center with indoor gymnasium & space for classes	☐	☐	☐	☐
Off-leash dog areas (dog parks)	☐	☐	☐	☐
Additional sport fields for soccer, football & lacrosse	☐	☐	☐	☐
Additional sport fields for baseball / softball	☐	☐	☐	☐
Additional basketball courts	☐	☐	☐	☐
Additional tennis / pickleball courts	☐	☐	☐	☐
BMX / Pump track	☐	☐	☐	☐
Additional / upgraded skate park	☐	☐	☐	☐
Disc golf course	☐	☐	☐	☐

7. **For the following list, indicate how you would rank the priority for each (1st priority is highest and 6th priority is lowest). Mark each ranking number only once.**

	Select each priority ONLY ONCE. Highest priority → Lowest priority						Don't know / No opinion
	1st	2nd	3rd	4th	5th	6th	
Acquiring additional land for future parks	☐	☐	☐	☐	☐	☐	☐
Building new parks on undeveloped, city-owned parkland	☐	☐	☐	☐	☐	☐	☐
Building a new community center or aquatic center	☐	☐	☐	☐	☐	☐	☐
Focusing on existing park facilities & delayed maintenance	☐	☐	☐	☐	☐	☐	☐
Expanding trail opportunities	☐	☐	☐	☐	☐	☐	☐
Expanding recreation classes & camps	☐	☐	☐	☐	☐	☐	☐

Community Survey on Park & Recreation Preferences

8. **Please indicate if your household has particpated or used each of the listed recreation program types in 2019 (pre COVID-19) AND indicate if there should be more or less of each available.**

	Have you participated/ used in 2019 (pre-COVID)?		Do you think there should be more or less of this type of activity or program available?			
	Yes	No	More Needed	Current Offerings are Adequate	Fewer Needed	Don't Know
Adult enrichment classes, such as arts, crafts or music	◯	◯	☐	☐	☐	☐
Adult wellness classes, such as yoga/tai chi, aerobics or partner/line dancing	◯	◯	☐	☐	☐	☐
Adult sports leagues, such as soccer, ultimate frisbee, kickball or softball	◯	◯	☐	☐	☐	☐
Programs for adults 55 and over, such as drop-in activities, trips or health/wellness	◯	◯	☐	☐	☐	☐
After-school programs or summer day camps for children	◯	◯	☐	☐	☐	☐
Youth sports programs and camps during school breaks	◯	◯	☐	☐	☐	☐
Youth activities, such as fitness, music, arts or crafts	◯	◯	☐	☐	☐	☐
Preschool Enrichment and Sports	◯	◯	☐	☐	☐	☐
Teen activities, such as game nights, day trips or camps during school breaks	◯	◯	☐	☐	☐	☐
Outdoor adventure summer camps, including archery, orienteering, geocaching or environmental education	◯	◯	☐	☐	☐	☐
E-sports leagues	◯	◯	☐	☐	☐	☐

9. **Please rate how important each trail type or amenity is to your household.**

	Very Important	Somewhat Important	Not Important	Don't Know
Paved, shared paths for pedestrians and cyclists	☐	☐	☐	☐
Unpaved trails in natural areas	☐	☐	☐	☐
Accessible trails without steep slopes for users of all abilities (strollers, wheelchairs, etc.)	☐	☐	☐	☐
Mountain biking trails	☐	☐	☐	☐
Bike skills / pump track	☐	☐	☐	☐

10. **The Parks & Recreation Department has limited budget to deliver parks and recreational services, and the City is exploring options to enhance revenue generation to support the delivery of services. How would you rate your level of support for each of the following options?**

	Very Supportive	Somewhat Supportive	Somewhat Unsupportive	Very Unsupportive	Don't Know
Install and institute a reservation system and rental fees for additional group picnic shelters	☐	☐	☐	☐	☐
Charge advertising fees for the installation of outfield fence banners at sport fields	☐	☐	☐	☐	☐
Institute a parking pass program at major parks	☐	☐	☐	☐	☐
Institute a reservation system and rental fees for sport fields and courts	☐	☐	☐	☐	☐
Increase rental scheduling for private events and gatherings	☐	☐	☐	☐	☐

11. There may be some park and recreation experiences that are limited or not available in Camas but are available in neighboring communities. If it came down to a choice between increasing taxes to develop that facility in Camas versus not having that in Camas, which would you choose?

	Increase Taxes	Not in Camas
Install a splash pad / spray park	☐	☐
Build a new pool or aquatic center	☐	☐
Acquire and develop land to fill gaps in trail corridors	☐	☐
Build another community center with gymnasium and fitness space	☐	☐
Develop a bike skills park / pump track	☐	☐

12. Please check ALL the ways you would prefer to learn about Camas's parks, programs and events.

- ☐ City website
- ☐ City newsletter
- ☐ Facebook
- ☐ Twitter
- ☐ Instagram
- ☐ Camas / Evergreen School District
- ☐ Direct email
- ☐ Community event signs
- ☐ Flyers at city facilities
- ☐ Street and/or park banners
- ☐ None of these
- ☐ Other: _____

The following questions help us understand whether we have a cross-section of the community responding to this survey. It's important that you provide a response to each question.

13. How many children under age 18 live in your household?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3 or more

14. What is your age?

- ☐ Younger than 20
- ☐ 20 to 34
- ☐ 35 to 44
- ☐ 45 to 54
- ☐ 55 to 64
- ☐ 65 and 74
- ☐ 75 and older

15. In which section of Camas do you live?

- ☐ (1) Council Ward 1 - southeast Camas
- ☐ (2) Council Ward 2 - north Camas
- ☐ (3) Council Ward 3 - southwest Camas
- ☐ Don't live inside the city limits of Camas

16. If you don't live in Camas, what is your zip code? _____



Thank you for taking the time to complete this survey!

Your input will help guide the development of the Camas Parks, Recreation & Open Space Plan.

Sava a stamp! Take this survey online with the QR code or at: https://www.surveymonkey.com/r/CamasPROS

Learn more about Camas parks, trail and programs and stay informed about the Parks, Recreation & Open Space Plan process at www.cityofcamas.us

The City of Camas is using the services of a consultant team who specializes in park and recreation planning.

Please return your completed survey in the enclosed Return-Reply Envelope addressed to:

Conservation Technix Inc.
PO Box 12736
Portland, OR 97212

ATTACHMENT 2. OPEN-ENDED RESPONSES

Question 4. Prior to the COVID-19 pandemic, what would you say are the main reasons your household visited Camas parks, recreation facilities, or natural areas in the past year? (open-ended "other" responses)

Mail

- The parks are why I moved here
- Photography
- Cemetery - pry of Parks responsibility
- Meeting a friend or getting out of the house
- DOG PARK PLEASE!!!!
- Miss public swim pool
- Kayaking, paddle boarding
- Too much noise, dangerous bikes, boats disruptive
- We moved here during the pandemic
- Kites
- Just moved here
- Internet access and restrooms
- Hiking Lacamas park
- Getting out of yard work!!!
- Overall enjoyment of nature in its natural state on maintained trails
- Visit my wife's cemetery plot
- We moved to Camas during the pandemic.
- Skatepark
- Moved here during PHE
- Photography
- Hiking
- Skateboarding

Online

- Bike Riding
- Bird watching
- Did not live in Camas
- Didn't live here prior to COVID
- Disc Golf
- Gather with friends
- Horseback riding
- I moved here during the pandemic, so the question doesn't really apply to me, but I'm utilizing many of these now and have been since arriving.
- I moved to Camas during COVID.
- Lacamas Lake is toxic and should be cleaned and filtered, currently unsafe
- Mental health / forest bathing

- Mental health, community health
- Mountain biking
- Mountain biking
- Moved here during COVID
- Moving to Camas during COVID
- Nature immersion
- Paddle boarding
- Photos
- Pickleball at Crown Park!!!
- pump track and dirt jumps
- Relaxing
- Scouts
- Skateboarding
- Skatepark
- sketching
- Soaking up nature
- SUP
- To be outside for no reason
- To practice disc golf throws!
- Turf the baseball fields. For how much u make it taxes stop wasting money and invest in the youth or I'll move to Ridgefield
- Visiting with out-of-town guests
- We just moved here last June during the pandemic.
- We just moved to Camas in July 2020, so we didn't have experiences before the pandemic.
- We need an off-leash dog park
- We recently moved here during the pandemic.
- Would have gone to pool if still had one

Question 13. Please check ALL the ways you would prefer to learn about Camas' parks, programs and events. (open-ended "other" responses)

Mail

- Advertising/information around downtown Camas
- Camas Post Recorder
- Direct mail
- Direct mail - USPS
- Direct mailing
- Direct mailing once or more per year
- Do not know
- Don't care. Any.
- Email/mailers
- Google or ask Siri
- Mail

- Mailed brochure of schedule
- Newspaper
- Newspaper - Columbian
- Next Door
- NextDoor app
- Nextdoor
- NextDoor app
- NextDoor app
- Send with water bill
- The Columbian
- USPS
- Word of mouth

Online

- "Opt-In" texts with links to website with the relevant information
- All
- Believe Street and park banners are currently prohibited by city ordinance.
- Camas and Columbian Newspapers
- Camas Library
- Camas Washougal Post Record, Nextdoor
- City App with updated info
- Email
- Emails through the Camas schools are a great way to advertise events.
- Everything you can think of
- I believe a community / city announcement board in DT Camas would be good.
- Insert with city water bill
- Newspaper
- Next door app
- Nextdoor
- Nextdoor
- NextDoor
- post on nextdoor riverview
- Push Notifications Text
- Send links w/ event info via text
- text
- Text and/or mobile app
- The Columbian and Post Record Newspaper
- This seems the only place where I can say that I am supportive of a Firstenburg style aquatic center, but at $70 million.
- Turf the baseball/softball fields, maintain the parks and put in a pump track for the youth. Ur taxes are already higher than any other city in SW Washington. Our community is pissed off with the waste of funds our leaders have shown and not using that money to enrich our quality of life.



Appendix B
Online Open House Summary

CAMAS PROS PLAN UPDATE

SUMMER 2021 PUBLIC OUTREACH SUMMARY

Prepared for:

City of Camas

Prepared by:

JLA Public Involvement, Inc.

August 2021

TABLE OF CONTENTS

Introduction 1
Overall Participation and Notification 1
Feedback Summary 1
Open House Questions 1
Online Open House Responses 1
Demographic Information 6
Tabling Events Feedback Summary 9
Interactive Map 11
Appendix A: Online Open House Open Text Questions 13
Appendix B: Interactive Map Comments 17

INTRODUCTION

The City of Camas conducted outreach between July 29 and August 22, 2021 to share information about the Camas Parks, Recreation and Open Space (PROS) Plan Update with the public and solicit input about which park and recreation programs, services and facilities are important to them. Feedback received through this outreach period will help the city build the draft PROS Plan, which will be shared in late fall through a second round of outreach.

OVERALL PARTICIPATION AND NOTIFICATION

To gather feedback to inform the PROS Plan update, the project team developed an **online open house, online interactive map,** and held **three (3) tabling events** in Camas to build project awareness and solicit feedback.

Overall, **we reached approximately 131 people**, with 74 participating in the online open house, approximately 50 visiting with the team at tabling events, and 7 people contributing to the interactive map.

Community members were informed about the online open house and tabling events through the following:

- Social media posts to the City of Camas Facebook page and Twitter account
- Social media posts to the Camas Parks & Recreation Facebook page
- Posts on the project Engage Camas page
- Emails sent to the Parks and Recreation distribution list
- Media release
- Announcements at Council and Parks & Recreation Commission public meetings
- Announcements at Stakeholder Focus Group meetings

FEEDBACK SUMMARY

OPEN HOUSE QUESTIONS

This section summarizes the feedback received through the online open house.

ONLINE OPEN HOUSE RESPONSES

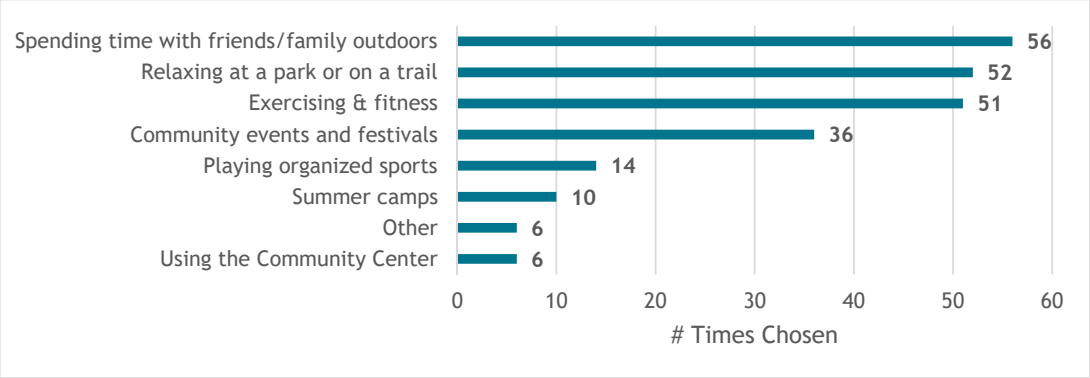
Online open house participants were given the opportunity to respond to a series of questions about park and recreation programs, services, and facilities. Feedback is summarized below.

Note: Unless otherwise stated, the percentages listed in the analysis of each question take into consideration the number of participants who responded to the question, not the total number of people who participated in the online open house.

1. **What are you most looking forward to doing again in City parks and facilities as COVID-19 restrictions are lifted? (Select all that apply.)**

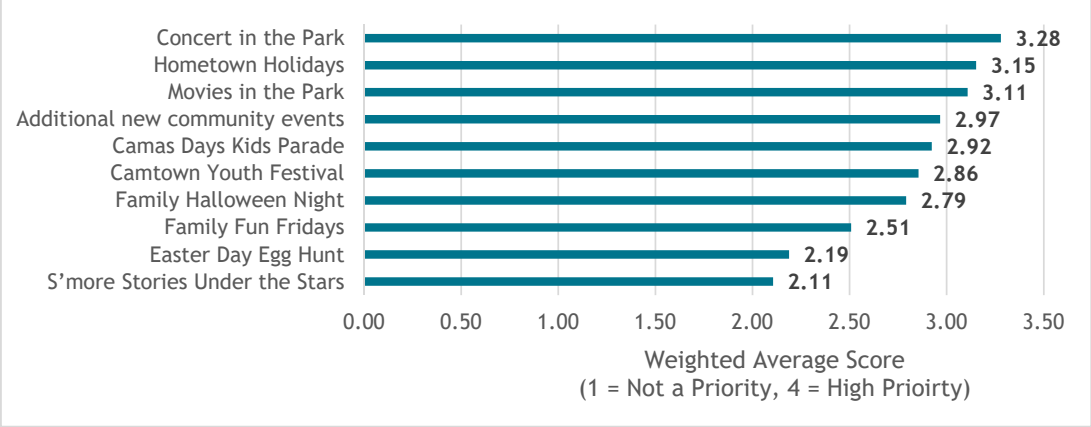
   As COVID-19 restrictions are lifted, participants are most looking forward to spending time with friends/family outdoors, relaxing at a park or on a trail, and exercising and fitness.

   For those who selected "Other," kayaking, floating on the river, swimming, and taking children to the playgrounds was mentioned. Someone mentioned splash pads at Crown Park and that bathrooms are needed. Please see **Appendix A** to read the individual, unedited comments.

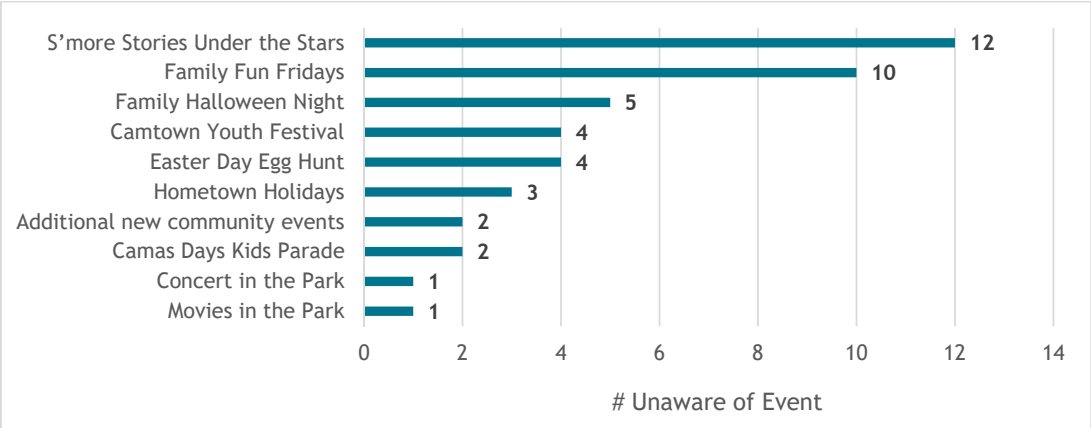


2. **The City of Camas offers or supports many community events throughout the year that are free to the public but utilize city staff resources and funding. Below is a list of Camas community events that are currently offered. For each event, indicate whether you think it is a High Priority, a Medium Priority, a Low Priority, or Not a Priority for your household.**

   "Concert in the park" scored the highest, indicating it was a high priority for respondents. This was followed by "Hometown Holidays" and "Movies in the Park." Respondents indicated that "S'more Stories Under the Stars" was the lowest priority community event.

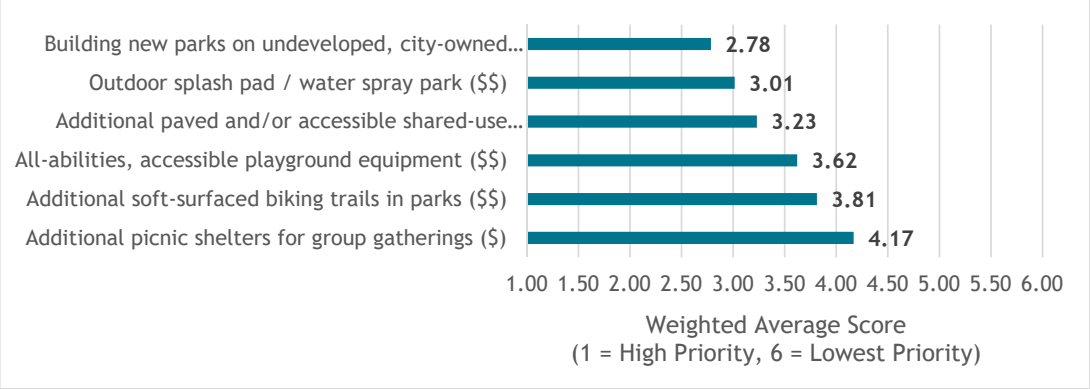


12 respondents indicated that they were unaware of S'more Stories Under the Stars, 10 were unaware of Family Fun Fridays, and 5 were unaware of Family Halloween Night.



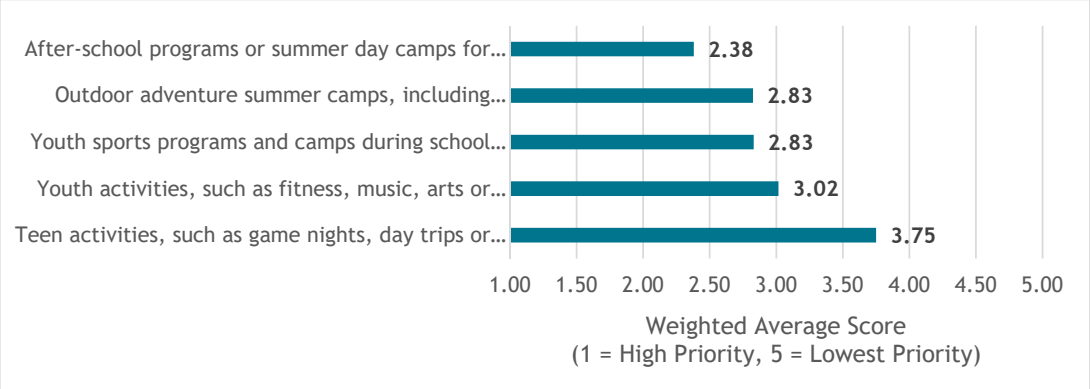
3. **The spring 2021 community survey identified six priorities for the park system. For the following list of park system priorities, indicate how you would rank the priority for each (first (1) priority is highest and sixth (6) priority is lowest). Cost estimates are shown as $ (somewhat expensive), $$ (moderately expensive) or $$$ (expensive).**

Respondents ranked **"Building new parks on undeveloped, city-owned parkland ($$$)" highest,** followed by "Outdoor splash pad / water spray park ($$)." Respondents ranked "Additional picnic shelters for group gatherings ($)" the lowest.



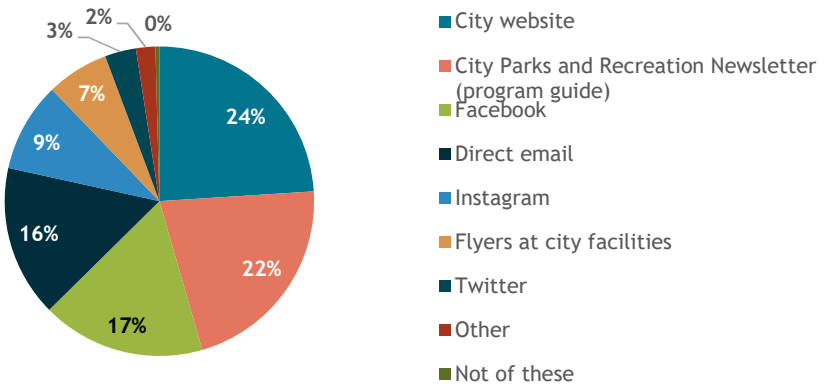
4. **The spring 2021 community survey identified five priorities for recreation programs and activities. For the following list of recreation programs and activities, indicate how you would rank the priority for each (first (1) priority is highest and fifth (5) priority is lowest).**

   Respondents ranked **"After-school programs or summer day camps for children" highest,** followed by "Youth sports programs and camps during school breaks" and "Outdoor adventure summer camps, including archery, orienteering, geocaching or environmental education." Respondents ranked "Teen activities, such as game nights, day trips or camps during school breaks" the lowest.



5. **Please check ALL the ways you would like to get information about Camas' recreation programs and activities.**

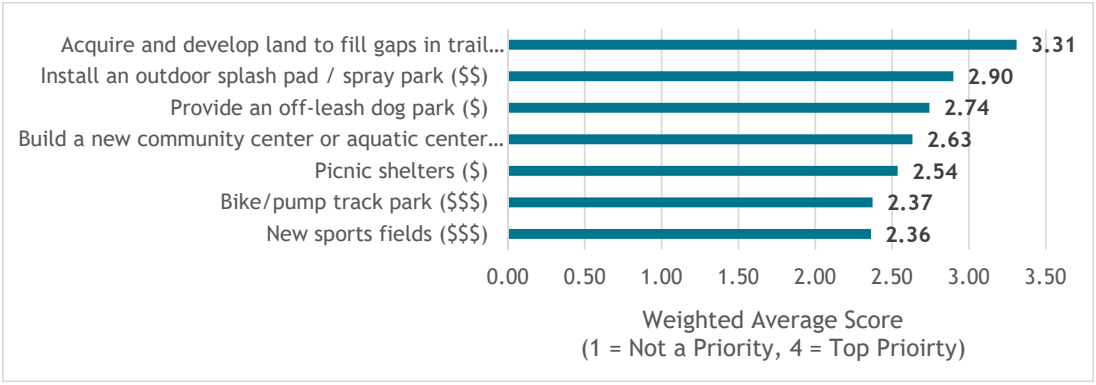
   Most people would like to get information about Camas' recreation programs and activities through the **city's website and/or through the City Parks and Recreation Newsletter.**



For those who indicated "Other," text messaging, events on Facebook, Camas Library, and Nextdoor were mentioned as ways people like would to get information

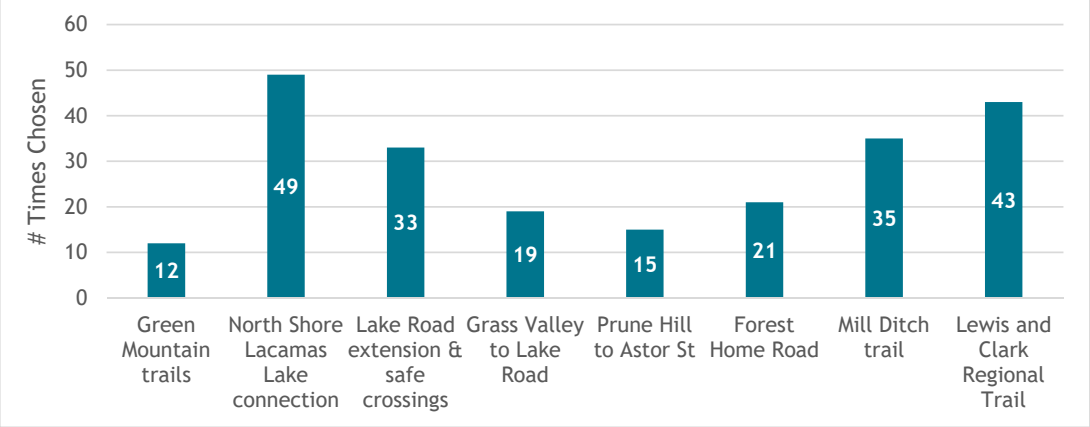
6. **The following list of new facilities/amenities may be considered in the new PROS Plan. For each item, please tell us if it should be a top priority, a high priority, a low priority or not a priority at all. Cost estimates are shown as $ (somewhat expensive), $$ (moderately expensive), $$$ (expensive) or $$$$ (very expensive).**

"Acquire and develop land to fill gaps in trail corridors ($$)" scored the highest, indicating it was a high priority for respondents. This was followed by "Install an outdoor splash pad / spray park ($$)" and "Provide an off-leash dog park ($)."



7. **Thinking about trails and paths, which potential trail connections are the highest priority for your household? (Select up to 4.)**

Respondents chose the **North Shore Lacamas Lake connection the most (49 times),** followed closely by Lewis and Clark Regional Trail, chosen 43 times, indicating that these two trails were highest priority for households. Green Mountain trails was chosen the least.



8. **Please share any additional needs for park and recreation improvements, programs or activities that you think are important and relevant to the growth of our community for the next five years.**

   36 people left feedback in this open text box. Below are some common themes found for those who responded. Please see **Appendix A** to read the individual, unedited comments.

   - 7 said that maintenance of existing parks needs to be a priority.
   - 5 said they would like to see more water features, such as pools and splash pads, at parks.
   - 6 said they want expanded bicycle facilities.
   - 6 said there is a need for an accessible and safe system of interconnected trails.
   - 4 said they want more and improved/expanded sports fields and courts.
   - 2 said the restrooms at Crown Park need to be improved.

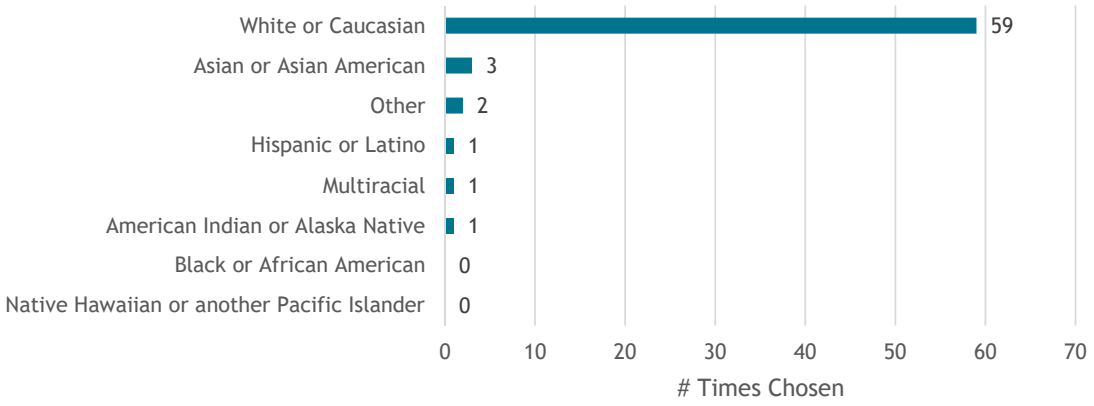
DEMOGRAPHIC INFORMATION

Participants from the online open house were asked a series of optional demographic questions.

Note: Unless otherwise stated, the percentages listed in the analysis of each question take into consideration the number of participants who responded to the question, not the total number of people who participated in the online open house.

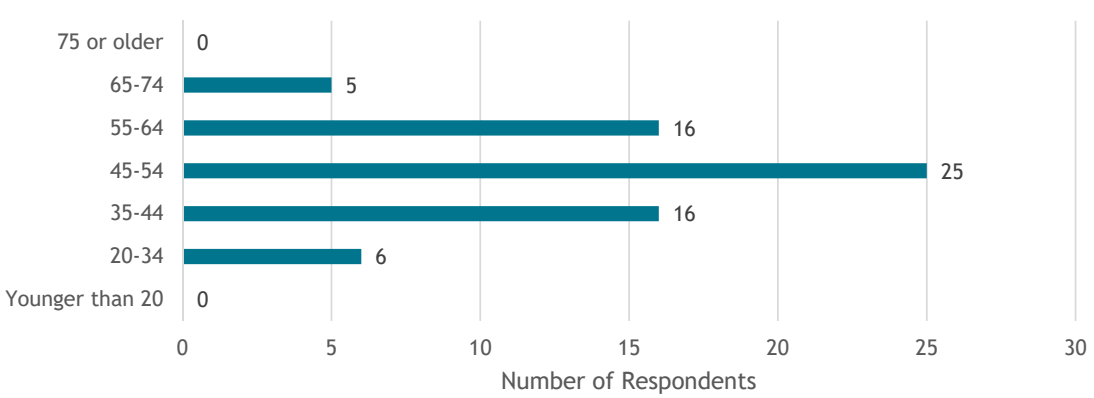
Racial or Ethnic Identity

The majority of participants identify as white (88%). The second largest group of participants selected Asian or Asian American (4%).



Age

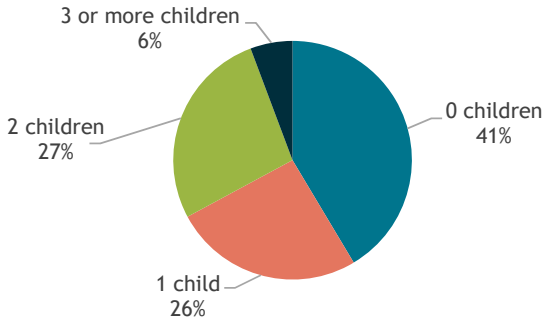
Of those that responded, the **largest group of participants were between the ages of 45 – 54 (37%).** The second largest groups were between the ages of 55 – 64 (24%) and 35-44 (24%)



Number of children in household

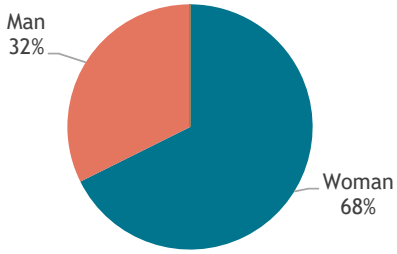
The majority of participants **(41%) indicated they had no children under the age of 18 living in their household.** This was followed by a little more than a quarter (27%) having two children

and 26% having one child.



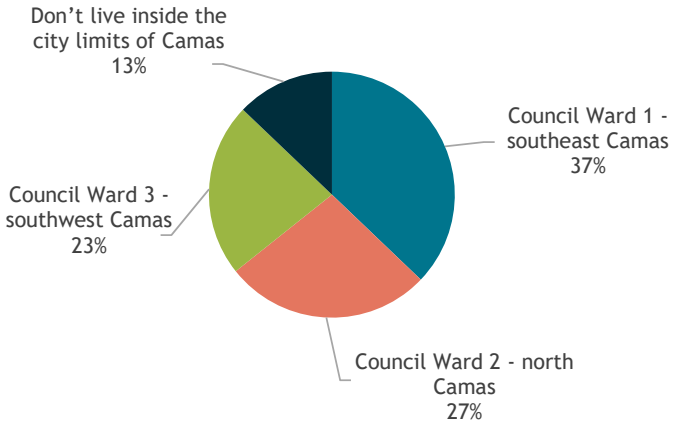
Gender

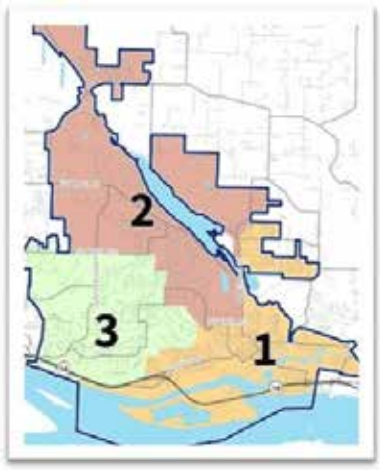
The majority of participants (68%) identified as women, while 32% identified as men. No one identified as transgender, non-binary, genderqueer, or third gender.



Primary Residence

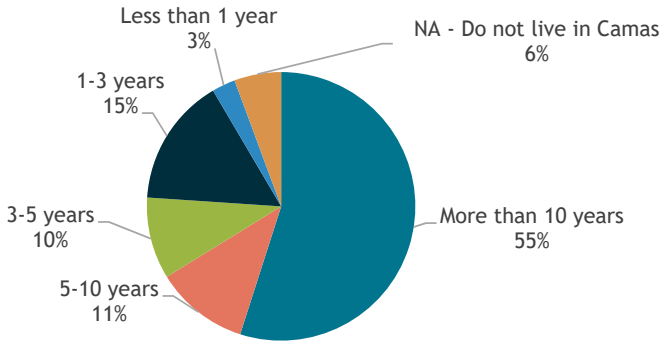
Most respondents (37%) indicated that they live in Council Ward 1 – southeast Camas. About a quarter of respondents live in Council Ward 2 and a quarter also live in Council Ward 3.





Time living in Camas

Most respondents, 55%, have lived in Camas for over 10 years. This was followed by 15% of respondents saying they have lived in Camas for 1-3 years.



TABLING EVENTS FEEDBACK SUMMARY

This section summarizes the feedback received at the three (3) tabling events held in July and August to build awareness of the PROS Plan Update and share information about the project. Approximately 50 people were engaged at these events. Tabling was held at the following times and places:

- July 31st at Heritage Park from 10a-12p and 1-2p
- August 17th at Concert in the Park from 6:30-8:30p
- August 18 at Camas Farmer's Market from 3-7p

Below is a summary of the feedback we received organized by common theme:

- **Heritage Park and Surrounding Lakes:**
  - **Trail signage is needed** at Heritage Park and Lacamas Lake; topographic maps may be helpful
  - **More outreach, promotion and notification** are needed about the annual Drawdown Event
  - Someone asked **if the lakes are stocked with fish** or if the fish are being studied
  - People expressed **concern about algal blooms** at the lakes
  - Desire for **more tree protection policies**
  - **Recycling bins** are needed
  - Desire for **more educational and interpretive offerings and facilities**
  - More **lake access and beaches** needed
  - **Parking at the lakes is an issue**. A few people mentioned that parking could be added on the north side of Lacamas Lake

  - Concern about **filtration at Lacamas Lake**
  - Concern about **erosion and wear-and-tear to trails around Round Lake** due to bikes
  - Someone mentioned that **Lacamas Creek Trail is blocked**
  - Consider **cutting back foliage in Lacamas Lake** sooner
  - **Fallen Leaf Lake is peaceful**, but sometimes it is easy to get lost
- **Crown Park:**
  - People like that **Crown Park is clean and quiet** – it is the heart of the neighborhood
  - Desire for **restrooms and sprinklers/splash pad**
- **Parks and Recreation in Camas:**
  - Desire for **more facilities to serve people in Camas** (i.e., parks, trails for bicyclists and pedestrians, etc.)
  - Would like to see **better bike connections** from downtown waterfront area to Crown Park
  - Need **more promotion for Concert in the Park** events
- **Other:**
  - People expressed **concern about population growth** in Camas, as well as **increased traffic** – especially when thinking about development in North Shore area
  - Someone mentioned that people are having **survey fatigue** and would have liked to have seen open text questions on the Spring PROS Plan survey
  - Someone mentioned that a **Parks and Recreation QR code** from a month ago is not working
  - There was some **confusion about the summer online open house** – some people thought it was the same as the spring survey

People were able to share on a map the places they like to visit and areas that need improvement. They are as follows:

- **Places people like to visit** (indicated by green dot):
    - Lacamas Lake
    - Heritage Park
    - Fallen Leaf Lake
    - Lacamas Regional Park
    - Lacamas Creek Park
    - Washougal River Greenway
- **Places needing improvement** (indicated by red dot):
    - Open space area on lower end of Lacamas Lake
    - Area between Lacamas Lake and Round Lake
    - Forest Home Park



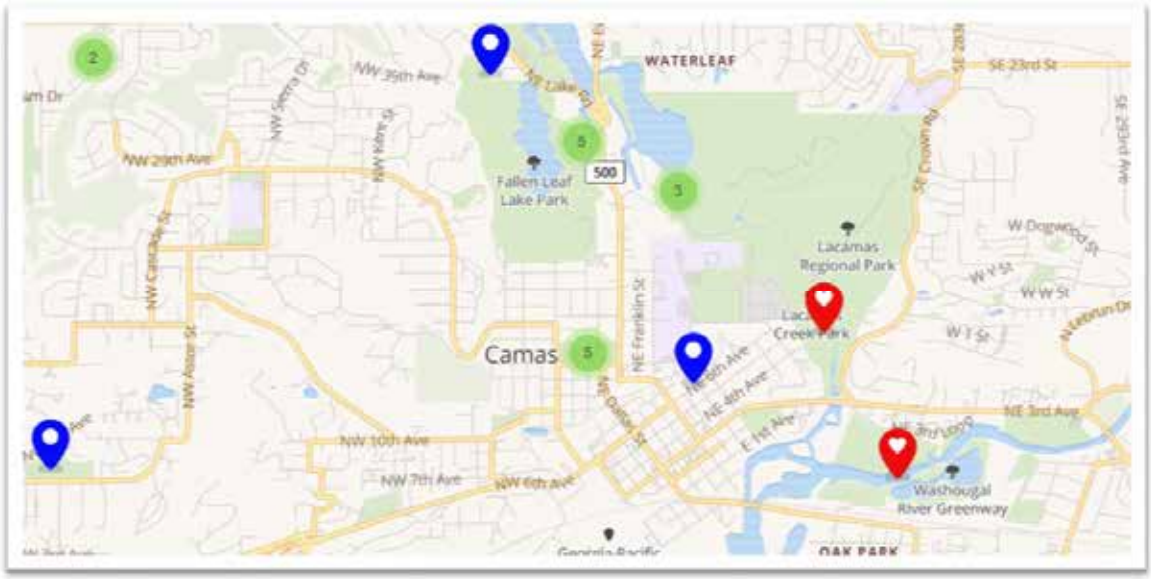
INTERACTIVE MAP

On the Engage Camas project page, the public was given the opportunity to share which parks, trails, and open spaces they currently visit in Camas (denoted by a red heart pin); where they think improvements need to be made (denoted by a blue pin); and what new things they would like to see offered in Camas' park system (denoted by a yellow star pin). **11 unique users** submitted a total of **22 comments.** Below is a summary of their comments:

- **Places people currently visit:** Fallen Leaf Lake, Washougal River Greenway, Lake to Lake Trail, Lacamas Lake
- **Improvements needed:**
    - **Lake to Lake Trail:** Replace the broken fences and add danger signs around cliffs on both sides of the river, place more trashcans along the trail, replace maps
    - **Mill Ditch Trail:** Fill in Mill Ditch and make it a large accessible walking path
    - **Grass Valley Park:** Play equipment is in disrepair and needs to be replaced
    - **Lacamas Lake Dam:** Extend the fence for safety
    - **Klickitat Park:** Landscaping and removal of dead trees
    - **Roof cleaning and painting** of buildings near Fallen Leaf Lake and Lacamas Lake
    - **Parking on the north side** of Lacamas Lake needed

    - Someone indicated there are **overgrown brambles** behind houses on NW 31st Ave and NW Dahlia Dr
- **Ideas for new park offerings:**
    - **Crown Park:** New/updated programming to tie in with programs/activities to be offered at new Garfield Performing Arts Center, splash pad or kids pool, new restroom
    - **Fallen Leaf Lake:** Splash pad or community fountain, parking lot and picnic tables; retaining walls and a sort of "art walk" fencing could highlight local artistry and sculptures.
- **Other:** Someone was concerned about the Sierra/43rd Street corridor and that because of increased traffic, it needs improvement

Please see **Appendix B** for more details about the comments as well as the specific addresses of the locations or places participants submitted comments about. It may be helpful to view the comments in context with the location they were placed. The issues map and comments are viewable at this link: **https://engagecamas.com/parks-recreation-open-space-comprehensive-plan/maps/camas-park-system-interactive-map**



APPENDICES

APPENDIX A: ONLINE OPEN HOUSE OPEN TEXT QUESTIONS

Below are the unedited comments respondents submitted for the open text questions in the open house.

QUESTION 1: What are you most looking forward to doing again in City parks and facilities as COVID-19 restrictions are lifted? (Select all that apply.)

Those who chose "Other," wrote the following in the open text box:

- Kayaking on the lakes
- River Access for inner tubing
- Skatepark
- Swimming
- Taking child to playgrounds
- Using the splash pad at Crown Park that replaced the pool you tore down. Oh, that's right, you haven't fulfilled that promise yet. And the new bathrooms at Crown Park are wonderful 😉.

QUESTION 5: Please check ALL the ways you would like to get information about Camas' recreation programs and activities.

Those who chose "Other," wrote the following in the open text box:

- Camas Library
- Events Page on Facebook so I can simply add it to my google calendar with ease. Also include link to register there.
- NextDoor
- text
- text

QUESTION 8: Please share any additional needs for park and recreation improvements, programs or activities that you think are important and relevant to the growth of our community for the next five years.

- Algae bloom control at Lacamas Lake

- Crown Park is in dire need to be updated to make the playgrounds safe for children. The community was promised a splash pad when the pool was removed.
- I think providing a walking path from Green Mountain to the Heritage Trail is imperative. I don't know why this wasn't insisted upon during annexation and development approval.
- The current parks are a mess. Weeds are so bad at some parks that you can't even sit on the grass or put a baby on it. The small park area on NW 8th, really?? Weeds up to my knees and so brown. No reason for this. Hire some new employees instead of office workers and suits.
- I'd like to see the existing parks better maintained. I live near Klikitat Park and have had to comment several times over the past several years about how poorly the park is cared for. Oversight is needed apparently. New neighborhoods should be required to have natural green space. Camas has needed sports fields and practice fields for over a decade. Consider turfing existing fields for improved playability ie. GV ball park is almost never game-ready (picture of it on city website is not a real representation.) Better and more access points to put kayaks, canoes, etc. into Lacamas and Round Lakes. Make known how residents can donate or buy new sports equipment/uniforms, etc. for kids who need it. Trail connections are super important with the increased road traffic.
- The city buys LaCamas Swim and Sport and makes it into a Camas recreation center. The loss of crown park pool means no public pools in Camas. Parks department works to get public support to build an aquatics center with a pool that local swim teams can rent and use. Less emphasis on the splash pads, pools get more use by a range of age groups."
- #1 Lighted pickleball courts. #2 Soccer fields/basketball courts #3 Walking trails Pickleball, pickleball, pickleball
- Would like to see development of parking, picnic shelters, and water entry to fallen leaf lake on opposite side off Lake Road.
- Bike safety improvements between north end of Heritage trail and Green Mountain and North Shore Lacamas Connection. That segment of road is very dangerous for bikes and there are no alternate routes.
- We are in desperate need of additional sports fields and a multi use complex. Other cities seem to be way ahead with their facilities vs Camas
- Hi there! I would love recycling options at our parks and promote leave nothing behind. Education about recycling. Also, more education about our native trees, how trees provide oxygen etc., mainly environmental education. Signs and interactive "stations" for this. Educating how we can all make a difference to keep and maintain our natural beauty.

- Please add to the high priority, 2 way Bike paths off the freeway to share with Joggers path along SR500 from downtown all the way to Fern Prairie Market and up or down Lake Road. Huge safety issue!
- Most wanted: Car-free , soft-surfaced walking/running trails
- More adult sports options please!! Would love to see volleyball or a tennis league offered
- Both Forest Home Road and Leadbetter Road have tremendous recreational potential as multi-use roads but current traffic speeds are just too dangerous. Please consider lowering and enforcing traffic speeds on these roads so walkers and bikers can also enjoy the routes. Thanks!
- Sidewalks that connect our neighborhoods and get us to the paths and the trails should be a priority. There are many areas in our city that we cannot access because the sidewalks end.
- Maybe a few trash receptacles on the trails for dog poop bags. Bags are all over the trail.
- Number 1 priority is restrooms - Crown Park, trail heads and open space. This is a public health issue. Life stage definitely affects my priorities. When my kids were young activities such as the Easter Egg Hunt and Boo Bash were important as was safe, accessible and fun playground equipment. Without children in our household, I'm more interested in trails, both walking and biking.
- Please limit horsepower (speed) of boats allowed on Lacamas Lake to reduce/eliminate dangerous wakes and ensure safety of fishing boats, canoes, kayakers and swimmers. Thank you.
- I previously submitted a review on making current renewal or repairs to the current skatepark facility and would be thrilled to have that issue become a part of the discussion. Having past engaged, in discussions with the skatepark committee for tualatin hills park and recreation as well as assisting in maintenance and promotion of a popular indoor skatepark facility in portland. I would very much like to see a renewed look at the existing skatepark facility off of 3rd avenue as well as the adjoining parking lot and water access. I believe significant improvements could be made i.e. lighting and clean up as well as design changes to the actual skatepark. All of which leads to ensuring this site promotes inclusion for kids of all ages and experience levels as well as safety. Overall promoting a more family friendly environment.
- Improvements made on the existing skate park, utilizing someone with actual skatepark design knowledge or experience. Re-designing or rebuilding of the skatepark. Possibly building an all new skatepark with a bike/pump track next to it. The facility could offer a recreational area for kids of all ages to enjoy and stay out of trouble. However the current facility does not meet all levels of experience and is designed poorly, it has resulted in users bringing in outside equipment in order to make it somewhat usable. Also cleaning up the area around it i.e. the parking lot and water access/trails as well as

adding lighting for the park and parking lot would add safety and promote a more family friendly atmosphere.

- We would like to see a pool in Camas again, but perhaps not on the scale of a full aquatic center.
- I walk and bike the Mill Dutch trail regularly and am wondering what is going to happen with the stagnant water in the ditch. It's turning into a mosquito farm. Is the city going to do something with it such as flush it out or fill it in?
- I have been wondering why the play areas aren't covered. Children could play on rainy days and hot days
- The little green space on NW 8th is disgusting. It needs to be taken care. Kids want to play there and the weeds have taken over the grass. City really needs to wake up and take care of what we it has before it adds more to the list. Can't go to any park and put a toddler or crawler down to play in the grass, to many weeds.
- What would be most beneficial is a network of *connected* bike paths and hiking trails not a series of separate, non-contiguous trails, in order to provide safe and extensive opportunities for families and people of all ages. In particular new bike patgs should be integrated with the side walk NOT the road as this is much safer, particularly for children, and will encourage more use by families and bike commuting.
- Exercise equipment in select parks -- pull-up and dip bars, etc.
- It would be great if you could adjust the Camas rules regarding new housing developments to require more green space and/or trails for each large development. This way the city of Camas isn't competing with developers to purchase land for parks and other recreational activities. Allow the developer to buy the land and then require that they build the park you wanted!
- Maintenance on some city-owned trials is non-existent. Vegetation, especially blackberries, hang over the trail in many areas. Some of the trails are so steep in sections that they are pretty much non-usable, especially when it is wet or icy. The city-owned so-called "natural" area and collection pond north of Knapp Street in Parker Estates had maintenance delayed so long that many of the trees have died and beavers moved in further making a mess of the whole thing (project is currently in process to hopefully mitigate). I wish there were more safe places to ride bicycles (road bikes, not mountain or off-road) and that the trail system was more continuous. Ash Creek Park was promised to be developed MANY years ago and nothing has been done with it yet. Parker Estates (where I live) would appreciate it. I would like city staff to walk the full distance of all the trails in the area to get a good understanding of what it is like to live in the neighborhoods and walk them.
- No need for a million dollar pool, just build a splash pad or fountains with wading pools. Keep is accessible and add more parking. Better fishing opportunities on lacamas lake would be good.

- We need to see bathroom facilities in our parks. Crown Park is a beautiful park with ugly dirty porta potties. It's kind of sad. Also since The pool was destroyed CrownmPark has big wide open areas that aren't used for anything.
- I just wish so badly we could have an outdoor pool again! It made Camas so unique and we used it all summer long! I don't understand the cost issue when it comes to an outdoor pool. If you can build an aquatic center, why not an outdoor pool? I will forever be sad that the outdoor pool was taken away. It was a yearly tradition in our family and made Camas unique. It seems like all the fun things for kids are being taken away!!!!
- I love the walking trails through the natural areas SO MUCH!! Would love to have more of them connected. However, would also love to know that they are safe since I'm a woman walking a medium-size, cuddly-looking dog. The recent attack near Round Lake has me avoiding the trails right now. Are there regulations about camping in the local parks, or any way to help our law enforcement actually do the enforcing (they can't do anything about someone breaking a law if the law doesn't exist)? Official programs and organized events aren't particularly useful to me. I just love the natural spaces, so if they're there and accessible (and safe), I'll be so grateful to walk for miles and miles. Thank you!
- I put as my top priority "Outdoor adventure summer camps, including archery..." I would be very interested in these types of activities/camps not only for children and youth, but adults as well. I am a single adult in Camas, and would love to participate in all of the activities that were listed under that option, not only to learn more but also to meet more people in the community. I would love to support the city in creating such programs for kids and adults as well, I'm assuming we have a lot of untapped talent here, i.e. I'm an Herbalist/Botanist/Teacher who already does plant walks, I would be happy to volunteer for the city in putting together some sort of program/activity around that with our trails and greenspaces.
- Need to provide facilities for additional outdoor activities that create community connection and activity. With the number of sporting families Camas lacks facilities that other communities provide.
- Water quality improvements at all of our local lakes/rivers. Also, would like to ensure we don't see homeless camps springing up in our parks/shared forest lands.

APPENDIX B: INTERACTIVE MAP COMMENTS

Below are the unedited comments respondents submitted in the issues map, grouped by address.

Category	Comment	Address

Place I visit now	A trash can at the waterfall would be really wonderful please.	1644 Northeast 5th Court, Camas, Washington 98607, United States
Place I visit now	Love the accessible trail with benches for our elderly family members to rest during their walks, and viewing the wildlife here throughout the seasons	1906 Northeast 3rd Loop, Camas, Washington 98607, United States
Place I visit now	We love the solitude of Fallen Leaf and are here almost daily.	2911 Northeast Everett Street, Camas, Washington 98607, United States
Place I visit now	Great place to hike or trail run	Round Lake Loop Trail, Camas, Washington 98607, United States
Place I visit now	Love the lake for open swimming and kayaking. It's peaceful	2911 Northeast Everett Street, Camas, Washington 98607, United States
Needs improvement	Trash cans next to the map signs would be really wonderful. Additionally, all the maps need to be redone (they've been peeled away).	2700 Northeast Everett Street, Camas, Washington 98607, United States
Needs improvement	Replace the broken fences and add danger signs around cliffs on both sides of the river.	Camas School District #117, 841 NE 22nd Ave, Camas, Washington 98607, United States
Needs improvement	At one point (2-3 years ago) Jerry Atkinson had shown us a concept for filling in the Mill Ditch and making it a large accessible walking path through the town to the trails. Would love to see that happen, or at the very least, clean the mill ditch.	935 Northeast 6th Avenue, Camas, Washington 98607, United States

Needs improvement	Used to take the kids here frequently. Would love to still, but the play equipment is in disrepair. Swings broke a while ago and still aren't replaced. When a bench near the play area was wrecked years back it took months for it to be replaced. The large slide has been broken for over a year and the receiving pole dangerously stuck out where kids run without removal. It gets a ton of use - an upgrade and better maintenance is a must.	2949 Northwest 38th Avenue, Camas, Washington 98607, United States
Needs improvement	I get nervous with small children on the sides of the dam particularly one end that has only half the fence covering the drop	2828 Northeast Everett Street, Camas, Washington 98607, United States
Needs improvement	Multiple trees are dead, pruning of shrubs is half done, mulch needed in landscaping areas, general weed management	824 Northwest Klickitat Street, Camas, Washington 98607, United States
Needs improvement	Roof cleaning and painting of building is needed	2911 Northeast Everett Street, Camas, Washington 98607, United States
Needs improvement	Roof cleaning is needed	Round Lake Loop Trail, Camas, Washington 98607, United States
Idea for something new	Please add a splash pad to Crown Park (similar to beautiful, architecturally-designed Jamison Park splash pad in Pearl District in Portland) which will be a wonderful activity for kids/families	126 Northeast 15th Avenue, Camas, Washington 98607, United States
Idea for something new	Consider new/updated Crown Park programming to tie in with programs/activities to be offered at new Garfield Performing Arts Center -- 2 blocks away, such as regional Art Fair similar to nationally-known Salem Art Fair (Oregon), family	1437 Northeast Everett Street, Camas, Washington 98607, United States

	athletic event similar to Pole Pedal Paddle (Bend, OR), etc. which would boost local economy, increase tourism, and highlight our "Crown Jewel" of a park!	
Idea for something new	A water feature for the kids- pool or splash pad. Something safe and fun for all ages.	Camas Municipal Pool, 120 Northeast 17th Avenue, Camas, Washington 98607, United States
Needs improvement	Adding a splash pad or community fountain, parking lot and picnic tables could be a nice addition to Fallen Leaf Lake area for the community. Retaining walls and a sort of "art walk" fencing could highlight local artistry and scultures.	252 Northwest Lake Road, Camas, Washington 98607, United States
Needs improvement	This Sierra/43rd Street corridor needs speed improvements. With the addition of 7% growth in traffic (prior to new homes being actually completed), the daily traffic including large earth moving vehicles and construction vehicles has dangerously increased speed down this TWENTY FIVE MPH corridor.	1642 Northwest 43rd Avenue, Camas, Washington 98607, United States
Idea for something new	Splash pad would be great	120 Northeast 17th Avenue, Camas, Washington 98607, United States
Needs improvement	Parking at Heritage Park and Round Lake always fill up quickly. Making the north side of the lake more of an attractive destination (with parking) could help distribute the congestion	811 Southeast Leadbetter Road, Camas, Washington 98607, United States
Needs improvement	Brambles overgrowing the path	3105 Northwest 31st Avenue, Camas, Washington 98607, United States

Needs improvement	Needs a nice restroom. A splash park would be nice here since they removed our pool.	120 Northeast 17th Avenue, Camas, Washington 98607, United States



Appendix C
Stakeholder Summaries

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan Update		**Project No.:**	Proj-# 21-135PLN	
Location:	Zoom Video Conference	**Interview Date:**	July 9, 2021	**Time:**	3:30 pm
Notes by:	Steve Duh, Conservation Technix				
Participant:	Annette Anderson, Camas Lacrosse		Jeff Immel, Camas Little League		
	Karen Gibson, Camas Lacrosse		Trang Lam, Camas Parks & Recreation		
	Nick Kralj, Camas Little League		Steve Duh, Conservation Technix		

Subject: **Stakeholder Group Discussion with Field Sport Associations**

PURPOSE

To discuss current interests and future needs addressing sport field improvements and capacity. The meeting took place on July 9, 2021, via a Zoom video conference from 3:30 – 5:00 pm.

DISCUSSION

The discussion began with brief introductions and an overview of the City's PROS Plan update process. A set of questions were used to initiate the discussion and explore ideas about field usage, capacity, maintenance and potentially needed improvements to local sport fields.

Lacrosse Comments

- Lacrosse can only use school-owned facilities due to need for larger field and fencing to manage errant balls. It has been a challenge using Camas School District (CSD) facilities, and the league can't use fields until 5 or 5:30p, which is difficult for elementary and middle school age players
- Prune Hill is the only other field, but it is on a first come, first served arrangement.
- School field have maintenance and quality issues; there are a lot of mole/gopher holes
- Lacrosse is at capacity for the fields it uses. There is competition for field space with soccer (which has every school field booked, except Cardon). If Lacrosse had more field access, then it could accommodate more teams and more localized competition (instead of competing against Portland, Hood River, etc.). All games are on turf fields. The season is in the spring – generally March through June

Little League Comments

- Little league uses a mix of city fields and rents fields from CSD. Little League has a use rights agreement with City for Forest Home Park, which is used primarily for games. Softball is exclusively at Doc Harris. Lower divisions use Doc Harris and Woodburn. Younger players use Crown Park, Goot and Klickitat.

Interview Notes (continued)

Other Comments

- CSD is starting middle school soccer and spring football. These will impact field availability.
- Within Camas, there are only two turf fields, and both are at CSD. High school sports get priority use, and CSD charges a lot for field rental ($100/hr.). Little League pays CSD $15,000 annually for field rentals.
- Soccer mostly uses Doc Harris, with Woodburn as an alternative
- CYSF (fall) plays at Sky Ridge, upper and lower
- Pop Warner practices at Prune Hill; they would like more field space and turf
- Babe Ruth is exclusively at Louis Bloch, but the league seems to be diminishing and numbers are down

Sport Field Needs

- Near-term – increase field capacity by improving field quality
- Prune Hill is turfed for baseball and football. The baseball infield is in rough shape and is weedy
- Prune Hill has infrastructure (bleachers, fencing, parking, restroom), so improve the function of the field
- Adding lights adds capacity, and there are few neighbors near Prune Hill who might be impacted
- The property across the street from Prune Hill is for sale again. Maybe consider this as an expansion site to accommodate a complex
- Grass Valley and Prune Hill are weedy. City could do weed mitigation to improve field grass quality
- Drainage issues at Grass Valley (doesn't dry out until June) and Forest Home (outfield is wet)
- The irrigation system at Forest Home Park is aging – leaks, broken sprinkler heads, etc.
- Fallen Leaf Park could be utilized for more capacity as a single event space. Parking is limited and a challenge, but it has lights and restroom
- The leagues need to work with school district to build out other CSD property

Collaboration with City

- Communication with City for Little League has been tremendous. Dennis Ryan has helped with weed control, plugging the outfield, fertilizing and providing dumpster use
- Little League volunteers add a lot of value by improving field conditions
- Leagues can support field improvements and development with fundraisers, grant support and sweat equity
- The field turf program offered as part of the pool levy was rejected, but it could have made improvements to Prune Hill, Dorothy Fox and Forest Home
- Sport leagues are volunteer organizations and have transient membership. Is there a role for the city in helping with continuity of leadership – maybe a leadership forum. Continuity of leadership could help develop a more collective voice across sports

Other Feedback: Annette and Nick provided written comments via email to the discussion questions. These are attached on the following pages.

-- End of Notes --

City of Camas
Parks, Recreation & Open Space Plan Update
Camas Parks and Recreation

July 9, 2021
Sport Fields Group – 3:30 p.m.
Discussion Questions

The following are intended to spark group discussion and interaction; questions posed/topics addressed might not follow as shown.

Introductions & Background
- Brief overview of PROS Plan & process
  Camas Lacrosse - 7/6/21 by Annette Anderson Youth Girls VP

Group Discussion Questions
- What has been the trend in participation by your league/sport over the past 3 years? (i.e., trending up/down; number of participants by age group/gender) **Trending up. K-12 girls and boys. 2019 - 280 2020 - 410 2021- 201**

- What sport recreation opportunities are missing? What facilities do you see as the most needed in the community? **Turfed fields.**

- Discuss coordination between leagues (overlapping calendars, multi-use fields, seasonality, etc). Do you have any concerns about availability and scheduling? Would a coordinated annual booking system, with a nominal fee help? **Our concerns have been with the High School kicking us off the only turf fields in the city. The youth have no other options. Also with only being able to use school run fields we are not allowed to use them until 5:30 at night which causes problems with booking so many teams and also with the younger elementary players. If they were city run fields we could have the elementary kids start practices after school gets out at 2:30.**

- Besides Camas Parks & Rec fields, what other fields does your group/organization use? **The school distrtict. ZAC, Doc Harris, Cardon.**

- What does your organization see as the key priorities for the city's system of parks and sport fields? **Short term capacity increase - turf at Prune Hill, Grass Valley, Dorothy Fox. Long term - new complex**

- Jump forward 5 years and imagine Camas in 2026. Please share your vision for one stand-out project completed to improve the parks system and/or local sport facilities.
  2 turf fields at Prune Hill

- How is field maintenance? Are there ways to improve this, especially through partnerships?
  We have been maintaining Prune Hill, ZAC, and Doc Harris E & F fields filling the mole holes multiple times a year. If the dirt/sand was provided that would be nice.

- With the understanding that the PROS Plan will help guide the City's investments and use of resources for the next 6 years; in your opinion, where should the City focus resources and energy in the next 5 years? **Getting fields turffed so that we can be competitive with the teams in Portland and Vancouver.**

- What contribution, collaboration, and responsibilities can your organization bring to the future implementation of the City's public park and recreation system? Are there opportunities for more collaborative projects between the leagues and City? **We could help provide funding through fundraising activities and sponsorships for the turf fields.**

Additional Information Request (not for group conversation – please email feedback)

- Describe the current state and quality of City of Camas-managed athletic fields and sport courts (quantity, quality, geographic distribution, etc.) **The quantity is good, quality is lacking in turf (all of our games in Vancouver and Portland are played on turf, their players practice on turf. Our players practice on grass and it is a hard transition for them during game days because the ball bounces different and is harder to pickup.). Geographic distribution is good.**
- How is the geographic distribution of fields / courts? Are they well distributed? Where are more needed? **Yes well distributed.**

City of Camas
Parks, Recreation & Open Space Plan Update
Camas Parks and Recreation

July 9, 2021
Sport Fields Group – 3:30 p.m.
Discussion Questions

The following are intended to spark group discussion and interaction; questions posed/topics addressed might not follow as shown.

Introductions & Background
- Brief overview of PROS Plan & process

Camas Little Leage Responses - 7/5/2021 by Nick Kralj, president

Group Discussion Questions
- What has been the trend in participation by your league/sport over the past 3 years? (i.e., trending up/down; number of participants by age group/gender)
  Trending steady; 2020 = 483 participants, 2019 = 513 participants, 2018 = 476 participants
  Boys and girls baseball and softball ages 5-13 (could be thru 15 soon)
- What sport recreation opportunities are missing? What facilities do you see as the most needed in the community?
  Field capacity is and will be the primary issue. Under-utilization of existing space due to weather or infastrucure issues. Growing community will make it even harder. Could be solved in some cases with turf and lights and other infrastucture like ADA dugouts and bathrooms, and drainage
- Discuss coordination between leagues (overlapping calendars, multi-use fields, seasonality, etc). Do you have any concerns about availability and scheduling? Would a coordinated annual booking system, with a nominal fee help?
  We feel the above would create more opportunities for all leagues. For instance, Fallen Leaf turfed could be used for football, lacrosse and soccer offseason, and with turf and lights, even during season with proper scheduling
- Besides Camas Parks & Rec fields, what other fields does your group/organization use?
  Camas school district rental Doc, other leagues fields, such as Schmid and others in Washougal
- What does your organization see as the key priorities for the city's system of parks and sport fields?
  Short term capacity increase - turf, lights at key facilities that are not optimized, such as Prune Hill, Fallen Leaf, Grass Valley, Dorothy Fox, and Goot Park. Long term - new complex
- Jump forward 5 years and imagine Camas in 2026. Please share your vision for one stand-out project completed to improve the parks system and/or local sport facilities.
  Turf and lights added to parks facilities to increase time available/not waste existing space
- How is field maintenance? Are there ways to improve this, especially through partnerships?
  This is good. We utilize our field rights usage agreement to maintain fields with support from Cama
  We appreciate our relationship with Parks and Rec today.
- With the understanding that the PROS Plan will help guide the City's investments and use of resources for the next 6 years; in your opinion, where should the City focus resources and energy in the next 5 years?
  Creating more capacity for our growing community. With more people coming, the fields are close to maxed in their current state. New opportunities will be needed
- What contribution, collaboration, and responsibilities can your organization bring to the future implementation of the City's public park and recreation system? Are there opportunities for more collaborative projects between the leagues and City?
  We can provide seed funding to contribute to grants for lights and turf. Our membership base is passionate and ready to help support. We can also reach out to business community partners as we
- Are there other organizations/individuals that the City could bring to the table as partners?
  Yes, we can work with other business organizations to provide loand, donations and other financial support. We have run this exercise before and would be able to leveage our network.

Additional Information Request (not for group conversation – please email feedback)

- Describe the current state and quality of City of Camas-managed athletic fields and sport courts (quantity, quality, geographic distribution, etc.) See below**
- How is the geographic distribution of fields / courts? Are they well distributed? Where are more needed? Distribution is reasonably good. We have land/parks that are nicely spread out; however, we cannot use them fully due to poor drainage, poor maintenance, lack of infastructure such as lights, dugouts, restrooms, etc.
  Long-term, we feel that a new complex would benefit Camas the most, as it has the ability to generate rental income as well as provide tourism revenue to the local area from tournaments.

** Forest Home Park - 2 baseball fields with lights. Needed: ADA dugouts, bathrooms, and pathing, as well as outfield drainage and turf. Already has lights.
** Prune Hill - excellent setting, however, hardly used due to exceptionally poor drainage and no lights. Turf and lights needed. Dugouts and storeage are needed as well
** Fallen Leaf - excellent facility, but limited parking and poor drainage. Not really available until late June/early July which is too late. Our spring season is primary and is late Feb thru July. Turf recommended.
** Grass Valley Park - limited parking and poor drainage. Not really available until late June/early July which is too late for baseball/softball.
** Goot Park - limited parking and poor drainage. Not really available until late June/ early July which is too late for baseball/softball
**Dorothy Fox - no infastructure available. Need to build out.
** Other practice fields used include today Klickitat Park, Crown Park, Doc A, B, C, Liberty

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan Update		**Project No.:**	Proj-# 21-135PLN	
Location:	Zoom Video Conference	**Interview Date:**	July 6, 2021	**Time:**	8:00 am
Notes by:	Steve Duh, Conservation Technix				
Participant:	Patty Barnard, Mountain bike advocate		Katy Daane, Parks & Recreation Commissioner		
	Jeff Cary, Camas Bikes		David Dewey, Parks & Recreation Commissioner		
	Jeremy Mores, Evergreen Mountain Bike Alliance		Trang Lam, Camas Parks & Recreation		
	Ross Swanson, Portland Parks & Recreation		Steve Duh, Conservation Technix		

Subject: **Stakeholder Group Discussion on Mountain Biking & Pump Track Interests**

PURPOSE

To discuss current trends, interests and future needs addressing mountain biking and skills development. The meeting took place on July 6, 2021, via a Zoom video conference from 8:00 – 9:30 am.

DISCUSSION

The discussion began with brief introductions and an overview of the City's PROS Plan update process. A set of questions were used to initiate the discussion. Ross Swanson from Portland Parks and Recreation was invited to share information about Gateway Green to offer context about design, development and management considerations. The remainder of the session focused on local interests for trail and biking facilities.

Overview of Gateway Green in Portland

- Ross provided an overview of the Gateway Green project and some lessons learned. The 24-acre site lies between TriMet and railroad property. It is a bike to and walk to site only. It has 70-80' of vertical drop and offers good length on laps. It was built in three phases, in part to see how people use the site. The city legitimized the park with restrooms and designed it as a four-hour experience.
- It provides for a range of users: dirt jumpers & BMX, mountain bikers, skaters and runners
- Cross country runners use the site; it is a compatible use
- Pump track is paved and designed/built by Velos

  Tips:
  - Don't assume your rider base is just 24-35 year old white men.
  - Gather data to prove users
  - Consider other features (Gateway Green added nature play area) to give parents an opportunity to play with one kid while the other rides

Interview Notes (continued)

- Re-frame the perceptions about users: everyone wants to progress and get better; most are willing to help each other

Comments on Camas' Parks and Trails System

- Camas has great trails
- Current usage is outgrowing Lacamas Park
- Heritage Trail is a way to get to Lacamas Park for mountain bikers; trail usage on Heritage Trail is heavy
- Fallen Leaf Lake offers more advanced options for mountain bikers
- New neighborhoods northeast of lake attract residents with interests in trails and mountain biking; however, since COVID, there is more trail usage overall
- Need to have trails built by experienced trail builders and in places sanctioned for trails. Installation of rogue trails by people cutting/digging routes is a problem the City is trying to address.
- There is a need for places for kids to practice on stryders/skoots
- There is a need for a pump track and more mountain bike trails
- Camas has become more of a destination and will continue as new trails are added.
- Have the information to keep people in town and as part of the circuit of regional tourism

Usage & Potential

- COVID has super-charged trends: more usage on trails, wider age distribution of riders, wider age groups
- Consider dedicated infrastructure, directional trails and signage for mountain bikers.
- Green Mountain has potential and could use lower slope area for bike park/skills – perimeter could be for climbing trail and multi-use trail
- New trails are being installed on Larch Mountain / Livingstone
- Consider 'competition-ready' facilities, whether mountain bike trail or pump track or both; people will travel for different experiences. Have a destination bike park with a 'race worthy' track. Design it large to avoid user conflicts. Promote the city/region as a destination and tap into tax and tourism revenue
- Hub-type trail system – how do we find places to build or connect to grow the system over time
- Lake Oswego is building a hub and starting with a network of one trail. It will be a catalyst project to hold the growing system together

Connections to Consider

- Have a network of trails connecting all parts of town. Include a network of flat dirt trails as a great start. Kids can build confidence with beginner mountain bike rides – provide a place for youth to go (i.e., lighted pump track)
- Make connections in areas near Everett and Everett to Leadbetter
- Mill Ditch could act as a longer, linear ribbon
- Make connections along the north side of Lacamas Lake
- Improve road crossings and safety between Fallen Leaf Lake and Lacamas Park

Interview Notes (continued)

Future Investments

- Pump track with lights, parking and restroom, signage/maps, app coordination so people know what to expect
- Have (city) staff who knows community, culture and mountain biking; utilize consultant teams to guide growth and development of a trail system or biking facility
- Use sustainable trail design principles (i.e., 5-7% grade slopes with switchbacks)
- Know the stumbling blocks and how to overcome, especially related to regulations, development codes and local leadership.
- Environmental overlays (development code, zoning, SEPA) – educate regulators
- Be aware of the potential neighbors to act as NIMBYs
- Policymaker rides and outings to buoy interest and build relationships/support

Other examples noted

- Hood River, OR
- Duthie Hills (Issaquah), WA
- Valmont, CO
- Whistler / BC
- Bentonville, AR
- Bend, OR
- Klamath Falls, OR
- Tiger Mountain (Issaquah/Maple Valley area), WA

-- End of Notes --

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan Update		**Project No.:**	Proj-# 21-135PLN	
Location:	Zoom Video Conference	**Interview Date:**	July 7, 2021	**Time:**	12:00 pm
Notes by:	Steve Duh, Conservation Technix				
Participant:	Cassi Marshall, Ivy League		Janet Nenadic, All Weather Walkers		
	Duff Linde, Evergreen Mountain Bike Alliance		Ryan Bridges Golb, Intern with WTA		
	Lyndee Cunningham, local volunteer		Trang Lam, Camas Parks & Recreation		
			Steve Duh, Conservation Technix		
Subject:	**Stakeholder Group Discussion with Bike and Pedestrian Interests**				

PURPOSE

To discuss current interests and future needs addressing bicycle and pedestrian facilities and trails. The meeting took place on July 7, 2021, via a Zoom video conference from noon – 1:30 pm.

DISCUSSION

The discussion began with brief introductions and an overview of the City's PROS Plan update process. A set of questions were used to initiate the discussion and explore ideas about bicycle and pedestrian trail needs.

Initial Comments

- The City has great trails and has done a great job building trails for the community
- Quality of life in Camas is good because of trails
- There are concerns about growth and expansion - houses getting closer together. With population growth and more people on the trails, what can the city do to expand use and access to trails?
- There is some confusion of who maintains/owns the different trails (i.e., city/county)
- Love the Trails to Tables challenge
- Connectivity is important; complete loops and circuits. Connect to Washougal, to the Port and to levee trail. Educate Camas residents about the trail linkages
- Link neighborhoods to downtown via ped/bike friendly routes;
- Develop the Mill Ditch alignment; it's ripe for something amazing. In the short-term, start with basic use and pathway. In long-term, build a shared-use trail
- Create stronger linkages between Camas and Washougal, via Oak Park or Goot Park or WRG
- In the North Shore and around the lake trail, that loop will require work for water crossings, safe street crossings and road segment closures to make it work in the long-term

Interview Notes (continued)

- The regional Lewis & Clark Trail from refuge to refuge is not well known to the group, but they noted interest and support.

Conflicts

- Users are generally getting along and sharing trails; conflicts are limited and sharing trails is better than it has been in recent years
- Sometimes walkers are intimidated by bikers
- Since COVID, usage on trails has increased, but there has been a low number of conflicts
- Conflict issues are a two-way street. Some walkers have earplugs and dogs and are not paying attention to the surroundings
- Heritage Trail is getting crowded, especially with families and groups of riders. The trail is undersized. If Lake Road had better bike lanes, that might alleviate some of the demand from Heritage Trail. Some users are starting to avoid Heritage Trail due to overuse.
- One spillover trail is Lacamas Creek, but there is simply more trail usage on all the trails. Ostensen Canyon is also underutilized. If improved, this trail could make for better connections to neighborhoods near downtown

Amenities

- Provide restrooms at trailheads. For organized walking groups, they tend to plan the routes to have a restroom at a mid-point during their walks.
- All Weather Walkers prefer paved or gravel trails
- Trails with views should be a priority

Hierarchy

- Should single track trails be shared or not. One-way routes, like Red Tape Trail, is one approach to managing users and flow. Larch Mountain has all shared use trails, and most are 'green' and 'blue' trails
- Family rides – Little Washougal River Greenway Trail – gets washed out each year. The city has changed the design and improved, so it has been recently fixed
- Waterfront Trail (Port) and Dike Trail (Refuge) are not in the Camas system, but these are great destinations to link to
- Improve sidewalks and wayfinding for connections from Prune Hill to downtown. Maybe improved connectivity will reduce parking demand at parks. Sidewalk network is an important part of the overall trail network. Work to fill gaps
- Forest Home Park – Forest Home Road might make for a good connection.

Collaborations

- The Evergreen Mountain Bike Alliance will continue to be involved for trail maintenance; will want to stay informed about trail projects
- All Weather Walkers has trail days to encourage people to come out on trails (5K & 10K routes); will help get the word out and make for bigger events

Interview Notes (continued)

Getting youth and next generation involved

- Engage kids at young age with volunteer projects and outings, like Watershed Alliance and trail/beach clean-ups
- Scouts bring packs out for clean-ups and other projects
- Camas has a deep pool of volunteers to call on to help
- High School has a 'green club' and could assist with park/trail care
- Have mini Sunday Parkways (ala Portland) throughout Camas

Other Feedback (emailed responses)

From Ryan Ojerio, SW Washington Regional Manager, Washington Trails Association

How do you feel the City is doing in meeting the needs for recreational trails and connectivity in its park system?
I don't think I have enough information to have a solid opinion on this question since I don't live in Camas. My personal experience is limited to using the Lacamas Heritage Trail and the trails at Lacamas Park which I think are really fun to hike run and mountain bike on. I think that a survey of local residents who use the trail system would have a better opinion than mine. We do have WTA members and volunteers who live in Camas, but I haven't talked with them about this question.

What are the gaps, missing links or barriers that need to be addressed? What destinations need to be connected?
Similar to the first question I think I need more information to have a really solid opinion. I'm assuming that the question pertains to all sorts of parks, trails and places that people living in Camas recreate in regardless of the ultimate land manager (e.g., Camp Bonneville will be a Clark County facility, but I expect it will be a destination for local residents.) My guess is that people experience barriers getting to the Waterfront and eventually when Steigerwald is finished they may want to get down there without having to use the car. Likewise, Green Mountain and perhaps Camp Bonneville to the north seem like good destinations for trail-based recreation. Getting to those places may prove difficult for people who don't have ready access to a car or the physical ability to ride a bike all the way there and have enough energy left over to recreate. Some sort of public transit option would be ideal for a future where personal automobiles are less common than they are today.

There seems to be an unmet demand for trail experiences specific two bicycles I think that the proliferation of user-created routes that were adopted into the Lacamas Park trail system is an example of rapidly changing demographic trends over the past 20 years that outpaced agencies' abilities' to evolve and adapt the trail system accordingly.

At WTA we are generally supportive other user types such as mountain bikes and equestrians more and more we find that people who wreck rate on trails enjoy a variety of modes. leave that working with our partners Hugh create Trail systems that meet a diversity of Interest helps people to find Trail base Recreation experiences matched to their particular interest at that time in their life.

Back in the 80s I was heavily into mountain biking in high school which continued through college. Later on I became passionate about hiking and backpacking. Once I had kids I got really excited about trails where I could take our stroller. I enjoy hiking with my parents and their physical limitations are best served by accessible fails. I'm fortunate at this point in my life that I can enjoy a hard trail run, bombing down a mountain bike downhill trail and spending

Interview Notes (continued)

time with my young children and older parents on a quiet path. I think that this whole-life-cycle approach to designing trail systems is the right lens to look at planning processes.

Are there any conflicts on multi-use trails? Please share some examples. Besides making the trail a single-use trails (i.e., Pedestrian or Bicyclist) what other ideas do you have for reducing these conflicts?
I think that there are always tensions between users on trails. Rather than focusing on specific examples of conflict I think it makes more sense to seek examples where there are many users on a trail system and the tensions are minimal. In the last few decades, a lot of effort has gone into education and promoting empathy between trail users which is good, but I think more emphasis needs to go into thoughtful system design that provides areas within the trail system where users are more likely to find an experience free from intrusions. An "intrusion" is an interaction with a different trail user that breaks sense of peace or flow or rhythm that takes the person's mind off the enjoyment of the experience.

I think that ski areas are a good example of making the most out of a limited geographic footprint to serve a lot of people. A busy downhill ski area and serves a wide range of physical abilities and people seeking different types of experiences from snowboarding in a terrain park to skiing steep powder in the trees. The design of the system allows people to find activity zones that are matched to their skill and even when it gets crowded, they're sharing those spaces with like-minded people generally traveling at similar speeds. In this way the sense of intrusion is minimized, and the design of the system helps reduce the number of times incompatible uses clash like having the dual slalom dump out into the bunny hill - that would be a very bad idea.

But at ski areas there are also places where everybody shares the same space in relative harmony like on lift lines, in the lodge, or even on those wide cat tracks that people use to get from one place to another. Any trail system needs to have segments that are shared use. Some facilities like bathrooms in parking lots that are shared best parts of the trail system or people in or immersed in their particular activity might be designed for that particular activity and that particular speed; these are directional to avoid head-to-head encounters which are particularly intrusive.

I think that single use designations are useful tool, but I also think you can get a lot of use segregation with thoughtful design that nudges people into trail segments where they want to be, and they will naturally congregate with other people doing the same type of activity.

What does you and/or your organization see as the key priorities for the city's local trail system?
One of our focal areas is providing natural surface trail experiences that connect people with nature in their neighborhood. this could include regional parks that someone might take a bus to or ride their bike to, essentially, it's trying to lower the barriers for everyone to have access to healthy physical activities.

Jump forward 5 years and imagine Camas in 2026. Please share your vision for one stand-out project or connection completed to improve the city's trail system.
5 years goes pretty fast when it comes to planning trails at least that's been my experience! there are probably several other projects that other folks would know more about but there is an area adjacent to Round Lake that used to have a user created BMX track could be developed in a thoughtful way to provide trail recreation and environmental protection.

With the understanding that the PROS Plan will help guide the City's investments and use of resources for the next 6 years; in your opinion, where should the City focus resources and energy in the next 5 years?

Interview Notes (continued)

I find our organization can work more efficiently if we have good relationships and open lines of communication with agencies and other trail user groups sometimes this coordination is driven by the land manager but often due to lack of capacity is informal and based on relationships between trail user groups that evolve organically. Perhaps a good goal for the city would be to figure out how to tap into the different volunteer organizations that could help with maintenance and new construction in the future.

What contribution, collaboration and responsibilities can your organization bring to the future implementation of your vision for the City's trail system? Are there other organizations/individuals that the City could bring to the table as partners?
We've done new trail design, construction and do lots of maintenance work throughout Clark County and the state. Depending on the project and how it aligns with our focal areas we could become heavily engaged or act more as advisor; it all depends on what elements come out of the planning process.

From Jean M. Avery, Vancouver, WA

Heart-felt thanks to Camas for the excellent park system (close to me in East Vancouver). I especially enjoy:
- Round Lake
- Fallen Leaf Lake
- Lacamas Heritage Trail

Overall, I think the parks, trails, and restrooms are in excellent condition. The concerns I have probably relate more to the nature of society, rather than to any improvements that Camas can make, per se.

My thoughts:
1. When the Camas lilies bloom, please mark off the trails (as was done at the end of this season). The fragile blooms got stepped on, with the increased foot traffic.
2. Consider closing off informal side trails, which trample fragile vegetation.
3. Similarly, clarify which trails are for walkers only, without bikers. (I think you do this.)
4. Please provide more trash containers and more dog poop bags. (Unfortunately, folks don't always pick up after themselves.)
5. I'm not a dog owner, but I believe there is a leash law. I'm not sure how that can be enforced. (I see MANY more dogs in recent months, and quite a few off-leash.)
6.. As you know, there is some graffiti (mostly under the bridge). Does it last if the graffiti is painted over? Maybe this could be a service project for a civic group?
7. There's a lot of invasive ivy. Bravo to the Ivy League for removing some of it. But the job is a huge one.
8.The recent news article about the assault near Round Lake was very disturbing. I don't know what can be done. It may come down to individual vigilance.
9. I have not yet seen overnight campers around Round Lake or Fallen Leaf Lake. I hope it stays that way.
10. If things reach the point where "monitors" are needed, here's an idea from the Hoyt arboretum: They have volunteers who walk the trails, direct folks, identify trees, and (yes) pick up trash.
11. I did not realize that Fallen Leaf Lake park can be closed for private events. If so, I hope the revenue collected outweighs the inconvenience to the public.

My requests:

Interview Notes (continued)

1. In the past, I attended a civic meeting regarding the North Shore of Lacamas Lake. Please limit the amount of tree removal. (It still is a jolt to me when I see the houses on the edge of the Round Lake trails. Do we have to have more houses so close to the park??)
2. The new turnaround at the foot of 1st Ave. (before Everett) is VERY confusing. (I've heard this from other folks as well.)

Thank you for requesting public input.

From Lyndee Cunningham (to Cassi Marshall and forwarded to Trang Lam)

Cassi, I asked a lot of people of varying ages about current and future state of our Camas parks and trails. Some of them had done the survey, but most had not heard of it. A few found it on "Next Door' site. I wish we'd all remember to check out the Parks Dept website more often.

Some common consensus follows:
- Everyone mentions more and expansive trails and connecting all possible ones.
- All want a trail around Lacamas Lake some day.
- Some are afraid there will soon be charges for parking at parks and trails. Everyone prefers to pay more taxes to compensate.
- Too many are confused by the new roundabout.

The Osprey Walking Group input:
- Asking about new property north of Lacamas and hope it will be connected easily to Lacamas Park trails. Also, asking about trail east of Steigerwald continuing farther east.
- Reporting dangers of loose gravel on down slopes of Service roads. Two of their group fell last rainy season when the gullies and rivulets formed, and gravel became loosened. Suggested scraping of those downhill slopes.
- No one enforcing leash law and poop bags not being picked up. One person leaving her bag trailside informed Osprey gal that because bag was biodegradable it was okay. False information. I know that the bag may be, but feces is not. Watershed Alliance informed us volunteers that feces and cigarette butts are the worst toxins for fish and wildlife in waterways.
- Would like to use the ditch more if filled in and looking more appealing.
- Will there be a trail someday around Fallen Leaf Lake?
- Worried about the browning of our trees. Will it become as bad as on Oregon side of river? One gal would like to start a campaign called Save Our Trees before it is too late.
- All are still angry that Crown Park pool is gone. Would like to pay more taxes to get it back.
- They all love and respect the quality of our parks and trails and seem genuinely grateful for them. All are aware of maintaining that same quality with a growing population, yet change is inevitable.

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan /Vancouver PROS Plan		**Project No.:**	Proj-# 21-135PLN	
Location:	Zoom Video Conference	**Interview Date:**	September 16, 2021	**Time:**	10:30 am
Notes by:	Laura Hoggatt, City of Vancouver Steve Duh, Conservation Technix				
Participant:	Jenna Kay, Clark County Community Planning / Commission on Aging Rebecca Royce, Clark County Community Services / Community Development Block Grant Scott McCallum, Superintendent at Washington State School for the Blind Terese Rognmo, Director of the SW Washington Center of the Deaf and Hard of Hearing		Gigi Olguin, Hispanic Metropolitan Chamber of Commerce of SW Washington Trang Lam, City of Camas, Parks and Recreation Director Laura Hoggatt, City of Vancouver Parks, Recreation and Cultural Services Planner Steve Duh, Conservation Technix		
Subject:	**Stakeholder Group Discussion on Under-Represented Voices**				

PURPOSE

To discuss current interests and future needs addressing community members of traditionally under-represented voices. The meeting took place on September 16, 2021, via a Zoom video conference from 10:30 am – noon.

DISCUSSION

The discussion began with brief introductions and an overview of the PROS Plan updates for Camas and Vancouver. A set of questions were used to initiate the group discussion.

Trang Lam, City of Camas Parks and Recreation Director, provided an overview of their PROS Plan update, noting that it began in the spring of this year. The PROS Plan will cover the six-year period from 2022-2028 and provide a decision-making framework to steward and build upon a park, trail and recreation system that serves and enhances our community's health and quality of life – now and into the future.

Laura Hoggatt provided a brief overview of the City of Vancouver, Parks, Recreation and Cultural Services Comprehensive Plan update and stressed that the plan fundamentally is based on community engagement. A variety of methods were used for public involvement that include two surveys, in-person community outreach at multiple locations, stakeholder group discussions, and information dispersion through multiple resources.

Interview Notes (continued)

Steve Duh, Conservation Technix, provided additional background for the purpose of the comprehensive plan framework and noted that the adoption and certification of the plan for each city fulfills the requirements of the State of Washington Recreation and Conservation Office (RCO) for grant funding eligibility.

Introductions:

- Gigi Olguin is a Business Development Coordinator for the Hispanic Metropolitan Chamber of Commerce in the Clark County area. She works with Hispanic community members to develop a business plan, provides support through business coaching, connects them to resources and additional services.
- Scott McCallum is the Superintendent for WA State School for the Blind, serves on multiple boards and commissions, including the State of WA Commission for blind children. He currently Lives in the Salmon Creek area.
- Terese Rognmo is the Director for the SW Washington Center for the Deaf and Hard of Hearing. She is currently responsible for three regions that includes Clark County, Cowlitz County and the Yakima area. The center was established in 1993 and located in Vancouver, Washington. The center provides advocacy, assistance for basic needs, training services, referrals, advocacy workshops and general support. Their mission is to improve and enhance the lives of deaf and hard of hearing community members in the southwestern Washington region.
- Rebecca Royce, Clark County Community Services oversees the Community Development Block Grant (CDBG) program for affordable housing and community development. She also oversees programs for the community action program. There is a requirement to complete a comprehensive community assessment. The most recent report is available at: https://clark.wa.gov/community-services/community-action
- Jenna Kay is a Land Use Planner for Clark County Community Planning. She also provides support for the Commission on Aging. Part of her participation role in the conversation will center on advocacy for the goals and objectives of the Commission.

Comments on Improving Access to Recreational Opportunities

- Connect directly with blind and low vision people. Some resources include the National Federation for the Blind and the Washington Council for the Blind and Low Vision People.
- Conduct an accessibility audit of the website and signage. Communications and signage need to be accessible.
    - Partner with people who have expertise in varying abilities and pay them for their time.
    - Provide signage in braille.
    - Use simple language.
    - Easier fonts that can be accessed brail are important.
    - Dark backgrounds with yellow/gold colored text are helpful.
    - Pictures in signage are sometimes distracting; they are difficult to read linguistically.
- The Commission on Aging has talked about universal design going beyond ADA accessibility. For instance, benches with backs areas to rest. Utilize an audit of current amenities to help move toward universal design.
- Walking trails are very popular for aging. Many are mobility device (e.g., walkers, scooters) friendly, and others are not.
- Access to bathrooms and water (fountains) is important for all users.

Interview Notes (continued)

- Parks provide multi-generational spaces, and the placement of amenities (such as benches or picnic tables near playgrounds) should be accommodated.
- For those who are struggling financially, accessing parking and having to pay to park are barriers.
- It would be beneficial to provide free parking passes for low income where fees are required. Consider creating options for income-qualified users for free parking or nearby parking in neighborhoods. Also, consider public transportation access and overlay transit route maps with park planning and design.
- It would be nice if the parks had a visual identifier in the park or along a trail, like a map or wayfinding signs that are visually accessible and for the user to know 'you are here'.
- Another thing to consider is disaster events (e.g., flood, wind, ice). How is the park system going to notify people at the park that something is happening if they are blind or hearing impaired? Some ideas could include a flashing light for hearing impaired, a loudspeaker and clear messaging to get people to safety.
- For some in the Latinx community, they don't consider hiking as something to do. The trail areas do not feel welcoming, there are concerns there may not be any phone reception, and the signs are only in English and English units (miles only, instead of miles plus kilometers).
- Many families enjoy picnic shelters and large gatherings in the parks; however, the fees that are added are often intimidating, such as a pinata fee. Re-branding fees as clean-up fees is a better direction.
- There are Hispanic business owners who would like to opportunities to provide pop-up vendors booths at games and events to sell their food or commercial goods. The process to get a permit or who to contact is challenging. Opportunities could be shared with community members to participate at events besides the Farmer's Market.
- Consider paying community members as consultants for advice for development and design. A list of vendors to assist could be developed, and then continue to add folks to the list. If this approach is used, consider what kind of insurance or licensing might be needed. Get help from community-based groups to build up the roster or list.

<u>Age groups or communities needing more focus</u>

- Provide opportunities for a wide range of users that are inter-generational and inter-cultural, so the design does not silo people by age.
- Restrooms should be gender-inclusive and not binary. Gender specific bathrooms are not good for the LBGTQ community.
- Restrooms with baby changing stations should always be provided.

<u>Other barriers to address</u>

- Not everyone knows what is available.
- Make sure communications are provided in the top languages, such as Russian, Vietnamese and Pacific Island languages.
- Schools are trusted resources, use trusted community-based organizations to build trust for both culture and community.
- If tapping into local residents as support for outreach or translations, do not expect them to do this for free. Provide a fee for the service; compensate people for the experience they bring to the community.

Interview Notes (continued)

- The association for blind athletes a great resource. The athletes have provided tandem bike rides for individuals who would otherwise never get to have the experience of riding a bicycle. The program is run by a person who is low vision. They have also conducted hikes and kayak/paddleboard experiences.
- Larger parks are well advertised. More information is needed to help people be aware of all of the parks. A key or legend of what is available at each location and other information would also be helpful.
- There is wonderful new signage in Vancouver for the Waterfront park. There is little signage for neighborhood parks.
- In terms of access to parks, there is a lack of sidewalks to get to a park to walk or roll, and many are not located near public transit etc.
- The Community Development Block Grant (CDBG) can help with funding to build or improve sidewalks in low-income neighborhoods.

Future Investments

- Add interpretive cultural and historical information to the parks or trails to honor local heritage. Highlight tribal history. This information can draw people into a park, and it helps teach kids. This is very important to tribal members. Provide signage in a blind/deaf-friendly way.
- Expand access for transportation. A shuttle bus could be considered to get people to Vancouver Lake, Frenchman's Bar or other regional parks.
- The Hispanic Chamber of Commerce has clients that would like an opportunity to set up a booth for soccer or other events. Is there a way to help provide support or do something in the future? For example, during a Sunday league championship there are clients who would like to set up a booth for a couple of hours. This is common in the communities where they used to live.
- The COVID pandemic has left us to reimagine what life could be like in the future. For the aging community we are considering how future of programming might need to look different. If recreation programs and senior centers were the only socializing people utilized before the pandemic, how are they doing now? What can we do to make it better?
- The old papermill sight could be used for a venue that might provide indoor and outdoor amenities. Expand the site to provide a great variety of opportunities that brings the whole community together. The old Torpedo Factory in Alexandria, VA was repurposed as an Arts Center, this could provide some ideas.
- If there was a web page that would provide more history, please include video with captions.

Elements to prioritize to advance diversity, equity and inclusion in the park and open space system

- Hire diverse staff and appoint diverse commissions/advisory boards. Provide support, such as a stipend, childcare, free parking, transportation if needed, etc. Don’t make it a burden.
- Make sure to provide communication access for any kind of meetings, such as live captioning. This includes having back up plans in place.
- Make sure you provide the opportunity and hear from the voices of diverse individuals. Talk to the people who are experiencing challenges.
- Go beyond just the requirements for ADA per code. We can all do much better and make our parks and recreation spaces accessible for all.

Interview Notes (continued)

Other Feedback (emailed response)

From Yasmina Aknin, Clark County Chronic Disease Prevention Team Input

A wide array of amenities exists today – from sport fields and courts, to aquatics, to walking/running trails, to playgrounds, to lake and river water access. What recreation opportunities are missing or should be improved to meet the needs of the group(s) you regularly work with and/or support? For example, what is missing and needs to be addressed.

- More public pools needed.
- Extend and expand paved trails for multi-use (example: extend Round Lake pavement)
- Ensure and expand recreation equipment for children living with disabilities
- Improve lighting and other safety features to existing trails (i.e., Burnt Bridge Trail)
- Add more parks (even small ones) or nature spaces in low-income areas
- Add pump station/repair station near recreation water areas for paddle boarders
- Ensure all parks have picnic/gathering places (ideally near play structures, etc.)
- Ensure access to clean bathrooms at all parks, even small ones or porta-potty service during Summer

At recreation centers:

- Affordable childcare services on a regular basis/schedule.
- Breastfeeding/breast-pumping clean, safe spaces and/or family "rooms" for changing diapers/ breastfeeding
- Information about parks/park amenities in different languages
- Bilingual staff
- Grants for children's memberships
- Add a private shower section for respect to some cultures/families

What age groups or communities need more focus in general?

- Community members that don't speak English
- People with disabilities (including youth)
- Seniors
- Low-income communities
- BIPOC
- Teens (offer varied sport opportunities at parks- pickle ball, tennis, skateboarding, etc.)
- New moms/parents (fitness classes/support groups like lactation support, post-partum blues, play groups)

Jump forward 5 years and imagine Vancouver and Camas in 2026. Please share your vision for one stand-out project/amenity to be completed or initiative started to improve access to the park and recreation system.

- Big Dream: add at least two recreation centers in priority areas (low-income areas) with full amenities that are welcoming to all.
- Realistic Dream 1#: Make Burnt Creek Trail more inviting with enhanced safety features, improved signage in multi-language (graffiti free) and other improvements to increase use/value to community
- Realistic Dream #2: Add water fixture and restroom to the Evergreen Park on the Fourth Plain corridor/add camera surveillance system

Interview Notes (continued)

What, if any, barriers do you see or face in accessing either city's park and recreation systems? (e.g., physical access, safety, cultural concerns, communications/information)

- Reduce parking fees
- Make recreation memberships more accessible via multi-lingual applications, promotional materials, diverse staff, etc.
- Some community members may not feel welcome, work to make recreation systems/parks more inviting to diverse cultures/BIPOC communities
- Language/multiple language spoken and offered
- Increase connectivity of trails/transportation systems
- Increase access to off-leash dog parks with walking areas
- Multi-use areas (i.e., play structures next to soccer areas, etc.)

How would you suggest increasing awareness about parks, trails or recreation programs within your community?

- Promote recreation opportunities in multiple languages
- Host Open Houses with multi-cultural activities (pinata-making, etc.)
- "If You Build It, They Will Come" (Washington County does a great job of building inviting spaces and collaborating with schools/youth programs to promote them)
- Create culturally specific trail groups so community members feel safer exploring new trails/being out in nature (i.e., not alone)
- Host walking events for older adults (partner with senior centers/AAA/independent living centers)
- Host day trips to fun places/trails, rivers in our county i.e., Salmon related activities, nature conservancy related, etc. select days for different language hosts/guides

What should the City of Vancouver and the City of Camas prioritize in order to advance diversity, equity and inclusion in its parks and facilities?

- There are significant language barriers. More bilingual staff and multi-lingual signage, promotional materials and forms in multiple language needed at recreation facilities/centers. Translated signs on trails.
- Increase safety -lighting, visibility (open-spaces)
- Add parks/recreation areas in areas of density that are easily accessibility
- Reduce barriers to accessing fee-based programs, streamline application processes and eligibility for paid programming
- Promote services in diverse areas

What contribution or collaboration can you or your organization bring to the advancement of inclusion in either city's park system?

- CCPH shares the vision of encouraging people being active (indoor and outdoors) and could assist with community engagement.

-- End of Notes --

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan Update		**Project No.:**	Proj-# 21-135PLN	
Location:	Zoom Video Conference	**Interview Date:**	August 11, 2021	**Time:**	10:30 am
Notes by:	Steve Duh, Conservation Technix				
Participant:	Monica Tubberville, City of Vancouver		Sadie Prodanovich, Port of Camas-Wahougal		
	Michelle Wright, City of Washougal		Trang Lam, Camas Parks & Recreation		
	Kevin Tyler, Clark County		Steve Duh, Conservation Technix		

Subject: **Stakeholder Group Discussion with Parks & Recreation Agencies**

PURPOSE

To discuss current park system planning issues and explore opportunities for future partnership or collaboration efforts. The meeting took place on August 11, 2021, via a Zoom video conference from 10:30am to noon.

DISCUSSION

The discussion began with brief introductions and an overview of the City's PROS Plan update process.

Past Collaborations with Camas

- Clark County worked with the city on past Legacy Land acquisitions around Lacamas Lake and leveraged Conservation Futures dollars to secure some fantastic property, such as CJ Dens. The County has also participated in visioning exercises for planning the Lacamas Lake north shore area.
- The Port coordinated with Camas and Washougal on the wayfinding system.
- Vancouver appreciated Camas' support for the Joint Agency Review for the Lewis and Clark Regional Trail. The city also coordinated with Camas on a code amendment to extend service limits/areas related to park impact fees. Vancouver has also coordinated with Camas on land acquisitions.

Initial Comments on Park System

- The city's focus around Lacamas Lake has been exemplary. The collection of properties is becoming a regional park in a bigger fashion
- Continue to explore grant pursuits that serve Camas and neighboring jurisdictions
- Camas has done a great job land banking for open space and recreation. Some properties are developed, but there exists more opportunities for trail connections
- The city should also spread park development around the city and not place all of its focus around the lakes

Interview Notes (continued)

- Washougal is just starting recreation programming and is looking for partners, especially with regard to access to fields and facilities for future program offerings. For example, Washougal doesn't have a full court basketball court in its system, so it is looking for partners with facilities available for use.
- Communications – consideration should be given to a joint publication serving a wider area of the county. Monica referenced that a joint park and trail map was compiled about 4-5 years ago, and it should be updated. Washougal commented that for partnership project(s), coordinate to bring each jurisdictions' Parks Board/Commission along so that project funding can be prioritized similarly in each jurisdiction.

Future Needs

Comments that are not site specific are needs that are also generally needed in other jurisdictions.

- With its waterfront development, the Port has had a lot of requests for pickleball
- A recreation center for indoor programming is a need and should be reconsidered at a lower cost point
- Green Mountain is underutilized, and more emphasis should be placed on access, trails and viewpoints. Trails should be multi-use, as well as consider equestrian use. It could function a bit like Whipple Creek Park and would attract folks for vistas and wildlife.
- Reservable space for gatherings, parties and picnics.
- Clean and safe spaces – address encampment encroachments
- Playgrounds with universal accessibility
- Access to water in some form – during high heat periods, the waterfronts are overrun. Consider a splash pad as an alternative. Access to rivers and lakes is a big draw for users from across the region – including from Multnomah County
- Opportunity for Camas & Washougal to partner on dog park

Coordination with School Districts

- Be cautious developing city amenities on land owned by the school district. In Vancouver, there has been some push back on utilizing school sites for community needs.
- If possible, pursue joint use or maintenance agreements and develop relationships with the local principals to have conversations specific to each school site.
- As the school districts have staff who oversee sport field and facility rentals, the city should also have a staff person who is responsible for coordinating and programming city sport fields and assets.

Other Comments

- Vancouver is working with County GIS to develop a DEI mapping tool that also includes finer grain details about the park system, such as the quality of amenities, and not just whether a site is developed or undeveloped.
- Camas and Vancouver staff suggested the potential to partner on a stakeholder session to engage underrepresented community groups/members
- The group also agreed on the value of sharing contact information for stakeholders, including tribal contacts

-- End of Notes --

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan Update		**Project No.:**	Proj-# 21-135PLN	
Location:	Teleconference	**Interview Date:**	June 28, 2021	**Time:**	10:00 am
Notes by:	Steve Duh, Conservation Technix				
Participant:	Nan Henriksen, former Mayor		Steve Duh, Conservation Technix		

Subject: **Stakeholder Interview with Nan Henriksen**

PURPOSE

To discuss current interests and future needs for parks, recreation and trails in Camas with a former mayor. The meeting took place on June 28, 2021, via a Zoom teleconference from 10:00 – 10:40 am.

DISCUSSION

The discussion began with brief introductions and an overview of the City's PROS Plan update process. A set of questions were used to initiate the discussion and explore ideas about enhancements or improvements to the city's park, recreation and open space system.

Background

- Value the abundance of parks, open space and trails
- In the 1980s, the City of Camas set out a new vision for itself, knowing that the mill was not going to be sustained. The immediate concerns were on replacing the economic drivers of the city, but, as mayor, Nan also aimed to maintain focus on 'softer' things, such as parks and open space, related to the city's quality of life. At the time, Crown Zellerbach represented about 80% of the tax base of the city.
- In the '80s and '90s, the City was blessed with a high ratio of parklands to population, and her goal was to maintain a high ratio into the future. She worked with community members to position the city for a $1 million bond to acquire parks and open space. Bond funds were leveraged with donations to acquire some of the lands along the Washougal River.
- She convinced City Council to hire a City Administrator (Lloyd Halverson), and he maintained a focus on securing additional lands for the community.

Interview Notes (continued)

Facility Improvements & Ideas

- Connectivity of trails relies on development occurring. The City may need to think through the issue of timing and connections more, since development happens in a haphazard manner.
- With Trang, the focus should be to secure connectivity of trails where development hasn't occurred yet.
- The City has great trails now, but many of them go nowhere. Connectivity for wildlife is also important.
- There should be easy access for and use of parks and trails by people who have disabilities or physical limitations. ADA improvements and universal access are important, so are benches along trails.
- The City should get an off-leash area established and consider working with Washougal to make it happen. Do a joint project.
- On a pool and community center, the focus should be on a more modest pool project. The City needs to keep the project going, but some trust has been lost with the community after the most recent attempt for voter approval.
- Parks and Recreation can be a bit of a bastard child regarding the city budget. Staff have done wonderfully putting on events. The City should work out an arrangement with Camas Community Education to offer more programs. Find ways to augment and coordinate.
- Would like to see more programs designed for those with physical disabilities – whether through old age or other health issues (e.g., seated exercises, stretching or 'walks for walkers')
- On the whole, Parks and Recreation has done a great job with what they have had

Focus areas

- Finish planning and then implement a splash pad at Crown Park
- Develop an off-leash area
- Develop a modest pool and community center
- Trail connectivity

Other Comments

- Keep a focus on 'old' Camas for improvements and enhancements to parks and amenities. Development regulations that are in place will ensure newly developed areas have parks and open spaces.
- Kids at Oak Park and other older areas need to see upgrades and improved access close-in to Camas downtown. The City should aim to provide similar opportunities as those who live in new areas up on the hill.
- Offer programs in Spanish if possible and coordinate with Washougal to make it happen

-- End of Notes --

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan Update		**Project No.:**	Proj-# 21-135PLN	
Location:	Telephone call	**Interview Date:**	June 18, 2021	**Time:**	1:00 pm
Notes by:	Steve Duh, Conservation Technix				
Participant:	Lloyd Halverson, former city administrator		Steve Duh, Conservation Technix		

Subject: **Stakeholder Interview with Lloyd Halverson**

PURPOSE

To discuss current interests and future needs for parks, open space and trails in Camas with a former city administrator. The meeting took place on June 18, 2021 via a telephone call from 1:00 – 1:40 pm.

DISCUSSION

The discussion began with brief introductions and an overview of the City's PROS Plan update process. A set of questions were used to initiate the discussion and explore ideas about enhancements or improvements to the city's park and open space system.

Background Comments

- PROS Plan is a guide and vision for the city, and it will unlock resources.
- The parks and open space part of the PROS Plan and park system is about public space, and public space builds community (meeting people on trails, being in parks)
- City has done a great job with downtown, open spaces, trails and parks.
- Lloyd is a strong proponent of acquire now and develop later mantra. Plan for the next 10-15 years for open space – define what is needed and what gaps exist. Then, pursue purchases with help of dedications, donations, grants and partnerships. For the PROS Plan, a special emphasis should be on identifying the missing pieces in the open space system. The parks and open space elements of the plan should be opportunistic and seize opportunities as the arise or are created.

Future Improvements & Opportunities

- Ostenson Canyon to Dorothy Fox Park – has missing link. Also connect to Drake St Park. Use sidewalk and acquire additional lands to make trail linkage happen.
- The former GPO site (Benton triangle) will have reclamation costs, but it could be used to link a looped trail to Lacamas Park

Interview Notes (continued)

- On recreation, volunteer groups have been exceptionally strong in Camas for youth sports, along with private groups filling a need, such as gymnastics through Vega??
- Downtown events have been the shining star and have help build place together.
- Local taxpayers have financed significant amounts of public land, and too much is locked up to keep the public out. Coordinate more with the school district to explore how to let more people use school district lands and facilities. That would be a great step.
- Trang is dynamic and has the energetic drive to gets plan done. Amazing things will happen, and the community and Council will support it.
- The future is bright.

-- End of Notes --

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan Update		**Project No.:**	Proj-# 21-135PLN	
Location:	Teleconference	**Interview Date:**	June 18, 2021	**Time:**	10:00 am
Notes by:	Steve Duh, Conservation Technix				
Participant:	Carrie Schulstad, Downtown Camas Association		Steve Duh, Conservation Technix		

Subject: **Stakeholder Interview with Downtown Camas Association**

PURPOSE

To discuss current interests and future needs for parks, recreation and trails in Camas with a representative of the local downtown business association. The meeting took place on June 18, 2021 via a Zoom teleconference from 10:00 – 11:10 am.

DISCUSSION

The discussion began with brief introductions and an overview of the City's PROS Plan update process. A set of questions were used to initiate the discussion and explore ideas about enhancements or improvements to the city's park and open space system.

Background

- The Downtown camas Association (DCA) is a Main Street program and has been established for 15 years. In the early 2000s, several local business owners worked with a city committee to do visioning for the Camas downtown. Events and activities were planned and added, and the 1st Fridays has been ongoing since 2005. During the 2008-2009 recession, the City decided it could no longer support the downtown, and the association found organizational support and resources via the Main Streets program.
- The DCA supports numerous events, including 1st Fridays and the passport program, to promote downtown businesses. The refurbished downtown hotel and improvements to the Port waterfront continue to attract visitors to Camas.

Coordination with City

- The City Parks & Recreation Department partnered with the Camas School District for a socially distanced holiday event in 2020 during the pandemic. It included a passport, story walks and displays in downtown.

Interview Notes (continued)

- In discussions with Trang, the idea of connecting 'urban and nature' surfaced, which could be a way to encourage and link restaurant visits with exploring the trail network – especially trails close to downtown. Trails to Tables was conceived as a five hike passport with five restaurant visits for a pint glass give-away and entry into a raffle for a gift card.
- Another idea is to work with the city for a joint community calendar for the website, so more people can see all of the activities available in Camas.
- The City's acquisition of the Mill Ditch property will create a wide, walking/biking trail to connect downtown to the lakes. It would go by the Performing Art Center and connects businesses, the arts and recreation.
- Downtown is like a park, and the city has made investments over time, with tree plantings in the 1960s and landscaping in the 1990s. Planters on 3rd Avenue are not irrigated, and the city should find resources to care for the past investments.

Facility Improvements & Ideas

- Directional signage and wayfinding to direct people to downtown from the lakes and associated trails.
- Include brochure holders for maps and trail brochures
- A pool and community center that is affordable for Camas could bring people together. Maybe a seasonal, covered outdoor pool could suffice, instead of a large aquatic center. The city should look at the GP property as a potential site. It doesn't require a lot of clean-up, and it is close to downtown.
- According to DCA surveys, other local interests include a bowling alley, rock wall for climbing and splash pad.
- Emphasizing the trail system could be a communications piece, with signage to support a mural tour, bronze bird art or connections to other trails.
- Camas has a history of providing top tier sports through the school district, but there needs to be more accommodation for community recreation sports for all, not just elite players.
- Explore collaborations with the library and Journey for additional studios or classes (i.e., jazz, dance, art)
- Consider food carts or concessions at Heritage Park, especially since it is a popular venue for paddle boarding and kayak launching.

Other Comments

- See Fort Collins CO as an example of an extended downtown promenade that integrates art, fountains, recreation, plaza/stage space to restaurants and shops along the way.

-- End of Notes --

CONSERVATION TECHNIX

STAKEHOLDER DISCUSSION NOTES

Project Name:	Camas PROS Plan Update		**Project No.:**	Proj-# 21-135PLN	
Location:	Teleconference	**Interview Date:**	June 30, 2021	**Time:**	12:00 pm
Notes by:	Steve Duh, Conservation Technix				
Participant:	Kurt Stonex, Olson Engineering		Steve Duh, Conservation Technix		

Subject: **Stakeholder Interview with Development Community Representative**

PURPOSE

To discuss coordination and future needs for parks, open space and trails in Camas with a representative of the local residential development community. The meeting took place on June 30, 2021, via a Zoom teleconference from 12:00 – 12:45 pm.

DISCUSSION

The discussion began with brief introductions and an overview of the City's PROS Plan update process. A set of questions were used to initiate the discussion and explore ideas about enhancements or improvements to the city's park and open space system.

Background & Opening Comments

- Camas has been very aggressive in acquiring parks and open space property during the time Lloyd Halverson was city administrator.
- With its older regulations, the city used to require 30% set-aside for open space. The City was sued and lost. The Planned Unit Development regulations still require land dedication.
- Camas staff have been good with coordinating with and negotiating with developers for layout and design to accommodate set-asides and the use of PIF payments and credits. Developers are generally willing to provide parks with their projects, since the City is willing to use cash and credits and have the developer build the requested parks and trails. Staff have been very flexible and good to work with, and the CIP has accommodated that flexibility.

Recreation-related Improvements Seen as Positive for Developers

- Trails
- Critical area set asides / open space
- Small neighborhood parks and pocket parks

Interview Notes (continued)

Facility Improvements & Ideas

- Green Mountain will be hard to develop. It could have trails, and there is a flatter area on top that might work for picnic area and viewpoint. Depending on access and need, the site might be good for an outdoor education center or nature park. More extensive mountain biking trails might work as well.
- In the Lacamas Lake area, trails are critical to connect the north side of the lake to Green Mountain and to downtown.
- Looking out 50 years, the City should consider what to do with the GP site on the Columbia River.

Coordinating with Developers

- Ridgefield example, staff worked through development agreement and used PIF credits and outright purchase to secure land from developer (required some, credited some and bought some to compile a larger site that was desired). Deer Creek subdivision and Grass Valley were put together in a similar manner.
- Regarding PIF, the development community is resigned to the fact that they will pay impact fees, and most are fine with building parks or trails as part of a project and getting PIF credit. It's important for the public to know that PIF is passed through to the buyer as part of the cost of the home.
- Going forward, City staff should continue working with the same attitude of 'working together' with the development community as a partner. Continue to have flexibility with the CIP and adjust project cost allocations as appropriate with the projects considered and negotiated with developers.

-- End of Notes --



Appendix D
Site Observations



ASH CREEK PARK

9.5 acres (acquired: 2000) **Neighborhood /Undeveloped**

Capital Improvement & Planning Opportunities:

- This site is a wooded natural area. There is a fenced in storm facility on the site. On street parking is available and there is pedestrian access.
- The natural area has potential to be an amenity in the park with trails and interpretive signs. This undeveloped site is in the middle of a neighborhood and would be a good location for a small play area and shelter.

Maintenance Considerations:

- Manage as Open Space until developed.
- The site is very wet, especially on the south and west sides.
- Currently, no public access is provided.

Amenities:

- Wooded natural area



BAZ RIVERFRONT PARK

0.79 acres (acquired: 1989) **Special Facility**

Capital Improvement & Planning Opportunities:

- Opportunity for park master plan process to define site and connect to the river.
- Add interpretive signs.
- Add ADA accommodations for parking and paths to picnic table and trail.

Maintenance Considerations:

- Manage as Open Space with an added emphasis on weed/invasive plant management.

Amenities:

- Limited on street parking along road shoulder
- Picnic table
- Access to Washougal River Greenway Trail
- Narrow deer paths to waterfront
- Fishing
- Swimming
- Natural areas
- Scenic views of the Washougal River



BENTON PARK

4.8 acres (acquired: 1988, 2004) **Neighborhood**

Capital Improvement & Planning Opportunities:

- Improve pedestrian connection from Couch Street to asphalt path.
- Add more walking paths and trails with interpretive signs and rest areas.
- Add benches or tables along asphalt path.
- Standardize site furnishings to match other parks.

Maintenance Considerations:

- Most of the park is wooded area with a trail. Maintain trail surface.
- Enhance natural areas and remove invasive weeds.
- Add additional gravel and compact trail to provide a firm surface that is ADA accessible. Remove drops and elevation changes between the trail and the sidewalk and concrete table pads to provide a smooth transition.

Amenities:

- Earthen/Gravel trail
- Asphalt path
- Tables
- Passive lawn
- Community garden (partner managed)
- Natural areas
- View of creek







COOPERS VIEW PARK

2.5 acres (acquired: 2007) **Neighborhood**

Capital Improvement & Planning Opportunities:

- Consider adding a restroom and drinking fountain.
- Install dog waste station.
- Add accessible routes to existing picnic tables and enlarge pads to provide accessible clearance around table.
- Currently there are not accessible routes around the tables under the shelter for accessibility. Remove some of tables to provide more space and allow better circulation & accessibility.
- Install a ramp into play area with a slide.

Maintenance Considerations:

- Annual evaluation and supplement of playground safety surface.
- Standardize furnishings.

Amenities:

- On street parking
- Picnic tables with built in checkerboard
- Bike racks
- Bench
- Asphalt path
- Playground age 2-5 years old with nature play area
- Slide
- Trash receptacle
- Passive/active lawn





CROWN PARK

7.1 acres (acquired: 1987) **Community**

Capital Improvement & Planning Opportunities:

- Implement site master plan.

Maintenance Considerations:

- Address drainage problems in T-ball field and around shelter.
- Repair/re-surface tennis court.
- Repair asphalt paths.
- Annual evaluation and supplement of playground safety surface.
- Standardize furnishings.

Amenities:

- Off street parking
- Park building
- Picnic tables
- Benches
- Tennis courts with storage unit for pickleball nets
- Trash receptacles
- Trash dumpster
- Water spigot
- Playground 1 (Swing set and play equipment)
- Playground 2 (Age 5-12, Slide and play equipment)
- Playground 3 (Age 2-5, Swings and play equipment)
- Double sided wall ball court
- Carousel play equipment
- Lending library
- 20x20 shelter with lighting and electrical outlet
- T-ball field
- Passive/active lawn
- Volleyball court
- Horseshoe Pits with fence
- Porta putties



DOROTHY FOX PARK

4.8 acres (acquired: 1986, 1989) **Neighborhood**

Capital Improvement & Planning Opportunities:

- ADA improvements: playground ramp, pathway to tables, companion seating.

Maintenance Considerations:

- Replace faded on-leash sign.
- Annual evaluation and supplement of playground safety surface.
- Lawn and pathway repairs.
- Standardize furnishings.

Amenities:

- Interior parking
- Trash receptacles
- Restroom with storage chase
- Gear storage box
- Soccer field with goals
- Playground, age 2-5
- Benches
- Picnic table
- ½ basketball court
- Open lawn areas
- Storm water swale/facility







FALLEN LEAF LAKE PARK

32.9 acres (acquired: 2011) **Regional**

Capital Improvement & Planning Opportunities:

- Implement park master plan.
- Remove volleyball nets.
- ADA improvements: accessible route to lawn, install ADA accessible tables.
- Consider a nature play area for this park.

Maintenance Considerations:

- Clear vegetation around picnic tables along waterfront.
- Cleanup shelter.
- Inspect and repair roof.
- Repain tables.
- The ramp connection the gravel parking area to the shelter has a 1-2” lip, repair to remove lip and provide ADA access from parking lot to shelter.

Amenities:

- Off street gravel parking (inside gate)
- Informal gravel parking for day use parking (outside gate)
- RV host site
- Rough lawn/game area
- Lawn along lake
- Volleyball
- Tables
- Benches
- Large shelter with moveable tables (sinks, preparation tables, lights and power outlets)
- Restroom in shelter
- Trails
- Trash receptacles
- Trash dumpster







FOREST HOME PARK

5.3 acres (acquired: 1987) **Neighborhood**

Capital Improvement & Planning Opportunities:

- Add accessible routes to existing picnic tables, playgrounds and baseball fields and provide accessible clearance around amenities.
- Provide a drinking fountain and shelter.
- Provide additional ADA Parking spaces.
- Replace picnic tables with accessible models.
- Provide bike racks.
- Add other baseball amenities.
- Consider replacing wood bleachers with metal for easier maintenance.

Maintenance Considerations:

- Annual evaluation and supplement of playground safety surface.
- Pathway repairs.
- Standardize furnishings.

Amenities:

- Off street parking
- Trash receptacles
- Trash dumpster
- Picnic tables
- Baseball fields with dugouts, backstops, commentator boxes and bleachers
- Playground 1 (age 2-12)
- Playground 2 (age 2-5)
- Bench
- Passive/active lawn
- ½ Basketball court (no striping)
- Dog waste stations
- Concession building
- Maintenance building
- Porta potty





GOOT PARK

17.0 acres (acquired: 1987, 2006) **Neighborhood**

Capital Improvement & Planning Opportunities:

- Repair or replace bleachers.
- Replace picnic tables with accessible models.
- The natural area has potential to be an amenity in the park with trails and interpretive signs.
- Add accessible routes to existing picnic tables and enlarge pads to provide accessible clearance around table.
- Consider adding a shelter to this site.

Maintenance Considerations:

- Remove graffiti from maintenance structures.
- Repaint rusted play equipment.
- Annual evaluation and supplement of playground safety surface.
- Remove weeds in paved areas, shrub beds and lawn.
- Striping at basketball court is worn, restripe basketball court.
- Standardize furnishings.

Amenities:

- Off street parking
- ½ Basketball court
- Maintenance building
- Restroom
- Picnic tables
- Benches
- Bike rack
- Trash receptacles
- Soccer field with goals
- Baseball field with backstop and bleachers
- Wayfinding signs
- Passive/active lawn
- Dog waste station
- Drinking fountain
- Lending library
- Playground 1 (age 2-12, Swings and play equipment)
- Playground 2 (1 piece of play equipment)
- Water spigot
- Natural area







GRASS VALLEY PARK

24.9 acres (acquired: 1999, 2006) **Community**

Capital Improvement & Planning Opportunities:

- Add accessible routes to existing picnic tables and enlarge pads to provide accessible clearance around table.
- Currently there are not accessible routes around the tables under the shelter for accessibility. Remove some of tables to provide more space and allow better circulation & accessibility.
- The natural area has potential to be an amenity in the park with trails and interpretive signs.
- ADA improvements: accessible routes to tables, drinking fountain and trash grills, install playground ramp, provide companion seating.

Maintenance Considerations:

- Replace the missing restroom signs.
- Repair/re-surface tennis court.
- Remove weeds in paved areas, shrub beds and lawn.
- There are drainage problems in softball field that need to be resolved.
- Lawn has damage from gophers, control gopher population and repair lawn.
- There are minor cracks in paths that need repair.
- Vegetation is encroaching onto asphalt path, clear vegetation.
- Annual evaluation and supplement of playground safety surface.
- There is missing playground equipment, either repair or remove.
- Standardize furnishings.

Amenities:

- Off street parking
- Memorial brick pavers
- Picnic tables
- Bike rack
- BBQ grill
- Restrooms w/storage chase
- Drinking fountains
- Trash receptacles
- Tennis courts with practice wall and fence
- ½ Basketball court
- Softball field w/ backstop
- Playground ages 2-12
- 35’x45’ Shelter with lighting and electrical outlets
- 12’x20’ Shelter
- Asphalt loop path
- Signed natural areas







GREEN MOUNTAIN PARK

4.6 acres (acquired: ----) **Neighborhood**

Capital Improvement & Planning Opportunities:

- ADA improvements: accessible route to picnic tables, provide companion seating.

Maintenance Considerations:

- Replace the missing volleyball net.
- Remove weeds in lawn area and reseed bare spots.
- There are drainage problems in lawn area that need to be resolved.
- Annual evaluation and supplement of playground safety surface.
- Standardize furnishings.

Amenities:

- On street parking
- Restroom building
- Picnic tables
- Bike racks
- Benches
- Drinking fountains
- Full basketball court with striping
- Volleyball court
- 20’x20’ Picnic shelter
- Playground age 2-12 years old
- Asphalt paths
- Trash receptacles
- Passive/active lawn
- Dog waste station







HERITAGE PARK

26.9 acres (acquired: 1993) **Community**

Capital Improvement & Planning Opportunities:

- Gate access control improvements.
- Separate motorized & non-motorized launching.
- Opportunity for bird watching and interpretive signage. These could be combined with rest areas along the Lacamas/Heritage trail.
- Improve waterfront/fishing.
- Consider a large shelter for bigger groups.
- ADA improvements: signs for ADA parking stalls, provide access to grills.

Maintenance Considerations:

- Remove weeds in paved areas, shrub beds and lawn.
- Pathway repair.
- Enhance natural areas and remove invasive weeds.
- Standardize furnishings.

Amenities:

- Off street parking
- Lacamas/Heritage Trail (asphalt or crushed rock)
- Mowed meadows
- Benches along trail
- Views of lake
- Watercraft rentals (kayaks, standup paddle boards)
- Asphalt paths
- Restroom with drinking fountain
- Playground age 2-5
- Grills
- Boat ramp with floating docks and staging area
- Fishing/waterfront area
- Trash dumpster







KLICKITAT PARK

9.4 acres (acquired: 2001) **Neighborhood**

Capital Improvement & Planning Opportunities:

- The natural area has potential to be an amenity in the park with trails and interpretive signs.
- ADA improvements: accessible routes to tables and benches, provide alternate route to viewing area, provide accessible routes to the play areas.

Maintenance Considerations:

- Remove weeds in shrub areas and lawn and play areas
- Annual evaluation and supplement of playground safety surface.
- Control gopher population and repair lawn.
- Replace broken table.
- Clear storm grates.
- Add mulch to plant beds and redefine edges.
- Pathway repair and clearing.
- Add restroom signs.
- Remove tennis backboard.
- Replace unhealthy/failing trees.
- Re-stripe basketball court.
- Replace missing signs.
- Standardize furnishings.

Amenities:

- Interior parking
- Trash dumpster
- Drinking fountain
- Bike rack
- ½ basketball court w/ ¾ fence and wall ball
- Dog waste dispenser
- Play area 1 w/ swings
- Play area 2 age 2-12
- Trash receptacles



LACAMAS HEIGHTS PARK

2.3 acres (acquired: 2006) **Neighborhood /Undeveloped**

Capital Improvement & Planning Opportunities:

- The location is in the middle of a neighborhood and adjacent to Camas High School. Existing pedestrian access is easy and the high school parking lot is close enough that it could be used for parking during off school hours.
- About half of this site is covered in mature trees with lawn cover. There are gentle slopes throughout site. The Butler reservoir facility is located on the adjacent parcel to the west, with a fence around it.
- A playground, basketball court, picnic tables, shelter, walking paths should be considered for future development. This site might be a good location for a future dog park.

Maintenance Considerations:

- Manage as Open Space until developed.

Amenities:

- Trash receptacles
- Bike rack
- Picnic tables
- Bench
- Parking
- Playground
- Baseball/softball field
- Portable toilet







LACAMAS LAKE LODGE & CONFERENCE CENTER

4.3 acres (acquired: 2000) **Regional**

Capital Improvement & Planning Opportunities:

- None noted.

Maintenance Considerations:

- Enhance natural areas and remove invasive weeds.
- Manage and cleanup goose waste.

Amenities:

- Off street parking
- Passive lawn
- Trash receptacles
- Recycling receptacle
- Conference center building
- Patio with view of lake
- Access to pier
- Connecting path to heritage park







LOUIS BLOCH PARK

4.9 acres (acquired: 1987) **Neighborhood**

Capital Improvement & Planning Opportunities:

- Future park site planning to determine potential new amenities.
- ADA improvements: accessible routes to picnic tables, enlarge pads to provide accessible clearance, provide paved access to playgrounds.
- Consider adding another drinking fountain.
- Replace picnic tables in baseball area.

Maintenance Considerations:

- Restripe parking spaces.
- Control gopher population and repair lawn.
- Remove weeds in paved areas, shrub beds and lawn.
- Re-stripe basketball court and repair pavement.
- Annual evaluation and supplement of playground safety surface.
- Standardize furnishings.

Amenities:

- Off street parking
- Fenced in baseball field with backstop, bullpens
- Picnic tables
- Benches
- Concession building
- Commemorative plinth
- Restroom in baseball area
- Restroom in park
- Maintenance building
- Commentators building
- Lending library
- Playground 1 (swings)
- Playground 2
- Trash receptacles
- Recycling receptacles
- Trash dumpster
- Drinking fountain
- Dog waste station
- Bleachers
- ½ Basketball court
- Wayfinding signs
- Passive/active lawn







OAK PARK

2.5 acres (acquired: 1995) **Neighborhood**

Capital Improvement & Planning Opportunities:

- Replace porta potty with a permanent restroom.
- Consider a shelter and picnic area.
- ADA improvements: accessible routes to tables, basketball court and trash grills, provide playground ramp.

Maintenance Considerations:

- Remove weeds in paved areas, shrub beds and lawn.
- Annual evaluation and supplement of playground safety surface.
- Clean moss from asphalt path.

Amenities:

- On street parking
- Playground age 2-5
- Picnic tables
- Benches
- Grill
- Passive/active lawn
- ½ Basketball court
- Porta potty





OSTENSON CANYON PARK

8.2 acres (acquired: 2013) **Neighborhood**

Capital Improvement & Planning Opportunities:

- Conduct park site master plan process to guide development of open, upper shelf as neighborhood park.

Maintenance Considerations:

- Manage as Open Space until developed.

Amenities:

- Trash receptacles
- Bike rack
- Picnic tables
- Bench
- Parking
- Playground
- Baseball/softball field
- Portable toilet







PRUNE HILL SPORTS PARK

8.8 acres (acquired: 1997) **Community**

Capital Improvement & Planning Opportunities:

- The natural area has potential to be an amenity in the park with trails and interpretive signs.
- Add benches, tables and consider a small shelter.
- Add more shade trees near playground, behind bleachers and dugouts and along perimeter of sports fields.
- Stripe basketball courts and install a perimeter fence.
- Install a ramp into playground to provide an ADA accessible route. Sidewalk is sunken next to curb, repair to provide an accessible route into the playground.

Maintenance Considerations:

- Remove weeds in paved areas, shrub beds and lawn.
- Repair drainage problems in baseball field.
- Replace ball fence on east side of park.
- Control gopher population and repair lawn.
- Pathway repair.
- Annual evaluation and supplement of playground safety surface.
- Standardize furnishings.

Amenities:

- Shared off street parking with school
- Free library box
- 2 trash receptacles
- Ramp into park
- Asphalt paths with loop path
- Multisport fields with permanent and moveable soccer goals
- Baseball field with backstop, bleachers and storage bin
- Playground age 2-12
- ½ Basketball courts with no striping
- Storage bin near soccer fields
- Natural area next to fields with radio tower and access drive
- Passive/active lawn



SANDY SWIMMING HOLE

1.4 acres (joint property with Washougal) **Special Facility**

Capital Improvement & Planning Opportunities:

- Parking improvements and expansion.

Maintenance Considerations:

- This swimming hole is very popular. The beach access and experience looked great, but the minimal parking was a major limitation.
- No ADA accessible route to beach.

Amenities:

- 17 – standard stalls
- 1ADA stall (not on designated accessible route, not compliant, not properly signed)
- 6 Movable Recycling and Trash Receptacles
- Paved Overlook/Deck area with 2-picnic tables and 1 – bench
- Identification sign
- Various regulatory signs.







SKATE PARK

0.9 acres (acquired: 1987) **Special Facility**

Capital Improvement & Planning Opportunities:

- Redesign/add to skate park.
- Add permanent restroom, drinking fountain and shelter with lawn area.
- Existing parking lot is large, if it isn't fully utilized part of the parking lot could be repurposed for shelter, lawn area and day use activities.
- Enhance river access and provide more beach area.
- Replace picnic tables and benches.
- ADA improvements: accessible routes to existing picnic tables, replace ADA parking signs, provide companion space.

Maintenance Considerations:

- Restripe parking lot to identify parking stalls and drive aisle.
- Repair cracks or replace skate park.
- Enhance natural areas and remove invasive plant species..
- Standardize furnishings.

Amenities:

- Skate park
- Off street parking
- Trash receptacles
- Picnic tables
- Porta potty
- Benches
- Natural area with river access
- Trails
- Boat launch ramp



Appendix E
Recreation Trends

The following summaries from recognized park and recreation resources provide background on national, state and local park and recreation trends. Examining current recreation trends may guide potential park and recreation improvements and opportunities to enhance programs and services.

2020 NRPA Agency Performance Review

The 2020 National Recreation and Park Association (NRPA) *Agency Performance Review* summarizes the key findings from their Park Metrics benchmarking tool and is intended to assist park and recreation professionals in effectively managing and planning their operating resources and capital facilities. The report offers a comprehensive collection of park- and recreation-related benchmarks and insights to inform professionals, key stakeholders, and the public about the state of the park and recreation industry. The 2020 NRPA Agency Performance Review contains data from 1,053 unique park and recreation agencies across the United States as reported between 2017 and 2019.

Key Findings and Characteristics

Park facilities and operations vary greatly across the nation. The typical agency participating in the NRPA park metric survey serves a jurisdiction of approximately 42,500 people, but population size varies widely across all responding jurisdictions. The typical park and recreation agency has jurisdiction over 20 parks comprising over 430 acres. Park facilities also have a range of service levels in terms of acres of parkland per population and residents per park. These metrics are categorized by the agency's population size.

Park Facilities

Nearly all (96%) park and recreation agencies operate parks and related facilities. The typical park and recreation agency has:

- One park for every 2,281 residents
- 9.9 acres of park land for every 1,000 residents in its jurisdiction
- 11 miles of trails for walking, hiking, running and/or biking

Figure E1. Median Residents per Park Based On Population Size

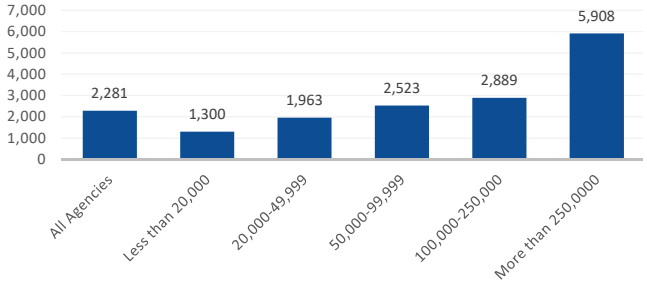
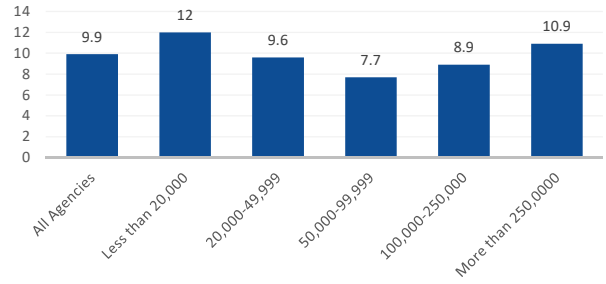


Figure E2. Acres of Parkland per 1,000 Residents based on Population Size

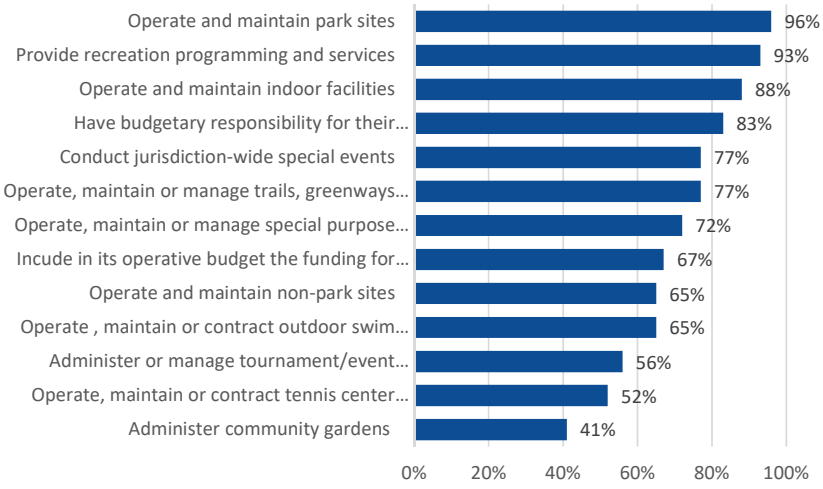


A large majority of park and recreation agencies provide playgrounds (93.9%) and basketball courts (86.5%) in their portfolio of outdoor assets. Most agencies offer community and/or recreation centers (60%) while two in five offer senior centers.

The typical park and recreation agency that manages or maintains trails for walking, hiking, running and/or biking has 11.0 miles of trails. Agencies serving more than 250,000 residents have a median of 84.5 miles of trails under their care.

Park and recreation agencies often take on responsibilities beyond their core functions of operating parks and providing recreational programs. Other responsibilities may include tourist attractions, golf courses, outdoor amphitheaters, indoor swim facilities, farmer's markets, indoor sports complexes, campgrounds, performing arts centers, stadiums/arenas/racetracks, fairgrounds and/or marinas.

Figure E3. Key Responsibilities of Park and Recreation Agencies



Programming

Nearly all (93%) of park and recreation agencies provide recreation programs and services. More than eight in ten agencies provide themed special events (88%), team sports (87%), social recreation events (87%), youth summer camps (83%), fitness enhancement classes (82%), and health and wellness education (81%).

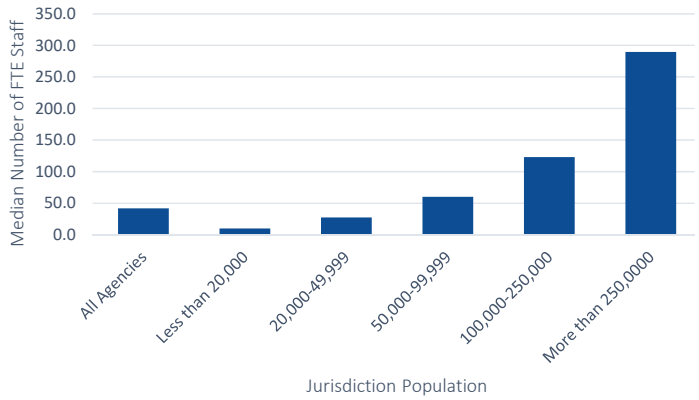
Staffing

Park and recreation employees are responsible for operations and maintenance, programming and administration. The typical park and recreation agency has:

- 41.9 full-time equivalent staff (FTEs) on payroll
- 8.1 FTEs on staff for every 10,000 residents in its jurisdiction

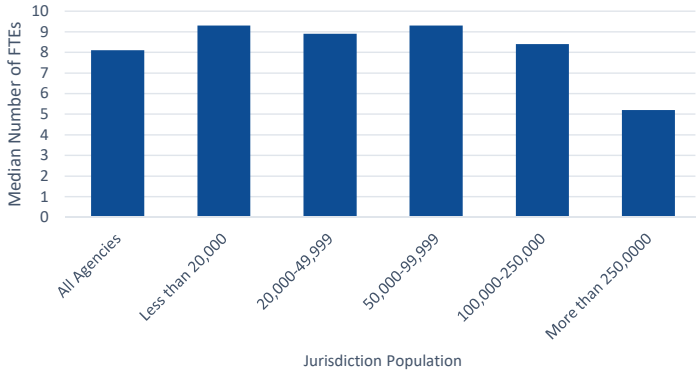
Median FTE counts also positively correlate with the number of acres maintained, the number of parks maintained, operating expenditures, and the population served. For example, agencies that serve populations between 20,000 and 49,999 residents employ an average of 27.3 FTE, while agencies that serve 50,000 to 99,000 people employ an average of 60 FTE.

Figure E4. Park and Recreation Agency Staffing: Full-Time Equivalents (By Jurisdiction Population)



Another way of comparing agency staffing across different park and recreation agencies examines number of staff per 10,000 residents. These comparative numbers hold fairly steady across population sizes with the median for all agencies at 8.1 FTEs.

Figure E5. Park and Recreation Agency FTEs Per 10,000 Residents



Capital and Operating Expenses

For capital expenses, the typical park agency:

- Dedicates about 55% to renovation projects and 32% to new development projects.
- Plans to spend about $5,000,000 million on capital expenditures over the next five years.

For operations, the typical park agency spends:

- $4.3 million per year on total operating expenses
- $7,000 on annual operating expenses per acre of park and non-park sites managed by the agency
- $81.00 on annual operating expenses per capita
- $97,000 in annual operating expenditures per employee
- 54% of the annual operating budget on personnel costs, 38% on operating expenses, and 5% on capital expenses not included in the agency's capital improvement plan (CIP)
- 44% of its operating budget on park management and maintenance, 43% on recreation, and 13% on other activities

2020 State of the Industry Report

Recreation Management magazine's *2020 Report on the State of the Managed Recreation Industry* summarizes the opinions and information provided by a wide range of professionals (with an average 22.3 years of experience) working in the recreation, sports, and fitness industry. Given the emerging COVID-19 pandemic, Recreation Management also conducted a supplemental survey in May 2020 to learn about both the impacts to the industry and what mitigation steps organizations were taking in response.

Partnerships

The 2020 report indicated that most (89%) recreation, sports, and fitness facility owners form partnerships with other organizations as a means of expanding their reach, offering additional programming opportunities or as a way to share resources and increase funding. Local schools are shown as the most common partner (64%) for all facility types. Youth-serving organizations (Ys, JCC, Boys & Girls Clubs) and park and recreation organizations were the most likely to report that they had partnered with outside organizations, at 100% and 95% respectively.

Revenue Outlook

In January 2020, half of respondents expected revenues to increase in both 2020 and 2021. Survey respondents from urban communities are more optimistic about revenue increases as compared to rural respondents.

In last year's report, parks respondents had reported increases in their average operating expenditures with operating costs that grew by 14% between fiscal year 2018 and 2019. Respondents generally expected their operating expenses to continue to increase between 2019 and 2021, with camps expecting a 10% increase, recreation centers at 8%, and parks at 6%.

Relative to costs and revenues, few facilities covered by the survey reported that they cover more than 75% of their operating costs via revenue. The percentage recovered varied with type of organization with the average percentage of costs recovered for all respondents hovering near 50% and private for-profit organizations achieving the highest cost recovery rates. For parks, the cost recovery rate remained steady at 44%.

Over the past decades, public park and recreation departments and districts have faced a growing expectation that facilities can be run like businesses. Many local facilities are expected to recover much of their operating costs via revenues. While this is the business model of for-profit facilities like health clubs, it is a relatively recent development for publicly owned facilities, which have typically been subsidized via tax dollars and other funding sources. Most recreation providers (81%) have been taking actions to reduce expenditures. Cost recovery actions typically involve reduction in expenses with improving energy efficiency as the most common action (51% of respondents). Increased fees and staffing cost reductions and putting off construction or renovation plans were reported as other common methods for reducing operating costs.

As of May 2020, nearly 90% of respondents anticipated that total revenues would decline in 2020 due to the COVID-19 pandemic. Most anticipated a revenue drop of 30-50%, though one in seven expected a decline of more than 50%. In general, respondents are split on when they expect that revenues will begin to recover – 44% believe revenues will begin to rebound in 2021 while 40% expect further revenue declines.

Facility Use

The majority of respondents reported an increase in use of their recreational facilities as of January 2020. Looking forward, more than half of respondents (53%), including 60-65% of park and recreation centers, were expecting to see further increases in the number of people using their facilities over the next two years.

In 2020, 22% of respondents said they were planning to add more staff at their facilities, 75% were planning to maintain existing staffing levels, and 3% were planning to reduce staffing. The May 2020 survey found, however, that nearly half of responding organizations had laid off or furloughed staff due to the impacts of COVID-19 and nearly two-thirds had suspended hiring plans.

Facilities and Improvements

Over the past seven years, the percentage of respondents who indicate that they have plans for construction, whether new facilities or additions or renovations to their existing facilities, has grown steadily, from 62.7 percent in 2013 to 72.9 percent in 2020. Construction budgets have also risen. The average amount respondents were planning to spend on their construction plans was up 10.8% in 2020, after an 18.4% increase in 2019. On average, respondents to the 2020 survey were planning to spend $5.6 million on construction.

A majority of park department respondents (54%) reported plans to add features at their facilities and were also the most likely to be planning to construct new facilities in the next three years (39%).

The top 10 planned features for all facility types include:

1. Splash play areas (25.4% of those with plans to add features were planning to add splash play)
2. Playgrounds (20.3%)
3. Park shelters (17.3%)
4. Dog parks (17.1%)
5. Park restrooms (16.1%)
6. Synthetic turf sports fields (14.8%)
7. Walking and hiking trails (14.8%)
8. Fitness trails and outdoor fitness equipment (14.8%)
9. Disc golf courses (12.9%)
10. Outdoor sports courts (11.3%)

The COVID-19 pandemic is having a significant impact on construction plans. As of May 2020, over one-third (34%) of respondents had put construction on hold due to the impacts of the pandemic, rising costs, and supply shortages.

Programming

Nearly all respondents (97%) offer programming of some kind. The top 10 most commonly offered programs include: holiday events and other special events (provided by 65.3% of respondents); educational programs (59%); group exercise programs (58.8%); fitness programs (57.6%); day camps and summer camps (57.3%); youth sports teams (55.2%); mind-body balance programs such as yoga and tai chi (51.2%); adult sports teams (46%); arts and crafts programs (45.8%); and programs for active older adults (45.4%).

Respondents from community centers, parks and health clubs were the most likely to report that they had plans to add programs at their facilities over the next few years. The ten most commonly planned program additions were:

1. Fitness programs (24% of those who have plans to add programs)
2. Group exercise programs (22.4%)
3. Teen programs (22%)
4. Environmental education (21.8%)
5. Day camps and summer camps (20.9%)

6. Mind-body balance programs (20.5%)
7. Programs for active older adults (18.1%)
8. Special needs programs (17.9%)
9. Holidays and other special events (17.4%)
10. Arts and crafts (17%)

Addressing the COVID-19 pandemic required many respondents to either put programs or services on hold (82%) or cut programs or services entirely (34%). Additionally, many respondents have had to rethink their programming portfolios. Two-thirds of respondents (67%) had added online fitness and wellness programming as of May 2020, 39% were involved in programs to address food insecurity, and one in four was involved in programs to provide educational support to out-of-school children.

General Challenges

In January 2020, facility managers were asked about the challenges they anticipated impacting their facilities in the future. Generally, overall budgets are the top concern for most respondents including their ability to support equipment and facility maintenance needs (58%) and staffing (54%). Marketing, safety/risk management, and creating new and innovative programming also remain continuing challenges for facility managers. Facility managers also report that environmental and conservation issues (13%) and social equity and access (10%) are posing increasing challenges. However, as of May 2020, many respondents concerns had shifted to addressing the COVID-19 pandemic impacts described in the sections above.

2020 Outdoor Participation Report

Overall Participation

According to the 2020 Outdoor Participation Report, published by the Outdoor Foundation, just over half of Americans ages 6 and older participated in outdoor recreation at least once in 2019, the highest participation rate in five years. This increase was not universal, however, and there was significant variation in participation between age, gender, and racial groups.

Despite the overall increase in the percentage of Americans engaging in outdoor recreation, the total number of recreational outings declined in 2019. Outdoor participants went on a total of 10.9 billion outdoor outings in 2019 – a 12% drop from the 2012 high-water mark of 12.4 billion outings. In addition, the number of outings per participant declined 17% in the past five years, from 85 outings per participant in 2014 to 71 in 2019.

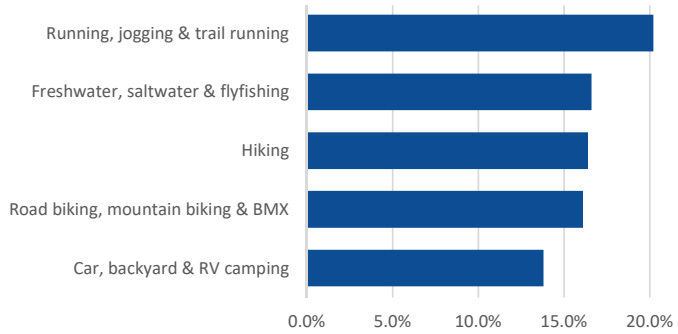
This drop mirrors a decline in the total number of outings per participant. Each year for over a decade, participants have engaged less often in outdoor activities. As a result, the percentage of ‘casual’ participants in outdoor recreation (i.e. those who participate one to 11 times per year) has grown by about 4% over the past 15 years, while the percentage of ‘core’ participants (i.e. weekly participants) has declined.

Figure E6. Frequency of Outdoor Outings: Trending Over Many Years

Frequency of Outdoor Outings	2007	2010	2013	2016	2019
Casual (1 to 11 times)	28.2%	27.9%	28.4%	31.7%	32.6%
Moderate (12 to 51 times)	32.5%	31.8%	33.1%	32.5%	32.6%
Core (52+ times)	39.3%	40.4%	38.5%	35.8%	34.9%

Running, jogging and trail running is the most popular outdoor activity by level of participation, as shown in the chart below, followed by fishing, hiking, biking and camping.

Figure E7. Most Popular Outdoor Activities by Participants, Nationwide



Youth Participation Declines

The youngest participants, children 6 to 17, were outdoors far less than in previous years. Their average outings fell from a high of 91 in 2012 to just 77 per child in 2019. Youth participation declined across the board in 2019, with the biggest declines seen in girls aged 18 to 24 (-5%) and boys ages 13 to 17 (-4%). Households with children, however, continue to drive growth in participation. Adults with children had much higher outdoor recreation participation rates (57%) than adults without children (44.4%).

Female Participation Continues to Grow

In 2019, women made up 46% of participants in outdoor recreation while men made up 53.8%, representing the smallest gender gap measured in the report's history. Women's participation has increased from 43% of all participants in 2009 to 46% in 2019.

Diversity Gap Remains

Despite increases in participation, Black/African American and Hispanic Americans continue to be significantly underrepresented in outdoor recreation. Hispanics made up 11.6% of outdoor recreation participants, a 35% shortfall relative to their proportion of the population ages 6 and over (17.9%). Similarly, Black/African Americans represented 12.4% of the U.S. population ages 6 and over in 2019, but just 9.4% of outdoor participants, a 24% participation deficit. Black youth were the least likely to participate in outdoor recreation as compared to Asian, Hispanic, and Caucasian youth – signaling a potential future gap in outdoor participants. However, those Black and Hispanic Americans who do participate in outdoor recreation do so frequently – more often, on average, than members of other racial groups.

In 2019, 62% of Asian Americans participated in outdoor recreation, followed by 53% of White, 48% of Hispanic, and 40% of Black/African Americans.

Impacts of COVID-19

An August 2020 report from the Outdoor Industry Association indicated that COVID-19 impacted recreation participation in April, May and June as Americans flocked to outdoor recreation amid COVID restrictions. Americans took up new activities in significant numbers with the biggest gains in running, cycling, and hiking given that these activities were widely considered the safest activities during pandemic shutdowns. The hardest hit activity segments during COVID shutdowns were team sports (down 69%) and racquet sports (down 55%). Reviewing just April, May and June 2020, participation rates for day hiking rose more than any other activity, up 8.4%.

2020 Sports, Fitness, and Leisure Activities Topline Participation Report

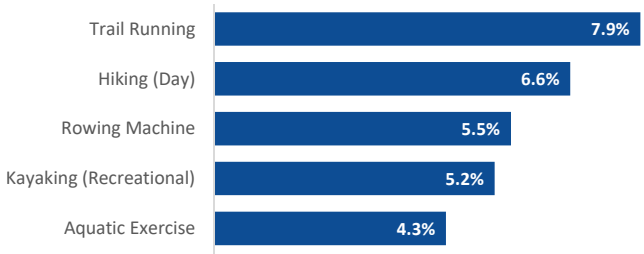
Prepared by a partnership of the Sports and Fitness Industry Association (SFIA) and the Physical Activity Council (PAC), this February 2020 participation report summarizes levels of activity and identifies key trends in sports, fitness, and recreation in the US. The report is based on over 18,000 online interviews of a nationwide sample that provides a high degree of statistical accuracy using strict quotas for gender, age, income, region, and ethnicity. The study looked at 122 different team and individual sports and outdoor activities.

Compared to 2014, eight million more Americans were casually active in 2019 indicating a positive movement toward an increasingly active population. Sports that made great strides in the last six years include trail running, cardio tennis, BMX biking, and day hiking. Over the last year, only 2.1 million additional people reported participating in an activity that raises their heart rate for more than 30 minutes. Participation in active high calorie activities has remained flat for the last four years.

The percentage of people reporting no physical activity during the past year declined to 27% in 2019 - its lowest point in six years – continuing an increasing trend in activity. Rates of inactivity continue to be linked to household income levels, with lower income households having higher rates of inactivity. However, in 2019, households across the income spectrum saw declines in inactivity.

Fitness sports continue to be the most popular activity type for the 5th consecutive year. Other sports activities, including individual sports, racquet sports, and water sports have seen a modest decline in participation since 2018. Team sports experienced a slight increase in participation, driven by the increasing popularity of basketball and outdoor soccer. While racquet sports lost about 2% of participants since 2018, mostly due to declines in squash and badminton participation, the rising popularity of pickleball and cardio tennis may reverse this declining trend.

Figure E8. Total Participation Rate by Activity Category



When asked which activities they aspire to do, all age-groups and income levels tend to show interest in outdoor activities like fishing, camping, hiking, biking, bicycling, and swimming. Younger age groups are more interested in participating in team sports, such as soccer, basketball and volleyball, while older adults are more likely to aspire to individual activities like swimming for fitness, bird/nature viewing, and canoeing.

Physical education (PE) participation shows 96% of 6 to 12-year old youth and 82% of 13-17 year olds participated in PE in 2019. While younger children were more likely to participate in PE, older youth had higher average days of participation. Children were more than twice as likely to be inactive if they did not attend PE. Overall, all ages saw an increase in PE 2019. Participation in PE is thought to lead to an increase of active, healthy lifestyles in adulthood.

Figure E9. Sports with the Highest 5-year Increase in Participation

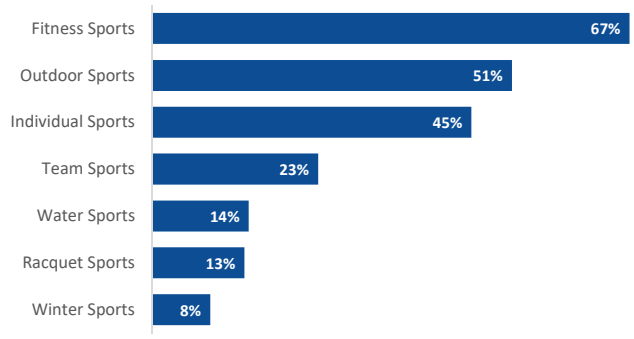
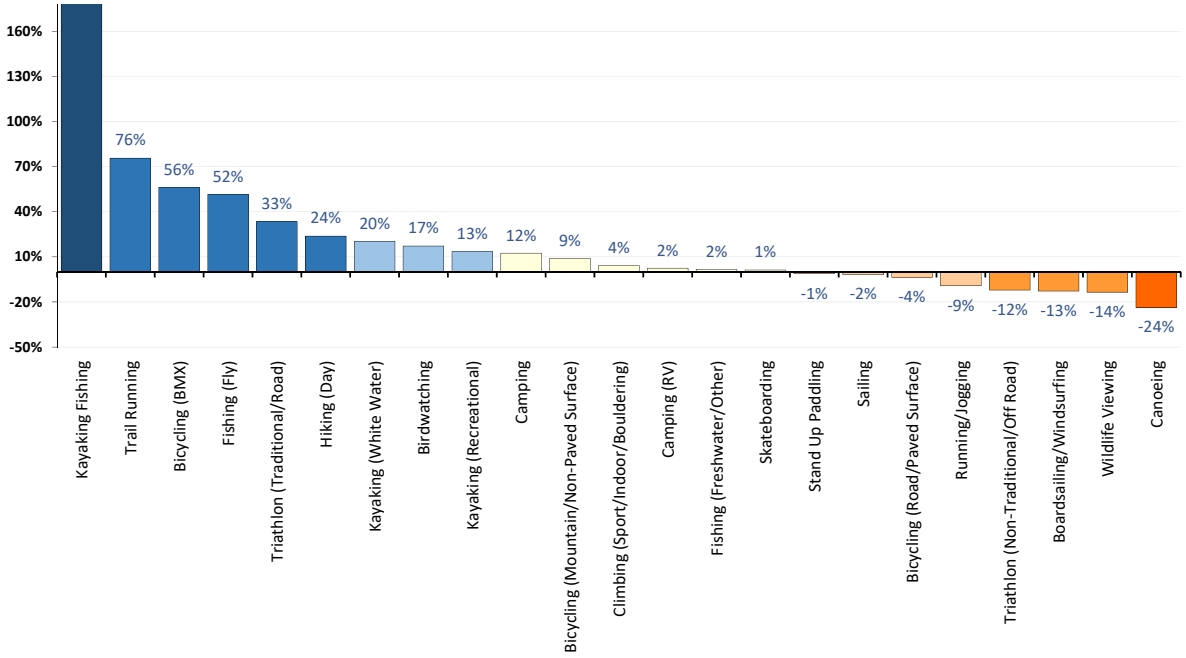


Figure E10. 5-Year Change in Outdoor Sports Participation



2020 Americans Engagement with Parks Survey

This annual study from the National Park and Recreation Association (NRPA) probes Americans' usage of parks, the key reasons that drive their use, and the greatest challenges preventing greater usage. Each year, the study examines the importance of public parks in Americans' lives, including how parks compare to other services and offerings of local governments. The survey of 1,000 American adults looks at frequency and drivers of parks/recreation facilities visits and the barriers that prevent greater enjoyment. Survey respondents also indicate the importance of how park and recreation plays in their decisions at the voting booth and their level of support for greater funding.

In 2020, NRPA conducted a shorter-than-typical Engagement survey because of the dynamic nature of life during the COVID-19 pandemic. The 2020 Study focused on the impacts of the COVID-19 pandemic on park and recreation usage, whether residents see public parks as an essential public service, and whether people vote for political leaders based on their support for park and recreation funding.

Key findings include:

- Eighty-two percent of U.S. adults agree that parks and recreation is essential.
- Seventy-seven percent of survey respondents indicate that having a high-quality park, playground, public open space or recreation center nearby is an important factor in deciding where they want to live.
- U.S. residents visit local park and recreation facilities more than twice a month on average.
- Three in five U.S. residents — more than 190 million people — visited a park, trail, public open space or other recreation facility at least once during the first three months of the pandemic (mid-March through mid-June 2020).

Impacts of the COVID-19 Pandemic

According to the Americans Engagement with Parks report,

> "In many communities across the nation, parks, trails and other public open spaces have been crucial resources available to people seeking a brief respite from the public health crisis. As businesses shut down operations during the spring, many parks and trails remained open, providing people with opportunities to safely enjoy outdoor physical activity with its many attendant physical and mental health benefits. According to NRPA Parks Snapshot Survey data (nrpa.org/ ParksSnapshot), 83 percent of park and recreation agencies kept some/all of their parks open during the initial wave of COVID-19 infections in April 2020, while 93 percent did the same with some/all of their trail networks.
>
> Consequently, people flocked to their local parks, trails and other public open spaces. Three in five U.S. residents — more than 190 million people — visited a park, trail, public open space or other recreation facility at least once during the first three months of the pandemic — from mid-March through mid-June 2020. Park and recreation usage was particularly strong among GenZers, Millenials, Gen Xers, parents, people who identify as Hispanic/Latinx and those who identify as nonwhite.
>
> As has been the case with virtually every aspect of life, the COVID-19 pandemic has altered the frequency with which most people engage with their local park and recreation amenities. Still, slightly more than half of people have been visiting parks, trails and other public open space amenities as often — if not more often — since the start of the pandemic than they had during the same period in 2019. Twenty-seven percent of U.S. residents report that their use of parks, trails and other public open spaces increased during the first three months of the pandemic relative to the same period in 2019. A quarter of survey respondents indicates their park and recreation usage during the period from mid-March to mid- June 2020 matched that of the same three months in 2019. Forty-eight percent of people report that their usage of parks, trails and public open spaces declined during the early months of the pandemic."

Washington State Recreation and Conservation Plan

The 2018-2022 Recreation and Conservation Plan for Washington State provides a strategic direction to help assure the effective and adequate provision of outdoor recreation and conservation to meet the needs of Washington State residents. The plan identifies the following five near and long-term priority areas and establishes specific actions within each priority to help meet the outdoor recreation and conservation needs within the state:

1. Sustain and Grow the Legacy of Parks, Trails, and Conservation Lands
2. Improve Equity of Parks, Trails, and Conservation Lands

3. Meet the Needs of Youth
4. Plan for Culturally Relevant Parks and Trails to Meet Changing Demographics
5. Assert Recreation and Conservation as a Vital Public Service

Sustain & Grow the Legacy

A wealth of existing recreation and conservation areas and facilities should be kept open, safe, and enjoyable for all. Some modifications to meet the interests of today's population may be needed at some facilities. Sustaining existing areas while expanding and building new facilities to keep up with a growing population is one of the five priority goals.

Improve Equity

The National Recreation and Park Association's position on social equity states:

> "Our nation's public parks and recreation services should be equally accessible and available to all people regardless of income level, ethnicity, gender, ability, or age. Public parks, recreation services and recreation programs including the maintenance, safety, and accessibility of parks and facilities, should be provided on an equitable basis to all citizens of communities served by public agencies."

The Washington plan restates that equity goal for all its citizens. Improving equity is also a strategy for improving a community's health. Current statewide participation rates in outdoor activities were surveyed as part of the plan.

Figure E11. Participation Rates for Washington Residents in Outdoor Activities

Participation Rates for Top 12 Categories	
Activity	**%**
Walking	94%
Nature activities	89%
Leisure activities at parks	82%
Swimming	68%
Sightseeing activities	67%
Hiking	61%
Outdoor sports	48%
Water-based activities (freshwater)	46%
Camping	45%
Trending activities	33%
Snow and ice activities	30%
Bicycling	28%

Get Youth Outside

Washington State youth participate in outdoor activities to a greater extent than youth nationally. Park and recreation providers are urged to offer a variety of outdoor activities for youth and to support youth programs. Most youth are walking, playing at a park, trying new or trending activities, fishing in freshwater, exploring nature, and riding bikes. Other activities of interest to youth are activities in freshwater such as boating and paddling, fishing in saltwater, target shooting, hiking, outdoor sports, and riding off-road vehicles.

Figure E12. Youth Participation Rates for Washington Residents in Outdoor Activities

Youth Participation Rates Activity	%
Walking	88%
Leisure in parks	78%
Trending activities	77%
Fishing in freshwater	77%
Nature-based activities	75%
Bicycling	74%
Freshwater-based activities*	66%
Target shooting	62%
Hiking	57%
Outdoor sports	57%
Off-road vehicle riding	57%
Fishing in saltwater	53%

*(not swimming)

Plan for Culturally Relevant Parks and Trails to Meet Changing Demographics

Washington's population is expected to grow by 2 million people by 2040 leading to more congestion and competition for recreation resources. Between 2010-2040, the percent of people of color are expected to increase from 27 percent to 44 percent. With the cultural change in the population, preferred recreational activities also will change. By 2030, more than one of every five Washingtonians will be 65 years old or older. By 2040, there will be more seniors than youth. Park and recreation providers should be prepared to create new and diverse opportunities and accommodate the active senior population.

Assert Recreation and Conservation as a Vital Public Service

The plan recognizes that outdoor recreation contributes to a strong economy and is a public investment like other public services and infrastructure. The report cites the Outdoor Industry Association and other economic studies that reinforce the importance of park and recreation services locally, regionally and statewide.

2019 Special Report on Paddlesports & Safety

In 2019, the Outdoor Foundation produced a report focused on paddlesports data based on a participation survey (over 20,000 online interviews with a nationwide sample of individuals and households). In 2018, 22.9 million Americans (approximately 7.4% of the population) participated in paddle sports. This represents an increase of more than 4 million participants since the study began in 2010. Over the last five years, there continues to be an increase in paddlesports popularity among outdoor enthusiasts, with significant portions of the nationwide growth occurring in the Pacific region.

Recreational kayaking continues to grow in popularity but may be driving some of the decline in canoeing. The popularity of stand-up paddling has soared, increasing by 1.5 million participants over the past five years, though it does not have nearly as high a participation rate as either recreational kayaking or canoeing.

Most paddlers are Caucasian, other racial and ethnic groups are largely under-represented. However, Caucasian participation has remained relatively flat while participation by people identifying as Hispanic

or Black/African American has grown by 0.5% to 1% per year since 2013. This growth has led to more than 773,000 new Hispanic paddlers in just six years, signaling the importance and potential of engaging minority groups in paddlesports.

One in eight paddlers have been participating in the sport for 21 years or more. However, many participants – between thirty and sixty percent, depending on the discipline – tried a paddlesport for the first time in 2018. Such high levels of first-time participation may produce longer term growth in paddling, assuming participants continue to enjoy the sport.

Among adult paddlers, most participate for excitement and adventure, for exercise, or to be close to nature. Kayakers, rafters, canoers and stand-up paddlers often enjoy, or would be willing to try, other paddlesports. Many also enjoy similar outdoor "crossover" activities such as hiking, camping, walking, and nature viewing.



Appendix F
Implementation Tools

LOCAL FUNDING OPTIONS

The City of Camas possesses a range of local funding tools that could be accessed for the benefit of growing, developing, and maintaining its parks and recreation facilities and programs. The sources listed below represent potential funding sources, but some also may be dedicated for numerous other local purposes which limit applicability and usage. Therefore, discussions with City leadership are critical to assess the political landscape to modify or expand the use of existing City revenue sources in favor of park and recreation programs.

Councilmanic Bonds

Councilmanic general obligation bonds may be sold by cities without public vote. The bonds, both principal and interest, are retired with payments from existing city revenue or new general tax revenue, such as additional sales tax or real estate excise tax. The state constitution has set a maximum debt limit for councilmanic bonds of 1½% of the assessed value of taxable property in the city.

Voted General Obligation Bond

For the purposes of funding capital projects, such as land acquisitions or facility construction, cities and counties have the authority to borrow money by selling bonds. Voter-approved general obligation bonds may be sold only after receiving a 60 percent majority vote at a general or special election. If approved, an excess property tax is levied each year for the life of the bond to pay both principal and interest. The maximum debt limit for voted debt is 2.5% of the assessed value of taxable property in the city. The state constitution (Article VIII, Section 6) limits total combined debt to 5% of the total assessed value of property in the jurisdiction.

Property Tax Excess Levy – One Year Only

Cities and counties that are levying their statutory maximum rate can ask the voters, at any special election date, to raise their rate for one year (RCW 84.52.052). As this action increases revenue for one-year at a time, it is wise to request this type of funding for one-time uses only. Majority approval by voters is required.

Regular Property Tax - Lid Lift

Cities are authorized to impose ad valorem taxes upon real and personal property. A city's maximum levy rate for general purposes is $3.375 per $1,000 of assessed valuation. Limitations on annual increases in tax collections, coupled with changes in property value, causes levy rates to rise or fall; however, in no case may they rise above statutory limits. Once the rate is established each year, it may not be raised without the approval of a majority of the voters. Receiving voter approval is known as a lid lift. A lid lift may be permanent, or may be for a specific purpose and time period.

A levy lid lift is an instrument for increasing property tax levies for operating and/or capital purposes. Taxing districts with a tax rate that is less than their statutory maximum rate may ask the voters to "lift" the levy lid by increasing the tax rate to some amount equal to or less than their statutory maximum rate. A simple majority vote of citizenry is required.

Cities and counties have two "lift" options available to them: Single-year/basic or Multi-year.

Single-year: The single-year lift does not mean that the lift goes away after one year; it can be for any amount of time, including permanently, unless the proceeds will be used for debt service on bonds, in which case the maximum time period is nine years. Districts may permanently increase the levy but must use language

in the ballot title expressly stating that future levies will increase as allowed by chapter 84.55 RCW. After the initial "lift" in the first year, the district's levy in future years is subject to the 101 percent lid in chapter 84.55 RCW. This is the maximum amount it can increase without returning to the voters for another lid lift.

The election to implement a single-year lift may take place on any election date listed in RCW 29A.04.321.

Multi-year: The multi-year lift allows the levy lid to be "bumped up" each year for up to a maximum of six years. At the end of the specified period, the levy in the final period may be designated as the basis for the calculation of all future levy increases (in other words, be made permanent) if expressly stated in the ballot title. The levy in future years would then be subject to the 101 percent lid in chapter 84.55 RCW.

In a multi-year lift, the lift for the first year must state the new tax rate for that year. For the ensuing years, the lift may be a dollar amount, a percentage increase tied to an index, or a percentage amount set by some other method. The amounts do not need to be the same for each year. If the amount of the increase for a particular year would require a tax rate that is above the maximum tax rate, the assessor will levy only the maximum amount allowed by law.

The election to implement a multi-year lift must be either the August primary or the November general election.

The single-year lift allows supplanting of expenditures within the lift period; the multi-year left does not, and the purpose for the lift must be specifically identified in the election materials. For both single- and multi-year lifts, when the lift expires the base for future levies will revert to what the dollar amount would have been if no lift had ever been done.

The total regular levy rate of senior taxing districts (counties and cities) and junior taxing districts (fire districts, library districts, etc.) may not exceed $5.90/$1,000 AV. If this limit is exceeded, levies are reduced or eliminated in the following order until the total tax rate is at $5.90.

1st.	Parks & Recreation Districts (up to $0.60)
	Parks & Recreation Service Areas (up to $0.60)
	Cultural Arts, Stadiums & Convention Districts (up to $0.25)
2nd.	Flood Control Zone Districts (up to $0.50)
3rd.	Hospital Districts (up to $0.25)
	Metropolitan Parks Districts (up to $0.25)
	All other districts not otherwise mentioned
4th.	Metropolitan Park Districts formed after January 1, 2002 or after (up to $0.50)
5th.	Fire Districts (up to $0.25)
6th.	Fire Districts (remaining $0.50)
	Regional Fire Protection Service Authorities (up to $0.50)
	Library Districts (up to $0.50)
	Hospital Districts (up to $0.50)
	Metropolitan Parks Districts formed before January 1, 2002 (up to $0.50)

Sales Tax

Paid by the consumer, sales tax is a percentage of the retail price paid for specific classifications of goods and services within the State of Washington.

Governing bodies of cities and counties may impose sales taxes within their boundaries at a rate set by state statute and local ordinances, subject to referendum.

Until the 1990 Legislative Session, the maximum possible total sales tax rate paid by purchasers in cities was 8.1 percent. The 8.1 percent is allocated as follows: State, 6.5 cents on the dollar; counties, 0.15 cents; cities, 0.85 cents; and transit districts, a maximum of 0.6 cents (raised to 0.9 cents in 2000). Since then multiple sales options were authorized. Those applicable to Parks and Recreation include: counties may ask voters to approve a sales tax of up to 0.3 percent, which is shared with cities. At least one-third of the revenue must be used for criminal justice purposes.

Counties and cities may also form public facilities districts, and these districts may ask the voters to approve a sales tax of up to 0.2 percent. The proceeds may be used for financing, designing, acquisition, construction, equipping, operating, maintaining, remodeling, repairing, and re-equipping its public facilities.

Revenue may be used to fund any essential county and municipal service.

If a jurisdiction is going to change a sales tax rate or levy a new sales tax, it must pass an ordinance to that effect and submit it to the Department of Revenue at least 75 days before the effective date. The effective date must be the first day of a quarter: January 1, April 1, July 1 or October 1.

Business and Occupation Tax

Business and occupation (B&O) taxes are excise taxes levied on different classes of business to raise revenue. Taxes are levied as a percentage of the gross receipts of a business, less some deductions. Businesses are put in different classes such as manufacturing, wholesaling, retailing, and services. Within each class, the rate must be the same, but it may differ among classes. Cities can impose this tax for the first time or raise rates following referendum procedure.

B&O taxes are limited to a maximum tax rate that can be imposed by a city's legislative body at 0.2 percent (0.002), but grandfathered in any higher rates that existed on January 1, 1982. Any city may levy a rate higher than 0.2 percent, if it is approved by a majority of voters (RCW 35.21.711). Beginning January 1, 2008, cities that levy the B&O tax must allow for allocation and apportionment, as set out in RCW 35.102.130.

Admissions Tax

An admissions tax is a use tax for entertainment. Both cities and counties may impose this tax through legislative action.

Cities and/or counties may levy an admission tax in an amount no greater than five percent of the admission charge, as is authorized by statute (cities: RCW 35.21.280; counties: RCW 35.57.100). This tax can be levied on admission charges (including season tickets) to places such as theaters, dance halls, circuses, clubs that have cover charges, observation towers, stadiums, and any other activity where an admission charge is made to enter the facility.

If a city imposes an admissions tax, the county may not levy a tax within city boundaries.

The statutes provide an exception for admission to elementary or secondary school activities. Generally, certain events sponsored by nonprofits are exempted from the tax; however, this is not a requirement. Counties also exempt any public facility of a public facility district for which admission is imposed. There are no statutory restrictions on the use of revenue.

Impact Fees

Development impact fees are charges placed on new development in unimproved areas to help pay for various public facilities that serve new development or for other impacts associated with such development. Both cities and counties may impose this tax through legislative action.

Counties that plan under the GMA, and cities, may impose impact fees on residential and commercial development activity to help pay for certain public facility improvements, including parks, open space, and recreation facilities identified in the county's capital facilities plan. The improvements financed from impact fees must be reasonably related to the new development and must reasonably benefit the new development. The fees must be spent or encumbered within ten years of collection. Camas currently assesses a parks impact fee and also utilizes impact fee credits as a tool to work with local developers.

Real Estate Excise Tax

Excise tax levied on all sales of real estate, measured by the full selling price, including the amount of any liens, mortgages, and other debts given to secure the purchase. Both cities and counties may impose this tax through legislative action.

Counties and cities may levy a quarter percent tax (REET 1); a second quarter percent tax (REET 2) is authorized. First quarter percent REET (REET 1) must be spent on capital projects listed in the city's capital facilities plan element of their comprehensive plan. Capital projects include planning, acquisition, construction, reconstruction, repair, replacement, rehabilitation, or improvement of parks, recreational facilities, and trails.

The second quarter percent REET (REET 2) must also be spent on capital projects, which includes planning, construction, reconstruction, repair, rehabilitation, or improvement of parks. Acquisition of land for parks is not a permitted use of REET 2. Both REET 1 and REET 2 may be used to make loan and debt service payments on projects that are a permitted use of these funds. The City of Camas currently assesses both REETs and uses this funding for a variety of capital project needs.

Lodging Tax

The lodging tax is a user fee for hotel/motel occupation. Both cities and counties may impose this tax through legislative action.

Cities and/or counties may impose a "basic" two percent tax under RCW 67.28.180 on all charges for furnishing lodging at hotels, motels and similar establishments for a continuous period of less than one month.

This tax is taken as a credit against the 6.5 percent state sales tax, so that the total tax that a patron pays in retail sales tax and hotel-motel tax combined is equal to the retail sales tax in the jurisdiction. In addition, jurisdictions may levy an additional tax of up to two percent, or a total rate of four percent, under RCW 67.28.181(1). This is not credited against the state sales tax. Therefore, if this tax is levied, the total tax on the lodging bill will increase by two percent.

If both a city and the county are levying this tax, the county must allow a credit for any tax levied by a city so that no two taxes are levied on the same taxable event. These revenues must be used solely for paying for tourism promotion and for the acquisition and/or operating of tourism-related facilities. "Tourism" is defined as economic activity resulting from tourists, which may include sales of overnight lodging, meals, tours, gifts, or souvenirs; there is no requirement that a tourist must stay overnight.

Conservation Futures Tax (Clark County)

The Conservation Futures Tax (CFT) is provided for in Chapter 84.34 of the Revised Code of Washington. Clark County imposes a Conservation Futures levy for the purpose of acquiring open space lands, including green spaces, greenbelts, wildlife habitat and trail rights-of-way proposed for preservation for public use by either the county or the cities within the county. Funds are allocated annually, and cities within the county, citizen groups and citizens may apply for funds through the county's process. The CFT program provides grants

to cities to support open space priorities in local plans and is administered by the County's Legacy Lands Program in the Parks & Lands Division of Public Works.

FEDERAL & STATE GRANTS AND CONSERVATION PROGRAMS

RIVERS, TRAILS AND CONSERVATION ASSISTANCE PROGRAM

The Rivers, Trails and Conservation Assistance Program, also known as the Rivers & Trails Program or RTCA, is a technical assistance resource for communities administered by the National Park Service and federal government agencies so they can conserve rivers, preserve open space and develop trails and greenways. The RTCA program implements the natural resource conservation and outdoor recreation mission of NPS in communities across America.

RECREATION AND CONSERVATION OFFICE GRANT PROGRAMS

The Recreation and Conservation Office was created in 1964 as part of the Marine Recreation Land Act. The RCO grants money to state and local agencies, generally on a matching basis, to acquire, develop, and enhance wildlife habitat and outdoor recreation properties. Some money is also distributed for planning grants. RCO grant programs utilize funds from various sources. Historically, these have included the Federal Land and Water Conservation Fund, state bonds, Initiative 215 monies (derived from un-reclaimed marine fuel taxes), off-road vehicle funds, Youth Athletic Facilities Account and the Washington Wildlife and Recreation Program.

Aquatic Lands Enhancement Account (ALEA)

This program, managed through the RCO, provides matching grants to state and local agencies to protect and enhance salmon habitat and to provide public access and recreation opportunities on aquatic lands. In 1998, DNR refocused the ALEA program to emphasize salmon habitat preservation and enhancement. However, the program is still open to traditional water access proposals. Any project must be located on navigable portions of waterways. ALEA funds are derived from the leasing of state-owned aquatic lands and from the sale of harvest rights for shellfish and other aquatic resources.

Washington Wildlife & Recreation Program (WWRP)

Funding sources managed by the RCO include the Washington Wildlife and Recreation Program. The WWRP is divided into Habitat Conservation and Outdoor Recreation Accounts; these are further divided into several project categories. Cities, counties and other local sponsors may apply for funding in urban wildlife habitat, local parks, trails and water access categories. Funds for local agencies are awarded on a matching basis. Grant applications are evaluated once each year, and the State Legislature must authorize funding for the WWRP project lists.

Land and Water Conservation Fund (LWCF)

The Land and Water Conservation Fund (LWCF) provides grants to buy land and develop public outdoor facilities, including parks, trails and wildlife lands. Grant recipients must provide at least 50% matching funds in either cash or in-kind contributions. Grant program revenue is from a portion of Federal revenue derived from sale or lease of off-shore oil and gas resources.

National Recreational Trails Program

The National Recreational Trails Program (NRTP) provides funds to maintain trails and facilities that provide a backcountry experience for a range of activities including hiking, mountain biking, horseback

riding, motorcycling, and snowmobiling. Eligible projects include the maintenance and re-routing of recreational trails, development of trail-side and trail-head facilities, and operation of environmental education and trail safety programs. A local match of 20% is required. This program is funded through Federal gasoline taxes attributed to recreational non-highway uses.

Youth Athletic Facilities (YAF) Program

The YAF provides grants to develop, equip, maintain, and improve youth and community athletic facilities. Cities, counties, and qualified non-profit organizations may apply for funding, and grant recipients must provide at least 50% matching funds in either cash or in-kind contributions.

OTHER TOOLS & OPTIONS

Metropolitan Park District

Metropolitan park districts may be formed for the purposes of management, control, improvement, maintenance and acquisition of parks, parkways and boulevards. In addition to acquiring and managing their own lands, metropolitan districts may accept and manage park and recreation lands and equipment turned over by any city within the district or by the county. Formation of a metropolitan park district may be initiated in cities of five thousand population or more by city council ordinance, or by petition, and requires majority approval by voters for creation. Several years ago, the City started a preliminary look at the MPD as a tool for Camas Parks and Recreation. With some existing information, the City could continue evaluation of MPD along with other implementation tools to develop their long-term funding strategy.

Park and Recreation District

Park and recreation districts may be formed for the purposes of providing leisure-time activities and recreation facilities (parks, playgrounds, pools, golf courses, paths, community centers, arboretums, campgrounds, boat launches, etc.) and must be initiated by petition of at least 15% percent of the registered voters within the proposed district. Upon completion of the petition process and review by county commissioners, a proposition for district formation and election of five district commissioners is submitted to the voters of the proposed district at the next general election. Once formed, park and recreation districts retain the authority to propose a regular property tax levy, annual excess property tax levies and general obligation bonds. All three of these funding types require 60% percent voter approval and 40% percent voter turnout. With voter approval, the district may levy a regular property tax not to exceed sixty cents per thousand dollars of assessed value for up to six consecutive years.

Park and Recreation Service Area (PRSA)

A quasi-municipal corporation with independent taxing authority whose purpose is to finance, acquire, construct, improve, maintain or operate any park, senior citizen activities center, zoo, aquarium and/or recreation facilities; and to provide higher level of park service.

Sponsorships / Donations / Naming Rights

Business sponsorships for programs may be available throughout the year. In-kind contributions are often received, including food, door prizes and equipment/material. Naming rights could be considered for substantial gifts and may have time limitations, depending on local policy.

Interagency Agreements

State law provides for interagency cooperative efforts between units of government. Joint acquisition, development and/or use of park and open space facilities may be provided between Parks, Public Works and utility providers.

Private Grants, Donations & Gifts

Many trusts and private foundations provide funding for park, recreation and open space projects. Grants from these sources are typically allocated through a competitive application process and vary dramatically in size based on the financial resources and funding criteria of the organization. Philanthropic giving is another source of project funding. Efforts in this area may involve cash gifts and include donations through other mechanisms such as wills or insurance policies. Community fundraising efforts can also support park, recreation or open space facilities and projects.

ACQUISITION TOOLS & METHODS

Direct Purchase Methods

Market Value Purchase

Through a written purchase and sale agreement, the city purchases land at the present market value based on an independent appraisal. Timing, payment of real estate taxes and other contingencies are negotiable.

Partial Value Purchase (or Bargain Sale)

In a bargain sale, the landowner agrees to sell for less than the property's fair market value. A landowner's decision to proceed with a bargain sale is unique and personal; landowners with a strong sense of civic pride, long community history or concerns about capital gains are possible candidates for this approach. In addition to cash proceeds upon closing, the landowner may be entitled to a charitable income tax deduction based on the difference between the land's fair market value and its sale price.

Life Estates & Bequests

In the event a landowner wishes to remain on the property for a long period of time or until death, several variations on a sale agreement exist. In a life estate agreement, the landowner may continue to live on the land by donating a remainder interest and retaining a "reserved life estate." Specifically, the landowner donates or sells the property to the city, but reserves the right for the seller or any other named person to continue to live on and use the property. When the owner or other specified person dies or releases his/her life interest, full title and control over the property will be transferred to the city. By donating a remainder interest, the landowner may be eligible for a tax deduction when the gift is made. In a bequest, the landowner designates in a will or trust document that the property is to be transferred to the city upon death. While a life estate offers the city some degree of title control during the life of the landowner, a bequest does not. Unless the intent to bequest is disclosed to and known by the city in advance, no guarantees exist with regard to the condition of the property upon transfer or to any liabilities that may exist.

Gift Deed

When a landowner wishes to bequeath their property to a public or private entity upon their death, they can record a gift deed with the county assessors office to insure their stated desire to transfer their property to the targeted beneficiary as part of their estate. The recording of the gift deed usually involves the tacit agreement of the receiving party.

Option to Purchase Agreement

This is a binding contract between a landowner and the city that would only apply according to the conditions of the option and limits the seller's power to revoke an offer. Once in place and signed, the Option Agreement may be triggered at a future, specified date or upon the completion of designated conditions. Option Agreements can be made for any time duration and can include all of the language pertinent to closing a property sale.

Right of First Refusal

In this agreement, the landowner grants the city the first chance to purchase the property once the landowner wishes to sell. The agreement does not establish the sale price for the property, and the landowner is free to refuse to sell it for the price offered by the city. This is the weakest form of agreement between an owner and a prospective buyer.

Conservation and/or Access Easements

Through a conservation easement, a landowner voluntarily agrees to sell or donate certain rights associated with his or her property (often the right to subdivide or develop), and a private organization or public agency agrees to hold the right to enforce the landowner's promise not to exercise those rights. In essence, the rights are forfeited and no longer exist. This is a legal agreement between the landowner and the city that permanently limits uses of the land in order to conserve a portion of the property for public use or protection. The landowner still owns the property, but the use of the land is restricted. Conservation easements may result in an income tax deduction and reduced property taxes and estate taxes. Typically, this approach is used to provide trail corridors where only a small portion of the land is needed or for the strategic protection of natural resources and habitat. Through a written purchase and sale agreement, the city purchases land at the present market value based on an independent appraisal. Timing, payment of real estate taxes and other contingencies are negotiable.

Park or Open Space Dedication Requirements

Local governments have the option to require developers to dedicate land for parks under the State Subdivision Law (Ch. 58.17 RCW) and the State Environmental Policy Act (SEPA) (Ch. 43.21C RCW). Under the subdivision law developers can be required to provide the parks/recreation improvements or pay a fee in lieu of the dedicated land and its improvements. Under the SEPA requirements, land dedication may occur as part of mitigation for a proposed development's impact.

Landowner Incentive Measures

Density Bonuses

Density bonuses are a planning tool used to encourage a variety of public land use objectives, usually in urban areas. They offer the incentive of being able to develop at densities beyond current regulations in one area, in return for concessions in another. Density bonuses are applied to a single parcel or development. An example is allowing developers of multi-family units to build at higher densities if they provide a certain number of low-income units or public open space. For density bonuses to work, market forces must support densities at a higher level than current regulations.

Transfer of Development Rights

The transfer of development rights (TDR) is an incentive-based planning tool that allows land owners to trade the right to develop property to its fullest extent in one area for the right to develop beyond existing regulations in another area. Local governments may establish the specific areas in which development may

be limited or restricted and the areas in which development beyond regulation may be allowed. Usually, but not always, the "sending" and "receiving" property are under common ownership. Some programs allow for different ownership, which, in effect, establishes a market for development rights to be bought and sold.

IRC 1031 Exchange

If the landowner owns business or investment property, an IRC Section 1031 Exchange can facilitate the exchange of like-kind property solely for business or investment purposes. No capital gain or loss is recognized under Internal Revenue Code Section 1031 (see www.irc.gov for more details). This option may be a useful tool in negotiations with an owner of investment property, especially if the tax savings offset to the owner can translate to a sale price discount for the City.

Current (Open Space) Use Taxation Programs

Property owners whose current lands are in open space, agricultural, and/or timber uses may have that land valued at their current use rather than their "highest and best" use assessment. This differential assessed value, allowed under the Washington Open Space Taxation Act (Ch.84.34 RCW) helps to preserve private properties as open space, farm or timber lands. If land is converted to other non-open space uses, the land owner is required to pay the difference between the current use annual taxes and highest/best taxes for the previous seven years. When properties are sold to a local government or conservation organization for land conservation/preservation purposes, the required payment of seven years worth of differential tax rates is waived. The amount of this tax liability can be part of the negotiated land acquisition from private to public or quasi-public conservation purposes. Clark County has a current use taxation program that offer this property tax reduction as an incentive to landowners to voluntarily preserve open space, farmland or forestland on their property.

OTHER LAND PROTECTION OPTIONS

Land Trusts & Conservancies

Land trusts are private non-profit organizations that acquire and protect special open spaces and are traditionally not associated with any government agency. Columbia Land Trust is the regional land trust serving the Camas area, and their efforts have led to the conservation of more than 50,000 acres of forests, shorelines, parks and natural areas in the region. Other national organizations with local representation include the Nature Conservancy, Trust for Public Land and the Wetlands Conservancy.

Regulatory Measures

A variety of regulatory measures are available to local agencies and jurisdictions. Available programs and regulations include: Critical Areas Ordinance, Camas; State Environmental Policy Act (SEPA); Shorelines Management Program; and Hydraulic Code, Washington State Department of Fisheries and Department of Wildlife.

Public / Private Utility Corridors

Utility corridors can be managed to maximize protection or enhancement of open space lands. Utilities maintain corridors for provision of services such as electricity, gas, oil, and rail travel. Some utility companies have cooperated with local governments for development of public programs such as parks and trails within utility corridors.



Appendix G
Site Acquisition & Development Guidelines

ACQUISITION GUIDELINES

Planning and land acquisition for future parks is a recognized component in land use and urban growth management, since the provision of parks and open space is considered essential to the livability of urban areas. For the recreation resource planner, the land acquisition process is an important task for ensuring the availability of future recreation resources for the majority of the community. The established planning goals for a community's comprehensive plan recognize the development of parks and retention of open space with conservation values as a tool for managing the effects of increased density and fostering livability.

Specific Site Suitability for Developed/Active Parks

While existing neighborhood parks may range from 2.3 to 10 acres in size, some basic location and land characteristics influence how accessible, "developable" and convenient a potential site might be for a future public park. Evaluating a potential land parcel should include consideration of the following property features:

- Access and visibility to the property. An adequate amount of public right-of-way is needed to allow for creating bike/pedestrian pathways, at a minimum, and either on-street parking or a parking lot for park visitors who must drive a vehicle.
- Existing publicly owned lands, easements and right-of-way. Are there existing lands under public ownership that could be converted to public park use? What other public amenities are proximate and complementary to a future park development (e.g., schools, police stations, etc.)?
- Connectivity to trails, schools, parks, neighborhoods and connectivity of the trail links. Connections to and from related land uses can add value to a potential park location.
- Environmental constraints, field assessment (does not include Environmental Assessment level detail), regulatory and permitting requirements and GIS data for critical areas. Sensitive environmental lands should be protected, but often they are not the best sites for development of recreational amenities for public parks. Protected and conserved lands can provide complementary value to public parks, while the public park land can create a buffer for the conserved land.
- Topography. Existing landforms, whether flat or hilly, will influence the park's design and best fit for provision of recreational facilities.
- Technical analysis of park standards and development costs should be evaluated to help provide realistic site development costs. For example, existing road improvements within the public right-of-way or lack of public water and sewer may trigger additional park development costs.

Within identified neighborhoods that may lack or have limited access to public parks, potential properties should be evaluated for suitable site conditions for the development of future recreational amenities and/or access to natural resources and water.

Neighborhood/Community Park Site Suitability Criteria:

- Access / visibility
- Parcel size / configuration
- Contiguous public land / connectivity
- Extent of sensitive areas
- Cost factors (acquisition, development & maintenance.)
- Compatibility with surrounding uses
- Vacant land preference

Trail Site Suitability Criteria:

- Development feasibility
- Continuity / connectivity (“safe routes”)
- Natural, cultural, historic value
- Public ROW access
- Land costs / value

Urban Natural Areas Site Suitability Criteria:

- Ecological, cultural, historic value
- Continuity / connectivity
- Public right of way access
- Development pressure (threat of conversion)
- Acquisition costs, donations, grants, third-party support (i.e., land trusts), etc.

Site-Specific Concerns

- Once a targeted park land acquisition has been identified and evaluated with consideration to its potential suitability as a future pubic park, more specific assessments should be conducted to ensure a measure of known development variables for future park use.
- A boundary survey and review of the title is important to identify an existing encroachments, encumbrances or entitlements that need to be addressed or corrected prior to closing.
- Environmental constraints, such as wetlands, waterways, other sensitive habitats and any associated buffers, should be identified to determine their impact on developable park spaces.
- An environmental site assessment should be conducted to identify environmental conditions that could have resulted from a past release of hazardous substances and determine any potential mitigation requirements to protect public health. Additionally, environmental law typically leaves the burden of responsibility on the property owner, so conducting an environmental site assessment is important to protect the City’s liability.
- An archaeological assessment to review potential cultural resources may also help bring to light future park development costs and variables.
- Any underground tanks, wells, septic systems and existing structures should be evaluated for the need to remove, decommission, or demolish after closing of land sale.
- Preliminary analysis of O&M cost for holding property until development.

Design Standards for Environmental Site Assessment

Considering a current use of a property is typically not sufficient for evaluating potential environmental concerns. For example, a vacant lot may previously have been used for agricultural purposes and may contain pesticide residues in the soil, or a current retail building formerly may have housed an auto repair business with underground tanks. Additionally, properties that are considered low-risk, such as a residence, could have a leaking underground heating oil tank or other concerns. Therefore, conducting an environmental site assessment is an important step in purchasing and managing property.

Prior to purchasing or accepting ownership of a property, the City should conduct an environmental site assessment to determine if contaminated soil, sediment or groundwater could be present. This process typically begins with a Phase I Environmental Site Assessment (ESA) per ASTM E1527-13 to identify environmental conditions or other business risk issues that could impact site development, pose a liability to the City, or present a risk to human health or the environment. Depending on the results of the Phase I ESA, a subsequent Phase II ESA may be warranted to sample and test soil, sediment or groundwater for the presence of contamination.

For property currently owned by the City, conducting an ESA prior to redevelopment can help to identify issues that could affect building design or result in construction delays.

For property that will be leased by the City, conducting a baseline environmental assessment may be warranted to establish initial conditions prior to the City occupying the site.

PRESERVING FUNDING ELIGIBILITY

Public outdoor park and recreation areas and facilities are eligible for funding assistance through the Washington Recreation and Conservation Office (RCO). Land acquisition projects must be consistent with the outdoor recreation goals and objectives contained in the Statewide Comprehensive Outdoor Recreation Plan (SCORP) or the recreation elements of local comprehensive plans and local master plans. Acquisition of land and waters for public outdoor recreation areas and facilities, including new areas or additions to existing parks, forests, wildlife areas, open spaces and other similar areas dedicated to outdoor recreation are eligible for assistance through the RCO. To be eligible, the acquisition procedures set forth by the RCO should be closely followed.

DESIGN & DEVELOPMENT GUIDELINES

With planned park upgrades and the potential for development of park acquisitions, Camas would benefit from park design and facility standards that help unify the system's amenities, operations and maintenance going into the future. Standards can begin with the adoption of typical bench details and expand to incorporate graphic sign styles, materials, colors and specific site furnishings. With the desire for Camas to create a unifying identity and enhance park maintenance efficiencies, guidelines for park standards should be planned, endorsed and implemented.

If the City should annex its urban reserve area, the acquisition and development of additional parks will be necessary. There may be opportunities to partner with residential development projects for providing new parks to be dedicated to the City upon completion. The establishment of park design and development

standards with predetermined requirements for consistency and quality of site amenities would ensure that new parks could readily fit within on-going park operations and maintenance.

All newly developed parks and trails shall adhere to the Final Guidelines for Outdoor Developed Areas as set forth by the United States Access Board.

Design Standards for Parks

Public park space should be clearly identifiable and provide a safe and secure environment for outdoor recreation and enjoyment. To help communicate the identity, amenities and uses within the park, some unified design standards should be applied. These standards are intended to help with public access, communication of safety and appropriate behaviors, and efficiency in operations and maintenance without creating a park system of identical "cloned" urban parks. Standardizing the designs for park signage, benches, picnic tables, drinking fountains, lighting, bollards, irrigation systems and fencing can allow for easier and less expensive procurement, installation, maintenance and replacement. The visual character of unified park amenities can quickly convey to the park visitor that the space is part of an overall system of public spaces where they are welcome.

While sharing standard site furnishings and signage styles helps unify the system identity, each individual park should have its own unique character. The shape and size of the land, the layout of circulation and location of key features, the styles, types and colors of play equipment, the architecture of restrooms, picnic and other park structures should be specific to that park. Even though each park contains some standardized site furnishings, each park site master plan design should strive to create a sense of place that highlights the character of that park in its local context and for its primary purpose (such as passive park with natural area or active sports-oriented facility).

The following tables highlight the range and considerations of various amenities that may be provided within urban parks (community and neighborhood parks) and can provide guidance for negotiating facility development opportunities in situations when private entities propose park development in-lieu of payment or for other, alternative arrangements, such as density bonuses.

Figure G1. Minimum Site Design Considerations for Neighborhood Parks

Amenity	Considerations - where feasible
Playground	▪ Minimum of 4,000 sq.ft. play area ▪ Equipment should be suitable for and developmentally-appropriate for toddlers and elementary school-aged children ▪ Playground should be ADA Accessible and play equipment should be ADA Compliant
Loop Walking Path	▪ Minimum 8' wide ▪ ADA-compliant surface to accessible elements (benches, tables, play area) ▪ Pathway slope not to exceed 5% grade or no more than 8% for more than 30 lineal feet without switchbacks or railings
Picnic Tables	▪ Minimum of 2, Use standard ADA compliant picnic table style
Drinking Fountain	▪ Provide ADA-compliant standard fixture. Install water bottle fill station as appropriate
Benches	▪ Minimum of 2, Use standard ADA compliant bench style
Open Turf Area	▪ Provide at least 15% of total lawn area with irrigation, preferably adjacent to the play area
Trees & Landscaping	▪ Provide shade for portion of playground area ▪ New trees and shrubs should be irrigated for a minimum of 2 years until established
Bicycle Racks	▪ Minimum of 2, with capacity to serve 4 bikes
Trash Receptacles & Dog Waste Disposal Stations	▪ Minimum of 1

For community parks, any or all of the following outdoor recreation features should be considered in addition to the same amenities provided in neighborhood parks.

Figure G2. Minimum Site Design Considerations for Community Parks

Amenity	Considerations - where feasible
Parking	▪ Based on types of amenities and their parking quantity requirements ▪ Include requisite number of handicapped parking stalls at appropriate locations ▪ Consider need for parking provision at multiple access points, where appropriate
Loop Walking Path	▪ Provide a perimeter trail in addition to pathways accessing all major park amenities
Multiple Access Points	▪ Provide connectivity to neighborhoods, nearby trails and public rights-of-way
Restrooms	▪ Provide ADA-compliant standardized design facilities
Picnic Shelter	▪ Provide minimum of 1 group picnic shelter
Sports fields	▪ Type and quantity dependent on available space and current public demand for each sport facility. Also depends on proximity to similar amenities within the city and/or region
Sports courts	▪ Type and quantity dependent on available space and current public demand for each sport facility. Also depends on proximity to similar amenities within the city and/or region
Tree Canopy	▪ Target a 25-45% tree canopy dependent on other park amenities and feasibility
Open Grass Area	▪ Open play area with sun exposure ▪ Minimum target of 1 acre
Natural Areas	▪ Based on existing and restored environmental characteristics
Off-leash Dog Area	▪ Minimum target of 1 acre ▪ Fenced enclosure with double-gate access ▪ Provide doggy waste dispenser and trash receptacle at entrance

Figure G3. Design Considerations for Other Park Amenities

Amenity	Considerations
Picnic Shelter	▪ Minimum of 400 sq.ft.
Sport field	▪ Practice level for youth soccer, T-ball, baseball and/or softball
Sport court	▪ ½ court basketball court
Tennis court	
Alternative recreation court	▪ Such as bocce ball, pickleball, horseshoes, lawn bowling
Skate spot	▪ 600 to 1,200 sq.ft. with small ramps, bowls or features for beginners
Disc golf course	▪ Minimum 9 baskets
Splash pad	
Natural area	
Water feature	▪ Such as a passive water-based amenity that provides a visual focal point, i.e. fountains, ponds, or waterfalls
Restroom	
Utilities	▪ Automatic Irrigation, Electricity, Water
Parking	

Design Standards for Open Space & Natural Areas

Open space and natural areas are primarily intended to conserve places with ecological sensitivity or natural landscape value. Most natural areas have some space where low-impact recreational uses and trails can be accommodated without reducing the environmental integrity of the land or water resource. Since the open space can range from wetlands and riparian corridors to fields and forests, design standards are not applied uniformly across the site. Each natural landscape is treated according to its level of sensitivity, need for conservation/restoration and tolerance for outdoor recreational use. However, where passive recreation opportunities such as trails can be provided, the standardized designs for park benches, picnic tables, signs and other site amenities should be applied.

Design Standards for Special Use Facilities

Consideration should be given in the design and renovation of any special use facility as to how and how much the site and its amenities should be identifiable within the park system through the application of standardized park signage and site furnishings. For example, a future sport field complex could accommodate some of the standardized park benches, picnic tables and signage, but it would also require its own specialized features, such as bleachers, backstops, field lighting, score boards and other equipment, that are unique to the facility. Each master plan design for new facilities should give careful consideration as to how a unique sense of place and identity is conveyed while still communicating that the facility is part of a system of outdoor recreation accommodation provided by the City of Camas.

Design Standards for Trails

A successful trail system is integrated with other transportation alternatives to include a range of trail, sidewalk, bike path and connection opportunities designed to the human scale. The typical recreational trail hierarchy is aligned from regional shared-use trails to local neighborhood paths and park trails. Trail systems can also incorporate specially designated trails for single track mountain biking, primitive hiking and equestrian uses.

Designing the actual physical trail starts with overall purpose of the trail, connecting travelers from one location to another (point A to point B) or through a particular environment (loop trail through a park). With a clear purpose for the trail, an appropriate alignment can then be determined to help provide the desired outdoor recreation experience or transportation value. For example, regional multi-use shared trails should be designed to a minimum width of 12 feet. In expanding urban centers, providing a 16-foot trail width can help accommodate significant bike and pedestrian use as the community grows and linkages to public transit enable increased trail usage. The most heavily used urban trails benefit from the installation of permanent pavement to withstand heavy traffic in a variety of weather conditions.

It should be noted that changes in transportation engineering and trail construction methods may warrant the need to update trail design standards over time. Site furnishings along the trail are one method for standardizing trails as part of the outdoor recreation system provided by Camas. The same benches, picnic tables, bollards and other site furnishings used throughout Camas' park system could be installed along its trails to help unify the sense of place, reduce procurement costs and simplify maintenance.

The unifying standard for Camas' trail system can be visually expressed through a designed wayfinding plan. Linked with the park system wayfinding, the trail signage should provide identification, direction, destination, travel information and safety messaging, while clearly reinforcing Camas' sense of place.

Trails should be constructed according to City specifications. It is recommended that trail layout and surfacing materials be approved by the City and meet the following general requirements:

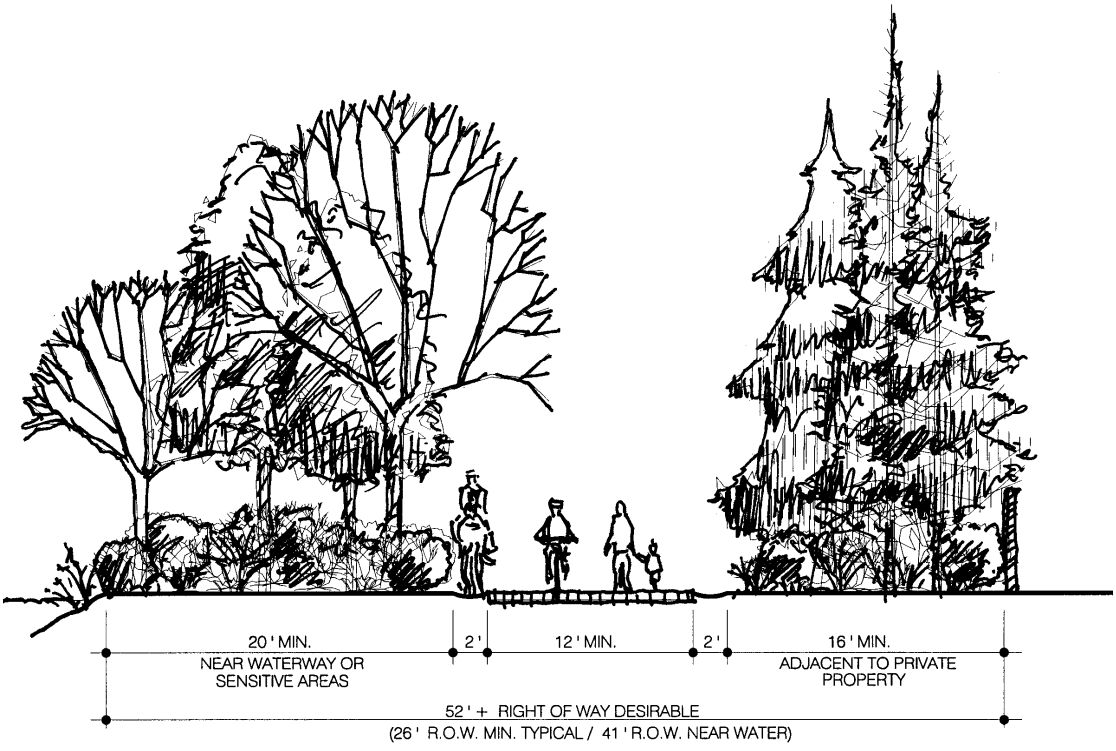
- Surfacing should be appropriate to the location; paved asphalt or concrete is recommended for upland areas, and wood chip, crusher waste or boardwalks are appropriate in lowland, wet or sensitive areas (City codes shall apply)
- Hard-surfaced trails should comply with ADAAG guidelines for slope and cross-slope; soft-surfaced trails should include properly placed and designed water bars or other surface water management techniques to minimize run-off and erosion.
- Entry signage should be provided at trailheads or access points, and boundary signage should be placed, as appropriate, to demarcate sensitive edges or private property boundaries.
- Trash receptacles should be provided at trailheads.

The four classifications of trails include: Regional, Local, Rustic, and Semi-Primitive. A primary distinguishing feature of City-owned trails is that these trails predominantly serve community-wide and regional purposes and receive this level of use. Local and secondary trails generally serve a local scale, at the neighborhood level. Such local and secondary trails will generally be owned and maintained by Homeowners Associations. While Regional and Local trails are designed as multiple use trails, Rustic and Semi-Primitive trails can be designed as single use trails.

Regional Trail

This trail type is designed to accommodate multiple uses (walking, running, bicycling) and connect to adjoining jurisdictions or destinations. The surfacing should be a minimum of 12 feet wide and be constructed of a hard surface material such as asphalt or concrete. Exceptions to surfacing materials may occur to mitigate impacts to critical or sensitive areas. Equestrian use could be permitted if an additional unpaved shoulder area is provided. The right-of-way required for regional trails should be 26 to 52 feet, depending on their location and surroundings. This type of trail is typically located off roadway surfaces and within its own corridor. A diagram of this trail standard is located in Figure G4.

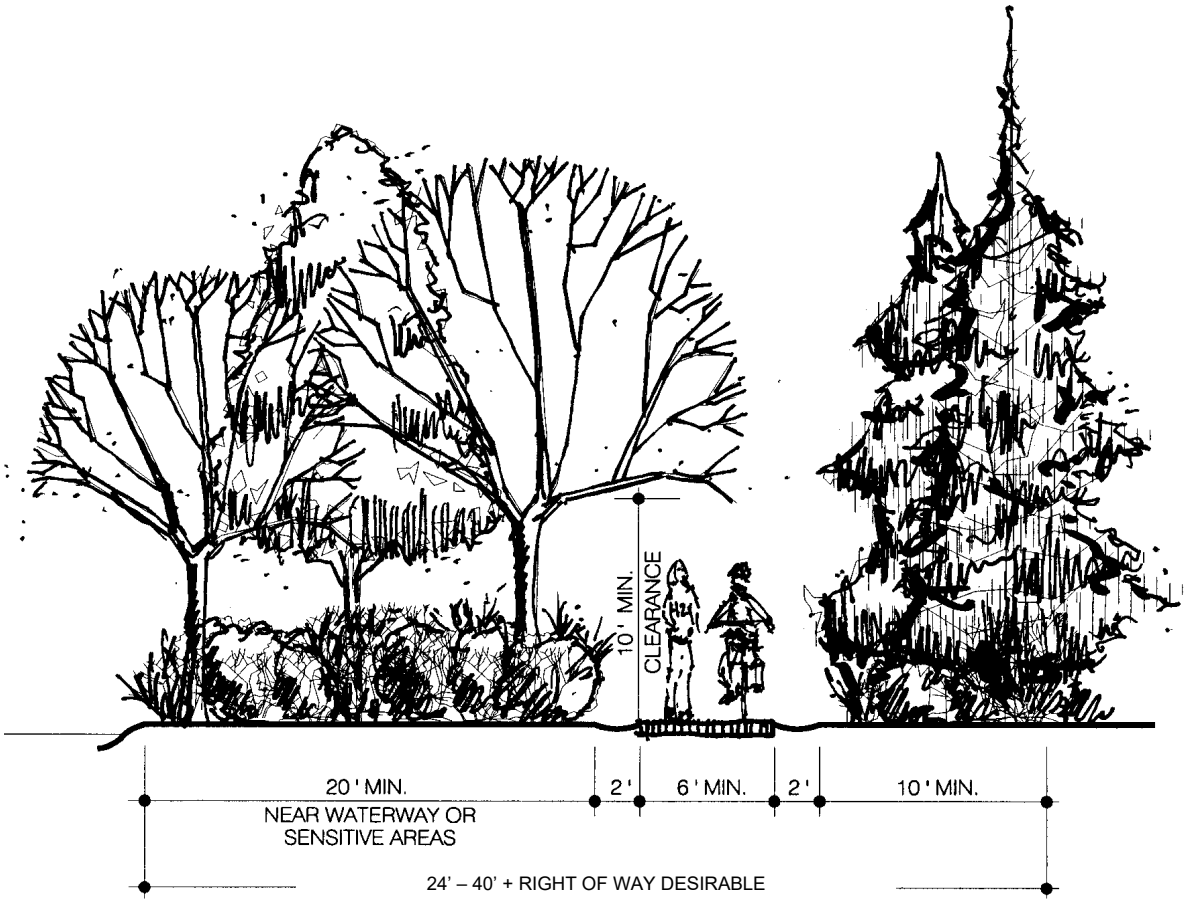
Figure G4. Regional Trail Cross Section



Local Trail

This trail type is designed to serve the local community and also provide access to the regional trail systems. It should be considered the “backbone” of the city’s trail network. The trail width should range from six to ten feet depending on the use and the terrain involved. It can be designed to accommodate the same uses listed for the regional trail. The surface for this type of trail may be paved or crushed aggregate depending on the use. Exceptions to surfacing materials may occur to mitigate impacts to critical or sensitive areas. The right of way for the local trail can range from 24 feet to 40 feet and can also be located on-road or off-road. Figure G5 is a typical configuration of a local trail.

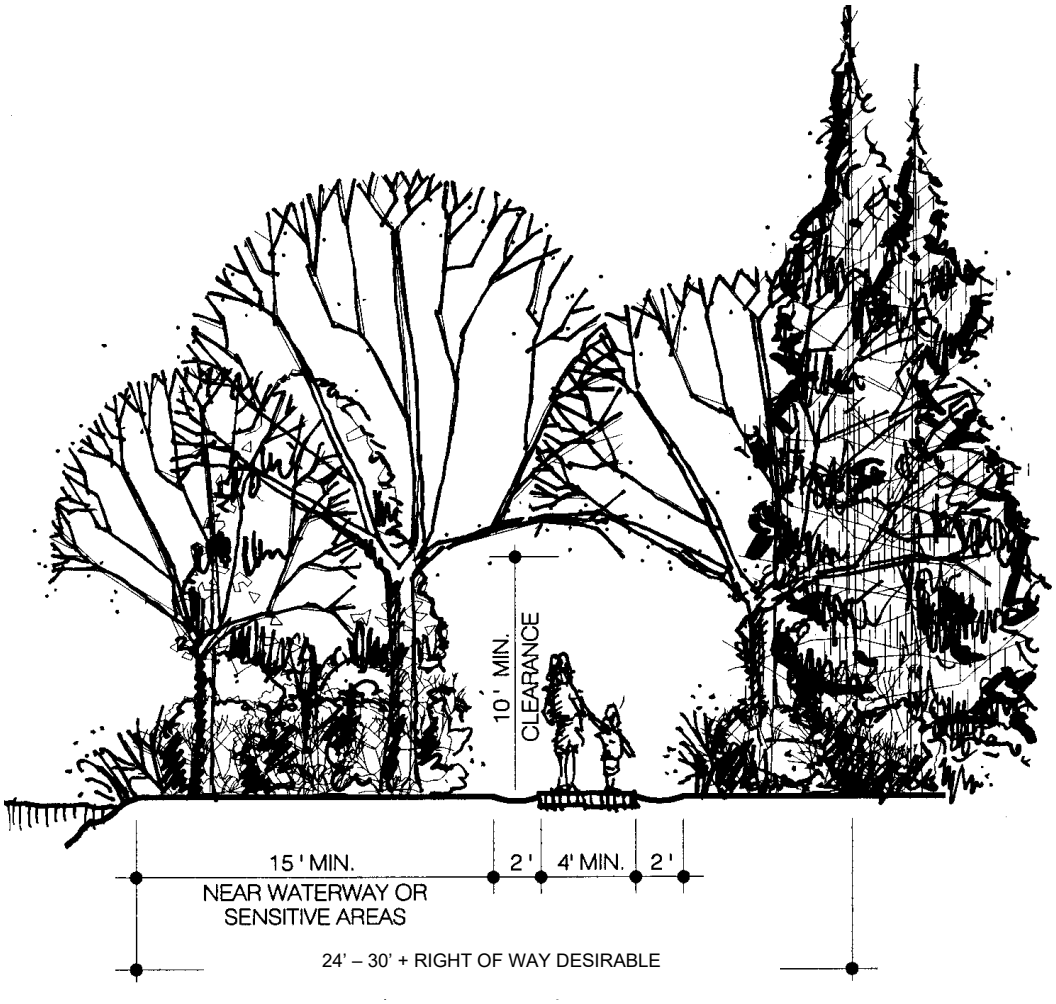
Figure G5. Local Trail Cross Section



Rustic Trail

This trail type provides access to local trails, and is more neighborhood-oriented. These trails will act as collectors for neighborhoods or developments and provide links to the community-wide trail system and other adjoining destinations. The rustic trail should be a minimum of four feet wide and be surfaced with stable accessible surfacing. The primary uses of a rustic trail are intended to be walking, bicycling and equestrian. The right-of-way widths desired for the rustic trail can range from 24 feet to 30 feet or more. These trails are always off-road in nature. Figure G6 details this trail classification.

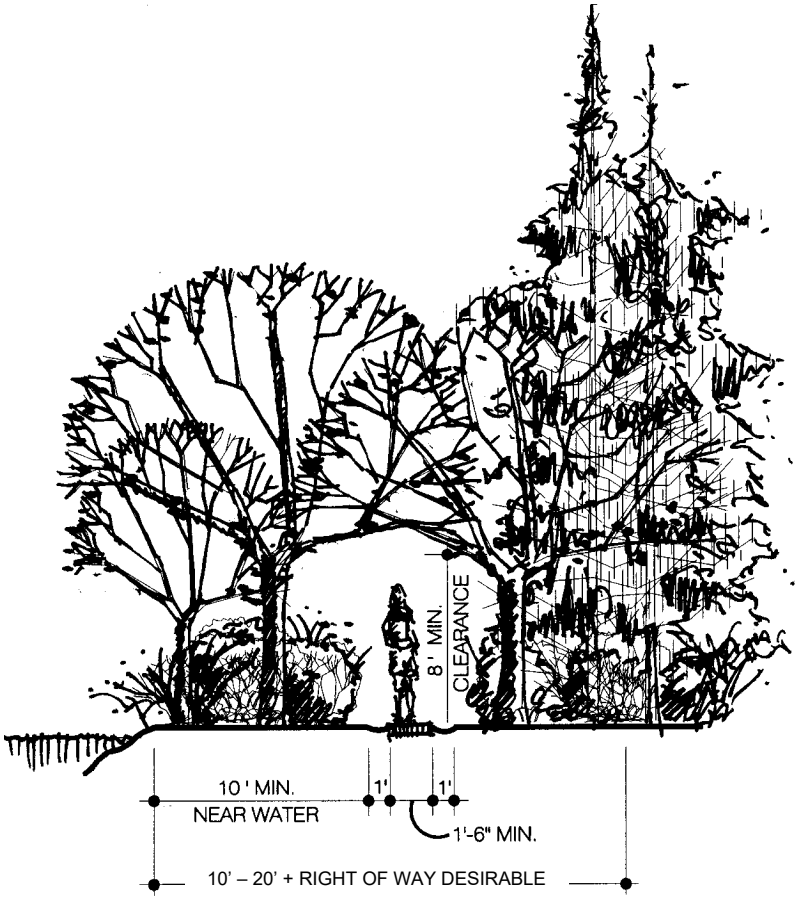
Figure G6. Rustic Trail Cross Section



Semi-Primitive Trail

This trail type is more specialized with regard to use, but it is more easily adaptable to the open space areas. It will serve in the more sensitive open space areas located within the city. It is designed to accommodate walkers, hikers, bicyclists, and equestrian users. It is typically two to four feet in width and is made up of compacted earth or other stable surfacing. The right-of-way width can range from ten to 20 feet. Typically, maintenance of these trails is minimal. Figure G7 below details the standards for this trail.

Figure G7. Semi-Primitive Trail Cross Section



Locating Trails in Sensitive (Critical) Areas

The large number of environmentally sensitive (critical) areas in Camas makes it likely that trails will be developed in some of these areas. The benefits of public access to natural areas (bird watching, nature appreciation, and environmental education) need to be balanced with the impacts of access.

Trails in environmentally sensitive areas will need to be carefully and appropriately located and designed. Exceptions to the trail improvement standards set forth in this Plan may be authorized in sensitive areas consistent with current best practices. This document recommends a thorough review and assessment of existing and proposed trail corridors, and careful placement of trails within sensitive areas to aid in minimizing the impacts. Guidelines for determining the suitability of trail locations in sensitive areas include the following:

1) Provide a minimum 20-foot wide vegetated buffer between wetland, sensitive area or water edge and the trail.
2) Construct boardwalks, railings, see-through fences and viewpoints to allow visual access to the areas and to keep trail users on the trail and away from the habitat.
3) Design wetland crossings for maximum protection of the wetland and locate them in an area suitable for public use.
4) Provide adjacent vegetation at access points that is dense enough to discourage off-trail travel. If necessary, install additional thick or thorny vegetation to prevent access.

5) Cover earthen based trails with dense turf where it crosses floodplains or other areas subject to periodic flooding to reduce puddling and walkers skirting the area.
6) Site trails away from active stream channels to prevent local bank erosion cause by trampling. In streamside locations where access is permitted or encouraged, provide access via boardwalks.
7) Locate bridge crossings in locations that will provide minimum impact to the water's edge and habitat while providing a rewarding experience for the trail user.

Recommended Trail Segments

The recommended trails plan provides a linked system based on a hierarchy of trail types. Linkages are provided at the neighborhood scale, at the community-wide scale, and regionally. The Potential Trails Map (Map 8) provides an overview of the segments, described in detail below. Proposed segments of the trail system are generalized to make connections or follow the direction of natural corridors. Final alignments are subject to change due to environmental conditions, development or alternate routes.

The following trail segment descriptions are excerpted from the 2014 PROS Plan.

Trail T-1

Trail T-1 runs along the west side of Camas, paralleling Parker Road. This trail segment provides a north-south connection and links two regional trails. About half of the alignment has been constructed. This segment passes from Prune Hill Park, to Ash Creek Park, past Sky Ridge Middle School and ending at its junction with T-3.

Trail T-2

Trail T-2 parallels the Columbia River. This regional trail is an extension of the Vancouver-Clark County trail system, and connects to neighboring Washougal's trail system. This trail provides visual access to the Columbia River, and makes an important regional connection.

Trail T-3

Trail T-3 is a regional trail running along the north shore of Lacamas Lake and connecting Lacamas Park, Camp Currie and the County's Green Mountain Trail heading north. Trails T-3 and T-4 make a loop around Lacamas Lake. This trail segment will include bridges or boardwalks across wetlands and water features in some locations. T-3 continues just north of Lacamas Park and then south, crossing T-4 at the Washougal River and continuing on to the Columbia River and trail T-2.

Trail T-4

Trail T-4 is the Heritage Trail, a regional trail running along the south side of Lacamas Lake and connecting Lacamas Park and Camp Currie. It passes through Heritage Park and will link to planned segment T-3, creating a loop around Lacamas Lake. T-4 links through Lacamas Park, continues into the Washougal River Greenway, and includes a bridge across the Washougal River to connect with T-17.

Trail T-5

Trail T-5 provides a loop around Prune Hill, with linkages to parks and neighborhoods. The northern half of the loop connects from Lake Road through the Open Space Network to the proposed Ash Creek Park. The southern half of the loop connects from Klickitat Park, continues through the Open Space Network, and connects Fallen Leaf Park. Camas has been completing pieces of trail T-5 as development has occurred along the alignment.

Trail T-6

Trail T-6 parallels Lake Road, connecting from T-1 to T-21. This segment has been partially constructed.

Trail T-7

Trail T-7 connects from T-5 through Grass Valley Park and parallels NW 38th Avenue toward the west boundary of Camas. The segment of the trail in the vicinity of Grass Valley Park has been constructed.

Trail T-8

Trail T-8 is a north/south connector that connects through the center of the T-5 loop. This trail connects through the Open Space Network and passes Dorothy Fox Elementary School and Dorothy Fox Park. The trail also includes several spur connections to T-9 and T-7 as well as a pedestrian bridge connection to T-9 across Ostensen Canyon.

Trail T-9

Trail T-9 connects from T-3/T-4 past Zellerbach Elementary School and Liberty Middle School (the renovated high school), through downtown, and then passes through the Benton Park and Ostensen Canyon sites. This trail then connects to trail T-8 at a bridge across Ostensen Canyon and at Dorothy Fox Park before turning south to reconnect to T-5.

Trail T-10

Trail T-10 includes a mini network of connections from neighborhoods to Klickitat Park and Prune Hill Sports Park. The trails also link to T-1, T-5 and T-11. This trail is owned and maintained by local Homeowners' Associations, is located largely within the Open Space Network, and is nearly complete.

Trail T-11

Trail T-11 is a loop that connects Klickitat Park to the overlook at SU-9.

Trail T-12

Trail T-12 connects from T-5 at Fallen Leaf Lake to a proposed neighborhood park.

Trail T-13

Trail T-13 is the trail network around Fallen Leaf Lake. This trail connects to Fallen Leaf Park as well as T-4 and T-5. The City has already completed several sections of this trail.

Trail T-14

Trail T-14 connects from T-3 and Lacamas Park to a planned neighborhood park, Lacamas Heights Elementary School, and Camas High School. T-14 also forms a loop with T-3 and T-27.

Trail T-15

Trail T-15 includes the Lacamas Park trail network. This system provides important community connections between T-3 and T-4.

Trail T-16

Trail T-16 provides a linkage from Louis Bloch Park to the Washougal River Greenway.

Trail T-17

Trail T-17 is the Washougal River Greenway trail system on the south river bank. This trail segment passes through the Washougal River Greenway, providing access to the river corridor for Camas, Washougal, and regional residents. This trail segment is joined to T-4 by a pedestrian bridge across the Washougal River to link the Greenway corridor and increase access. T-17 links to Oak Park, Goot Park, and T-2, the Columbia River trail.

Trail T-18

Trail T-18 follows a utility corridor from Washougal and meets up with Trail T-4 in the Washougal River Greenway. T-18 is also a proposed trail in the Washougal Comprehensive Park and Recreation Plan.

Trail T-19

Trail T-19 connects Lacamas Park trails to the north-south trail T-18 and to the Washougal trail system. This trail should be a jointly maintained connection between the two cities.

Trail T-20

Trail T-20 provides a secondary east-west connection between T-1 and T-21 in the northwestern corner of the City.

Trail T-21

Trail T-21 is a north-south connection on the western edge of Camas. It connects from T-4 south to T-1. East-west connections to T-21 are provided by trails T-6, T-7, T-20, T-22 and T-24.

Trail T-22

Trail T-22 includes the Leadbetter Corridor and connects T-6 east/west across T-1 to T-21.

Trail T-23

Trail T-23 connects through the open space network from the intersection of trails T-1 and T-22 to trail T-21.

Trail T-24

Trail T-24 connects trail T-23 with Prune Hill Sports Park and Trail T-1.

Trail T-25

Trail T-25 connects T-5 to Forest Home Park.

Trail T-26

Trail T-26 connects T-5 and T-8 to Grass Valley Park through a portion of the Open Space Network.

Trail T-27

Trail T-27 is the primary trail that will connect uses along the north shore of Lacamas Lake. This route will run parallel to the future realignment of Leadbetter Road and provide a continuous trail from the northern corner of the city towards Lacamas Park to the southeast.

Trail T-28

Similar to Trail T-32, Trail T-28 will link land uses on the north shore of Lacamas Lake. The City should design and construct this segment concurrent with future utility lines and pump stations planned to serve future uses.

Trail T-29

Trail T-29 will provide an alternative trail connection for residents of this future growth area.

Trail T-30

Trail T-30 will provide an alternative trail connection for residents of this future growth area.

Trail T-31

Trail T-31 will connect opposite sides of Camp Currie with a more direct route.

Trail T-32

Similar to Trail T-28, Trail T-32 will link land uses on the north shore of Lacamas Lake. The City should design and construct this segment concurrent with future utility lines and pump stations planned to serve future uses.

Figure G8 summarizes the recommendations for the Camas trail network.

Figure G8. Summary of Trail Recommendations (excerpted from 2014 PROS Plan)

Trail #	Name	Total Miles	Comments	City Maintained
T-1	West Camas Regional Trail	2.1	Completion/ Acquisition/ Development	✓
T-2	Columbia River Regional Trail	6.6	Acquisition/ Joint Development	✓*
T-3	East Camas Regional Trail*	7.9	Clark County Development	✓
T-4	Heritage Trail	1.8	Minor Additions/ Improvements/ Development of Washougal River crossing	✓
T-5	Camas Neighborhood Loop Trail	3.1	Additional Acquisition/ Development	✓
T-6	Lake Road Connector Trail	1.0	Completion/Upgrade to Standard	✓
T-7	West Camas Connector Trail	2.1	Completion/Upgrade to Standard	✓
T-8	Prune Hill Connector Trail	0.9	Completion/Upgrade to Standard	
T-9	Downtown Connector Trail	0.4	Completion/Upgrade to Standard	✓
T-10	Deer Creek Connector Trail	0.2	Completion/Upgrade to Standard	
T-11	View Ridge Connector Trail	0.3	Completion/Upgrade to Standard	✓
T-12	East Hilltop Connector Trail	0.2	Acquisition/ Development	✓
T-13	Fallen Leaf Lake Trails	1.8	Development/ Completion of Acquisition	✓
T-14	Lacamas Heights Connector Trail	1.1	Acquisition/ Development	
T-15	Lacamas Park Trails	3.7	No Changes	
T-16	Louis Bloch Connector Trail	0.3	Acquisition/ Development	
T-17	South Camas River Loop	3.3	Acquisition/ Development	✓
T-18	Washougal Connection	1.5	No Action	
T-19	Washougal Connection 2	0.6	No Action	✓*
T-20	Northwest Connector	0.8	Acquisition/ Development	
T-21	Westside Route	3.4	Acquisition/ Development	✓
T-22	Leadbetter Corridor	0.3	Acquisition/ Development	✓*
T-23	Natural Trail	2.6	Acquisition/ Development	
T-24	Prune Hill West Trail	0.9	Acquisition/ Development	
T-25	Forest Home Park Connection	0.8	Acquisition/ Development	
T-26	Grass Valley Link	0.9	No Changes	
T-27	North Camas 1	4.7	Acquisition/ Development	✓
T-28	North Camas 2	1.1	Acquisition/ Development	✓
T-29	Green Mountain 1	2.8	Acquisition/ Development	
T-30	Green Mountain 2	0.3	Acquisition/ Development	
T-31	Camp Currie Connection	0.3	Acquisition/ Development	✓
T-32	North Camas 3	0.8	Acquisition/ Development	✓
	TOTAL	58.6	Total City/Joint Maintained Trails	40.0 miles

*Jointly maintained

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

The inventory assessment highlighted an opportunity to consider incorporating crime prevention through environmental design (CPTED) principles to enhance park and trail safety and facilitate the monitoring of park uses and behaviors. CPTED applies four principles that are used to deter criminal behavior in outdoor environments:

- Natural surveillance
- Natural access control
- Territorial reinforcement
- Maintenance

CPTED natural surveillance ("see and be seen") asserts that sight lines for better visibility can deter undesirable behavior and increase the perceptions of safety and comfort by park patrons. Lowering understory vegetation or raising lower tree branches through intentional vegetation management can provide more clear lines of sight in and around trails and other areas of use. Providing clear visibility and reducing blind corners can also improve safety by limiting conflicts between different users (e.g. runners, cyclists, dog walkers), where unanticipated encounters may result in crashes or entanglements.

Natural access control in park design is often very subtle. Controlling where vehicles enter and exit park facilities through designed barriers, bollards, boulders, and post and cable fencing can protect park users and minimize park property damage from misguided vehicular traffic. Walkways, lighting, fencing and landscaping provide explicit direction for park users. The flow of users through a park will help decrease the opportunity for crime and improve clarity for the intended park behaviors.

Territorial reinforcement comes through clear demarcation of boundaries. For public parks, those boundaries between public and private lands, safe and unsafe areas, and special use, limited access or reserved sites can be delineated with the appropriate placement of fencing, signs, landscaping or other physical or visual design techniques.

Finally, clearly visible, high-quality maintenance is an important element of CPTED, as well as general public safety. CPTED recognizes the "broken window" theory where neglected and poorly maintained amenities are more attractive targets for vandalism or other criminal activity. Deferred maintenance can also result in park amenities that put users at risk. Broken pavement, worn decking, uneven playing fields and missing play safety surfacing can create injuries. Overall attention to CPTED principles can help ensure safer public park environments.



2022 PROS Plan

CITY OF CAMAS, WA

616 NE 4th Ave,
Camas, WA 98607
www.cityofcamas.us

Parks and Open Space Management Plan
City of Camas

Acknowledgements

Camas City Council

Marilyn Boerke
Bonnie Carter
Tim Hein
Steve Hogan, Mayor
Leslie Lewallen
John Nohr
Jennifer Senescu
John Svilarich

City of Camas Staff

Trang Lam, Parks and Recreation
Nick MacQuarrie, Public Works
Brian Monnin, Public Works
Will Noonan, Public Works
Ken Pearrow, Information Technology
Alan Peters, Community Development
Bryan Rachal, Communications
Steve Wall, Public Works

Parks and Recreation Commission

Alicia Brazington
Ellen Burton
Katy Daane
David Dewey
Bud Henson
Jason Irving
Jenny Wu

GreenWorks, P.C.

Paul Agrimis
Celia Hensey
Anya Moucha
Matt Piccone

ECO Northwest

Mary Chase
Bonnie Gee Yosick

PlanIT Geo

Russell Clark
Andy Evans
Morgan Garner
Alex Hancock
Jack Myrna
Chris Peiffer
TJ Wood

Washington Department of Natural Resources

Daria Gosztyla
Zeima Kassahun
Emily Roberts

Clark County

David Stipe

This project was a collaboration between the City of Camas staff and commissioners, the consulting team, the Camas community, and other Washington agencies. It was built upon previous plans and engagement processes in order to move community values and goals into implementation. A big thank you to everyone who contributed and gave the support needed to carry the work forward.

Table of Contents

Project Introduction 4

Executive Summary 5
Goals of this effort 6
From challenges to opportunities 7
We all have a role to play 8
Setting the Stage: PROS Plan 9
Alignment with existing practices and guidelines 10
Key Concepts 11
Project Schedule 12

Valuing Nature 13

The Role of Natural Areas to Meet Our Needs 14
National and Research Trends 15
Ecosystem Services: Tree Canopy 16

Tree Canopy Assessment 17

Existing Urban Tree Canopy 18
Existing Critical Areas 22
Change: 2011-2021 23
Possible Planting Areas 26
Demographic Priority Areas 30
Tree Vulnerability Assessment 31
Tree Inventory: Overview 32

Value and Resource Use 33

Operations Review: Overview 34
Operations Review: Comparisons 35
Operations Review: SWOT 36
Annual Maintenance Staff Hours: 2023 37
Annual Contract Employees: 2020-2023 38
Annual Irrigation Water Use: 2021-2023 39

Resource Prioritization 40

Recommendations 41
Building a prioritization tool 42
Project Approach Matrix: Overview 43
Community Values 44
Financial and Resource Allocation 45
Outreach and Education 46
Natural Character 47
Equitable Access 48
Asset Protection + Public Safety 49
Project Approach Summary Matrix 50
Land Types and Minimal Expectations 51

Recommendations 51

A Systems Approach 52
Best Practice Recommendations 53
Water 54
Operations 58
Materials and equipment 62
Access and amenities 66
Soil 70
Vegetation and habitat 74
Tree Canopy 78
Monitoring & Performance Metric Recommendations 82

Planning Recommendations 83

Planning Recommendation Path 84
Tree Density Requirements 85
Planning Recommendations 86
Tree Ordinance 87
Plant Materials 88
Development Code 89
Comprehensive Plan

Community Outreach 90

Public Participation & Education Strategy 91
Community Open House - April 9, 2024 92
Open House Agenda 93
Community Feedback 94
Open House Feedback Summary 95
Community Feedback: Performance Requirements 98
Community Feedback: Systems

References and Resources 105

Appendices

Camas Tree Canopy Vulnerability Report
Tree Canopy Assessment Report
Current Practices and Allocated Resources Assessment

Project Introduction: 2024 Parks and Open Space Management Plan



POSMP Goal:

Optimize the management of our resources through data-driven decision making and operational efficiencies and effectiveness.

POSMP Objective:

The City of Camas aims to create a framework to help prioritize efforts in a way that **aligns with community, city, and funding resource goals and shared values**. Effectiveness in our own operations will allow for a focus on BMPs in order to set an example, provide clear guidance, and collaborate more with the community.

Executive Summary

The Camas Parks & Open Space Management Plan (POSMP) responds to the community's feedback in Camas' long-range Parks, Recreation and Open Space Plan by outlining a strategic vision for the thoughtful management of parks and open spaces within the City of Camas, ensuring that they continue to serve as resources for all users. Camas recognizes the vital role that parks and open spaces play in fostering community well-being, recreation and environmental sustainability. Camas' parks, open space, greenways and waterways are a critical component of the City's green infrastructure and play critical roles in supporting healthy, well-functioning ecosystems.

Scope of the POSMP

The POSMP took a multi-prong approach to understanding existing conditions and practices in order to provide data-based recommendations on how to align with the goals of the project and values of the community. Key aspects of this effort included:

- City-wide urban tree canopy analysis
- Sample public land tree inventory
- Operations, organizational, and financial assessment
- Project prioritization approach to align with community values
- Best practices and recommendations
- Planning recommendations

The project also engaged with the public through the Parks & Recreation Commission meetings, a public open house, online survey, and tree inventory training.

Key Takeaways

- Nature is a valuable, critical infrastructure that serves the community in many ways
- Management of Camas' Parks and Open Spaces should utilize a systems-based approach in order to optimize ecosystem performance long-term
- Retaining canopy and character will have to be a public:private partnership with alignment on goals and expectations

The 5 Camas Community Values

Equitable access

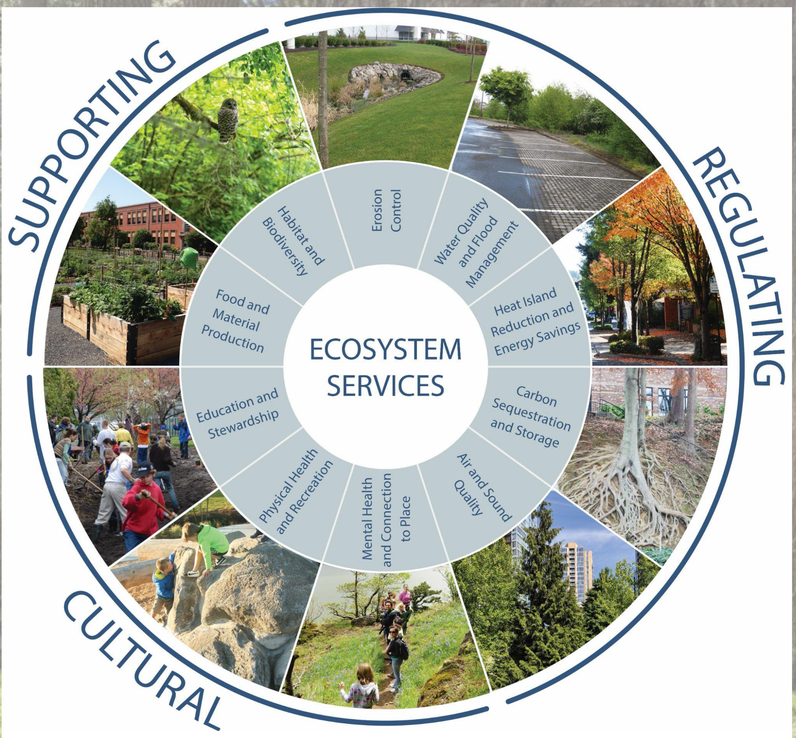
Asset protection and public safety

Preserve and enhance natural features

Outreach and education

Financial and resource allocation

Collectively increase the resilience of parks, open spaces and natural ecosystems in Camas



Best practice and planning recommendations took into account the multiple values that natural systems can provide the community.

Goals of this effort

We recognize the intrinsic value of our **parks and open spaces as essential assets** that contribute to the City's character and residents' quality of life. Through this Parks and Open Space Management Plan, we can increase the resilience of open spaces that will enrich the lives of current and future generations in Camas.

Enhance external communication and collaboration

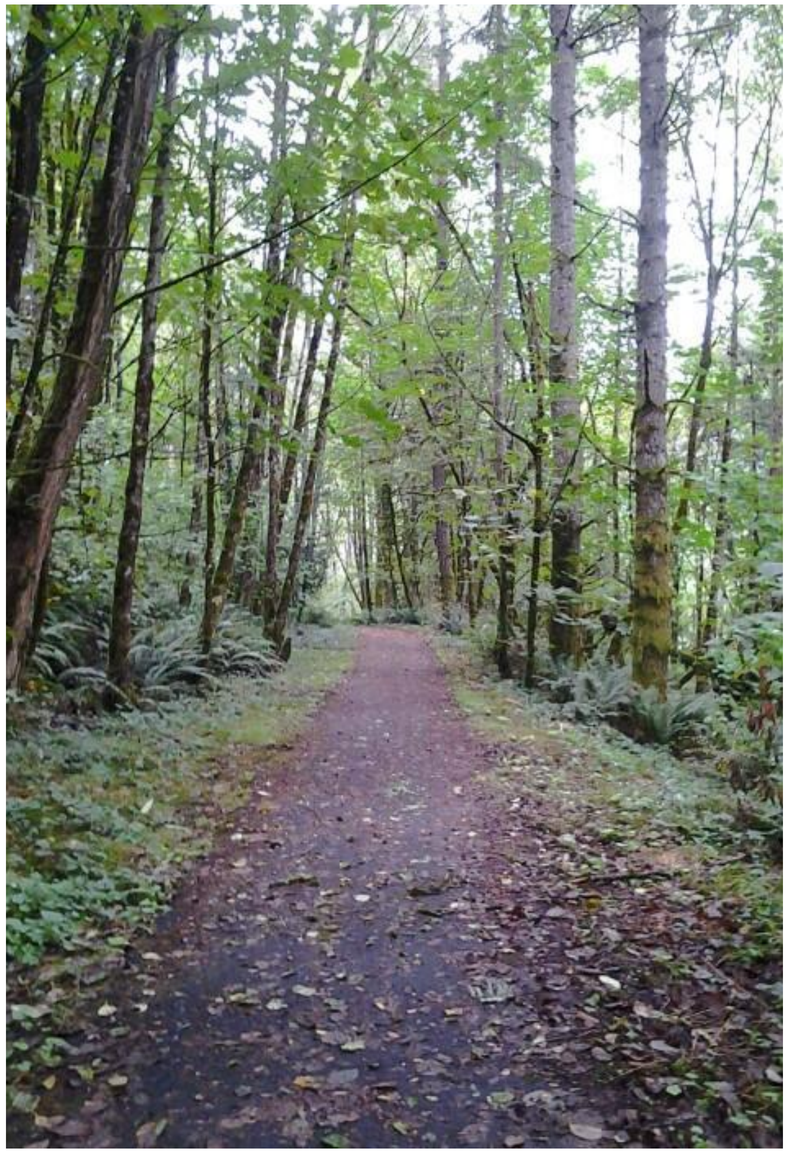
- Raise public awareness
- Encourage and support use of best management practices
- Make a Call to Action

Improve internal decision making

- Develop a clear inventory of existing conditions and best management practices
- Encourage and support use of best management practices
- Prioritize resource use with a science/ data-backed tool
- Identify opportunities for more investment

Collectively increase the resilience of parks, open spaces, and natural ecosystems

From challenges to opportunities



What challenges are we facing?

Tree canopy and open space service gaps

Without clear guidance and best management practices, coordinated management of open spaces is difficult. Gaps remain in the city that could serve the needs of those who need it most.

Climate change and extreme weather

Climate change and extreme weather events pose threats to ecosystem health and asset preservation. Longer term hazards and stressors not only impact the health of vegetation and habitats, but likely add risk to adjacent buildings and infrastructure.

Lack of data

There is a need for more comprehensive data on inventory, resources and best practices to help inform decision making on prioritizing work scope, resource allocation and funding.

Unclear guidance for private landowners

Lack of clarity around different planning documents and ordinances and the role and impact on private land owners. Limited resources limit the ability of consistent maintenance between public and private lands.

Lack of resources

Most resources are spent being reactive to ongoing safety issues and performing routine maintenance and upkeep across public lands. Proactive prioritization is needed in order to work toward the desired performance and use of parks and open space.

Community Values

Equitable access

Ensure that all community members have access to Camas' parks and natural resources and the benefits they provide.

Asset protection and public safety

Protect ecosystems, human health, safety and public and private assets through the management of natural systems to limit the effects of extreme weather, climate change and other potential impacts .

Preserve and enhance natural features

Maintain the existing natural character of Camas in ways that bolster community identity.

Outreach and education

Provide opportunities for learning to gain efficiencies, institute best practices and engage the community.

Financial and resource allocation

Optimize value and resource use in order to best balance the long-term performance goals with immediate needs for parks and public open space.

We all have a role to play

How can I help my community?

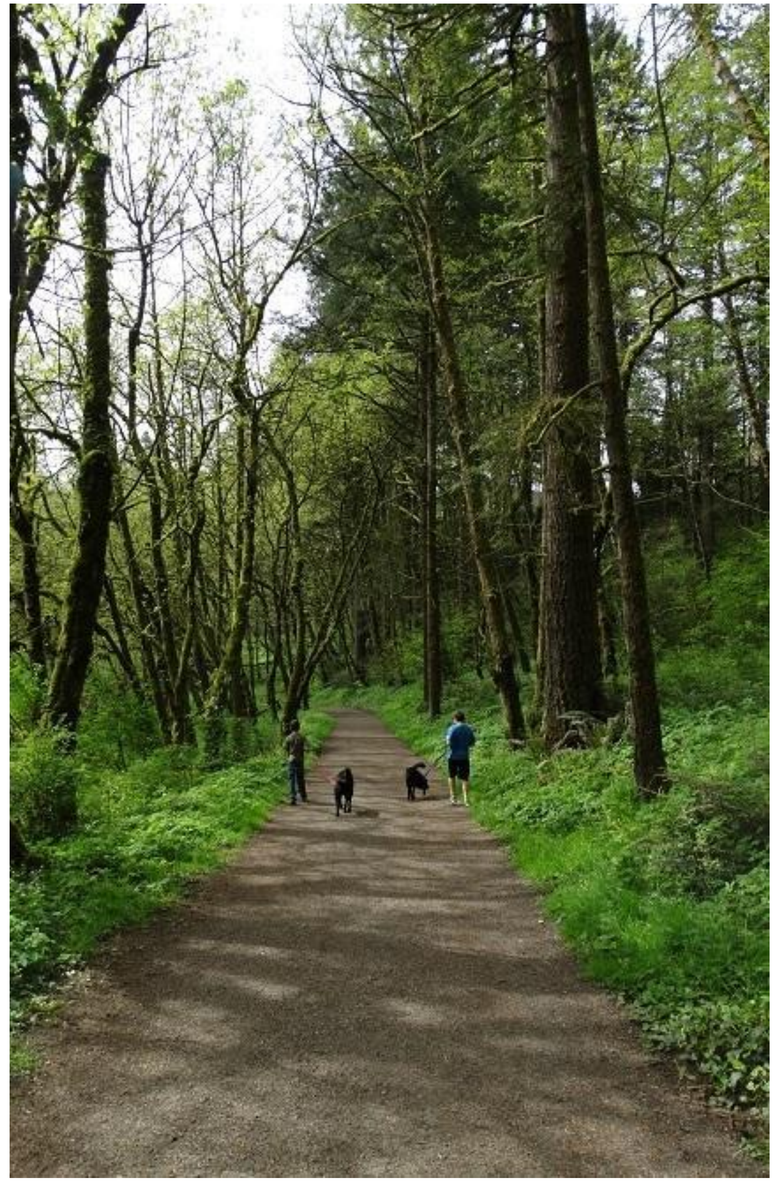
- Follow guidelines of Parks and Open Space Management Plan and other city codes and ordinances.
- Support trees and other natural systems on your properties and within your HOA.
- Volunteer your time and effort towards management of parks and open spaces through initiatives such as community tree inventory events.

How can the City of Camas help me?

- Provide clear incentives and guidelines for managing private open spaces.
- Lead by example through public land management efforts.

How can I help the City of Camas?

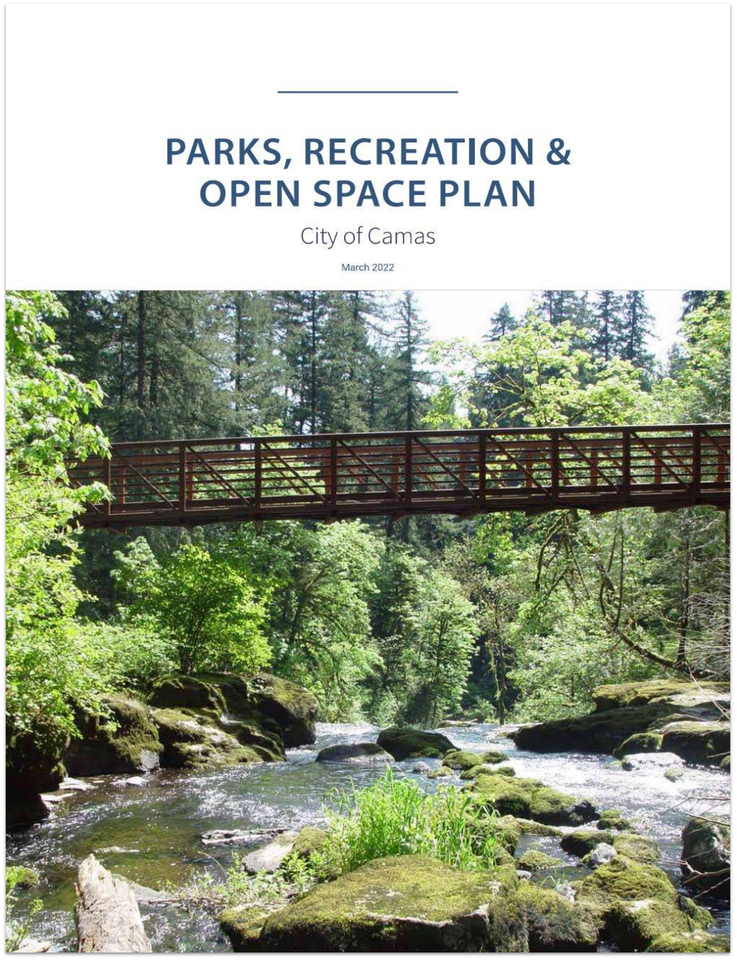
- Contribute feedback to shape resource priorities and next steps of the POSMP.
- Participate in the Comprehensive Plan update process



Setting the stage: Parks, Recreation & Open Space (PROS) Plan

Open space and stewardship

Camas' open space, greenways and waterways are a **critical component of the City's green infrastructure** and play critical roles in supporting healthy, well-functioning ecosystems.



This Parks and Open Space Management Plan responds to the community's feedback in the **2022 PROS Plan** to:

1) **Maintain what we have**
2) **Fill gaps and improve trail connections**
3) **Develop and improve existing parks**

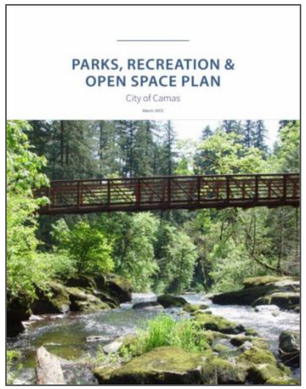
PROS Plan action

New plans should reflect the **realities of limited program funding** and the challenges presented by **climate change** to include the following considerations:

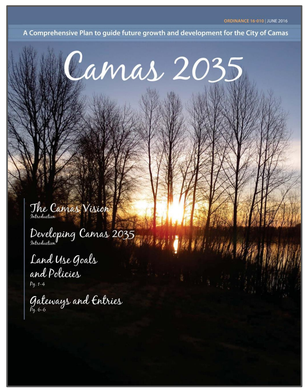
1. **Maintain the functional benefits** of open space vegetation.
2. Foster **resilient plant communities** that can recover from disturbances and adapt to climate change and its impacts, such as forest fires.
3. Implement work **based on the value** of these functional benefits, the community's priorities for the open space properties and the condition of the vegetation found there.
4. **Maximize the return** on available funding through volunteers, matching grants, and donations.

How does this plan align with existing practices and guidelines?

As part of the information gathering process, the team reviewed existing planning documents to understand the goals, challenges, and community feedback on how parks and open spaces are currently managed. They used this process to identify opportunities for improvements going forward to align better with city-wide goals.



2022 PROS Plan



2016 Comprehensive Plan



ORDINANCE NO. 18-014

AN ORDINANCE amending certain provisions of the Camas Municipal Code, repealing Chapter 18.31, and adding a new Chapter 3.54, relating to the Camas Urban Tree Program.

The Council of the City of Camas do ordain as follows:

Section I

A new Chapter 3.54 of the Camas Municipal Code, entitled City Tree Fund is hereby adopted as follows:

3.54.010 City Tree Fund

A. There is created a city tree fund into which all penalties and revenues received for tree protection under Chapters 12.04 Sidewalk and Street Tree Maintenance: 16.51 General Provisions for Critical Areas; and Chapter 18.13 Landscaping shall be placed. In addition, the following sources of funds may be placed in the city's tree fund:

1. Donations and gifts;
2. Donations and grants for the purposes of the fund;
3. Sale of trees or wood from city property where the proceeds from such sale have not been dedicated to another purpose;
4. Fines and penalties imposed under Chapters 12.04, 16.51 and 18.13, or settlements in lieu of penalties.

B. The city shall use the city tree fund for the following purposes:

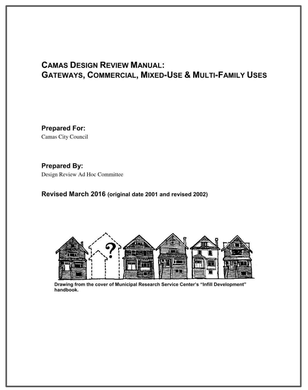
1. Acquiring, maintaining, and preserving areas of healthy soil and native vegetation within the city;
2. Planting and maintaining trees within the city to compensate for loss of canopy coverage;
3. Support community urban forestry education;
4. Support the management of urban forest areas to include eradicating aggressive non-native vegetation species;
5. Other purposes relating to trees as determined by city council.

3.54.020 Tree Removal Fine Table

A.

Tree Removal Infractions (measured as diameter at breast height "dbh")				
2" to 6"	$250	25" – 30"	$750	
7" to 12"	$375	25" – 36"	$875	
13" – 18"	$500	Greater than 37"	$1,000	
19" – 24"	$625			

Tree Ordinance 18-014



CAMAS DESIGN REVIEW MANUAL:
GATEWAYS, COMMERCIAL, MIXED-USE & MULTI-FAMILY USES

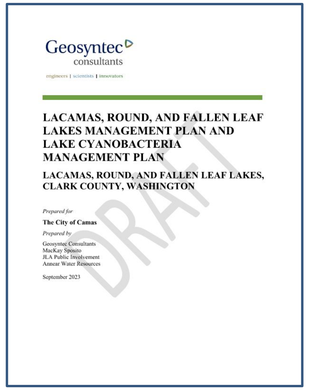
Prepared For:
Camas City Council

Prepared By:
Design Review Ad Hoc Committee

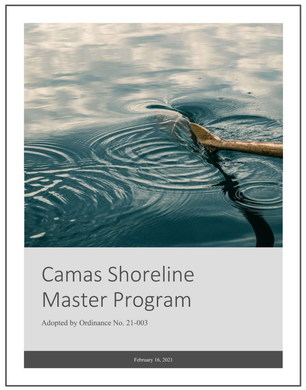
Revised March 2016 (original date 2001 and revised 2002)

Drawing from the cover of Municipal Research Service Center's "Infill Development" handbook.

2016 Design Review Manual



2023 DRAFT Lakes Management Plan



2021 Shoreline Master Program



2023 Street Tree Succession Plan (for Downtown Camas)

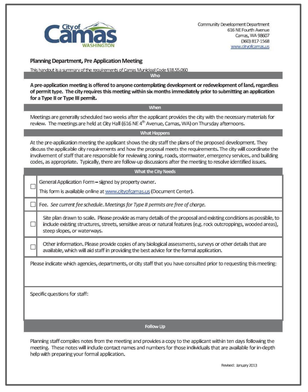


TREES FOR NARROW SPACES
(Plant 15'-25' apart, compatible with mature tree size)
Typical size at time of planting: 2" minimum caliper (B&B or container)

Common Name	Botanical Name	Height	Spread	Min. Planter Width (ft.)	Form	Remarks
Adirondack Crabapple	Malus 'Adirondack'	18	10	4	Columnar	Densely upright in an inverted cone. Medium-green foliage. White flower bright red fruit.
Amanogawa cherry	Prunus serrulata 'Amanogawa'	20	6	4	Columnar	Very narrow and upright structure, pale pink spring flowers.
American smoketree	Cotinus obovatus	30	30	4	Globe	Tolerant of hot and dry sites, bluish-green color, purple flower clusters.
Beauty plum semi-dwarf	Prunus cultivar'Beauty'	15	15	4	Globe	Large fruit early summer, needs regular pruning.
Big cityplum	Prunus x cistena 'Schmidtcis'	14	12	4	Globe	Light pink and very fragrant spring flowers, dark purple foliage
Black hawk mountain ash	Sorbus aucuparia 'Black Hawk'	25	15	4	Columnar	Bright selection for hardiness and resistance to sunscald. Rounded with maturity
Black Hawthorne	Crataegus douglasii	25	20	4	Oval	Native to portland metropolitan region, has thorns
Butterfly Japanese Maple	Acer palmatum 'Butterfly'	12	6	4	Umbrella	Shifty upright in habit. Variegated pink, white, light green foliage with magenta tint in fall.
Callery Pear 'Capital'	Pyrus calleryana 'Capital'	35	12	4	Pyramidal	It is noted for its early profuse spring bloom, quality glossy green foliage and ethnic
Cernuscan Crabapple	Malus 'Cornuton'	20	15	4	Oval	Purple to bronze foliage in summer. Flower is rose red. Bright red fruit.
Chinese Pistache	Pistachio chinensis	25	25	4	Globe	Impressive red-orange fall color, attracts wildlife.
Chokecullo Crabapple	Malus hchinensis	30	15	4	Oval	Dark green foliage turns orange, red and purple in fall. Sparse fruiting. Disease
Cleveland Select Pear (Chanticleer)	Pyrus calleryana 'Chanticleer'	30	20	4	Pyramidal	Glossy green foliage. White flowers. Purplish-red foliage in fall.
columnar goldenchain	Laburnum anagyroides 'Calynarius'	20	10	4	Vase	Dense clusters of bright yellow flowers in spring
Columnar Siberian Crabapple	Malus baccata 'Columnaris'	30	10	4	Columnar	White flower, yellow-red fruit. Good or not in fall, resistant to vertictillium
Cornelian cherry dogwood	Cornus mas	20	20	4	Umbrella	

City of Camas Plant Materials — Page 1 — Latest Revision: May 2019

Camas Plant Materials



Community Development Department
616 NE Fourth Avenue
Camas, WA 98607
(360) 817-1568
www.cityofcamas.us

Planning Department, Pre Application Meeting

This handout is a summary of the requirements of Camas Municipal Code 18.55.060

Who

A pre-application meeting is offered to anyone contemplating development or redevelopment of land, regardless of permit type. The city requires this meeting within six months immediately prior to submitting an application for a Type II or Type III permit.

When

Meetings are generally scheduled two weeks after the applicant provides the city with the necessary materials for review. The meetings are held at City Hall (616 NE 4th Avenue, Camas, WA) on Thursday afternoons.

What Happens

At the pre-application meeting the applicant shows the city staff the plans of the proposed development. They discuss the plans, and the applicant receives feedback on issues that may arise later in the process. This may involve the involvement of staff that are responsible for reviewing zoning, roads, stormwater, emergency services, and building codes, as appropriate. Typically, there are follow-up discussions after the meeting to resolve identified issues.

What the City Needs

- ☐ General Application Form—signed by property owners.
  This form is available online at www.cityofcamas.us (Document Center).
- ☐ Fee. *See current fee schedule. Meetings for Type II permits are free of charge.*
- ☐ Site plan drawn to scale. Please provide as many details of the proposal and existing conditions as possible, to include existing structures, streets, sensitive areas or natural features (e.g. rock outcroppings, wooded areas), steep slopes, or waterways.
- ☐ Other information. Please provide copies of any biological assessments, surveys or other details that are available, which will aid staff in providing the best advice for the formal application.

Please indicate which agencies, departments, or city staff that you have consulted prior to requesting this meeting:

Specific questions for staff:

Follow Up

Planning staff compiles notes from the meeting and provides a copy to the applicant within ten days following the meeting. These notes will include contact names and numbers for those individuals that are available for in-depth help with preparing your formal application.

Revised: January 2013

Camas Development Code

2016 Design Review Manual

2023 DRAFT Lakes Management Plan

….and many more

Key Concepts

Active Recreation
Activities that require physical exertion and typical require specialty facilities or equipment.

Ecosystem services
The benefits that ecosystems provide to humans. This can include things like clean air and water, temperature regulation, and recreational opportunities.

Maintenance
Maintenance responds to immediate issues and addresses day-to-day conditions through routine tasks and activities.

Management
Management addresses long-term goals through strategic planning, decision-making, and resource allocation.

Nature-based solutions / Green Infrastructure
Approaches that use natural processes and ecosystems to address challenges or provide functions to humans.

Naturescaping
Naturescaping involves designing landscapes using native plants and natural elements to create habitats that support local wildlife and conserve resources.

Passive Recreation
Outside activities that utilize the natural environment for exercise, relaxation, or entertainment.

Quantitative vs qualitative metrics
Qualitative metrics describe qualities or characteristics, while quantitative metrics measure quantities or amounts. Both can be valid ways to understand value.

Resilient
The ability to withstand or bounce back from a variety of shocks and stresses.

Stewardship
Restoring and guiding natural processes and systems to enable them to regenerate and function mostly on their own.

Succession planning
Managing the growth and replacement of species to maintain a healthy ecosystem over time. Includes using a diversity of species and ages to provide variety.

Vulnerability
A vulnerable system is prone to adverse impacts from stressors such as climate change, human activity, or natural disasters.

Project Schedule

	2023				2024							
	September	October	November	December	January	February	March	April	May	June	July	August
City & Community Engagement												
Kickoff Meeting	●											
Interview Parks and Operations Staff		●										
Conduct Open House								●				
Conduct Community Survey								■				
Earth Day Tree Inventory								●				
Parks and Rec Commission Presentation						●			●			
Submit Draft Plan to DNR										●		
Present Draft Plan at Parks & Rec Commission											●	
City Council Adoption												●
Gather Information												
Information Gathering and Mapping	■	■	■	■	■	■						
Assessments												
Financial Analysis, Operations Assessment, Management Practices					■	■	■	■	■			
Assess Strengths and Opportunities						■	■	■	■			
Recommendations for Improvements							■	■	■	■		
Plan Development												
Synthesize info into POSMP report							■	■	■	■	■	

Valuing Nature

This plan recognizes the value and multiple ways that natural systems contribute to the Camas community and underlines the importance for providing effective management practices to preserve and enhances those functions. It will look to identify and incorporate nature's value in prioritization, resource allocation, and ongoing management practices.

The Role of Natural Areas to Meet Our Needs

Parks and Open Spaces are critical infrastructure that provide a variety of benefits to our communities



Parks & Open Space contribute to human physical and mental health, economic wellbeing, climate mitigation and asset protection. Sometimes referred to as “Green Infrastructure” or “Nature-based solutions,” natural systems integrated into the built environment provide a variety of valuable services that make them a crucial part of the places we live, work, and play.

Mental Health and Connection to Place: Contributes to cognitive restoration, emotional connections and a sense of identity.

Physical Health and Recreation: Provides a venue for individual or group activities and exercise. Can contribute to safety and security.

Education and Stewardship: Provides learning opportunities, ways to contribute and a sense of community.

Food and Material Production: Plays host to a variety edible plants and berries, as well as raw materials that contribute to the economy.

Habitat and Biodiversity: Is home to or can support native or migratory fauna.

Erosion Control: Prevents degradation of soils and sedimentation.

Water Quality and Flood Management: Filters sediment, nutrients, and pollution and controls water temperature. Absorbs water during rain or snow events.

Heat Island Reduction and Energy Savings: Provides shade to surfaces and structures to reduce air and surface temperature and reduce glare.

Carbon Sequestration and Storage: Absorbs carbon dioxide and stores it in vegetation and soil.

Air and Sound Quality: Captures gases and particulates to reduce them in the environment. Provide buffers to block or absorb noises and contribute to positive soundscapes.

NATURE AS A VALUABLE ASSET

National and Research Trends

The benefits of nature are being quantified across multiple sectors and entities

National trends around ecosystem service valuations have been undertaken by FEMA, NOAA, EPA, USFS, and a variety of public and private research institutions.

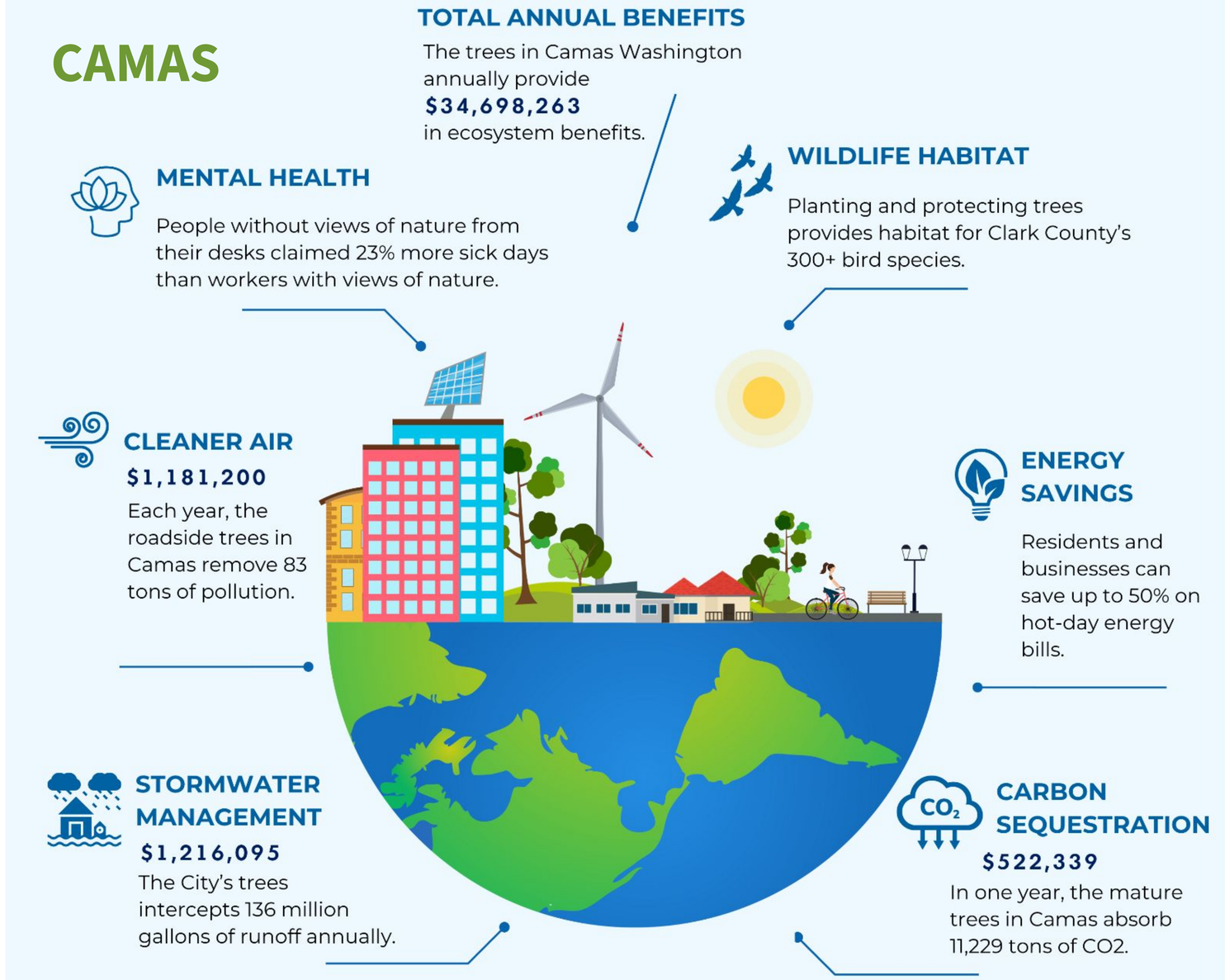
2022 Proposed Values	
Land Cover Category	Value (2021 USD/acre/year)
Forest	12,589
Urban Green Open Space	15,541
Rural Green Open Space	10,632
Riparian	37,199
Coastal Wetland	8,955
Inland Wetland	8,171

Source: FEMA Ecosystem Service Value Updates, June 2022

"Park access was associated with ***better mental health among children and parents***, and more parent physical activity and ***parent–child co-participation in outdoor activity during the COVID-19 pandemic***. Access to nearby parks may be an important resource to promote health and well-being, for both individuals and families."

Hazlehurst, M.F., Muqueeth, S., Wolf, K.L. *et al.* Park access and mental health among parents and children during the COVID-19 pandemic. *BMC Public Health* 22, 800 (2022). https://doi.org/10.1186/s12889-022-13148-2

Mental, physical, and social health benefits of being in or having access to nature has been studied in hundreds of research papers.



Eco. Benefit	Description	Camas Citywide*	Urban Tract	Rural Tract	Units
Air Quality	Particulates intercepted	$347.53	$347.57	$17.85	$/year/acre
CO		$0.60	$0.60	$0.01	$/year/acre
NO2		$1.40	$1.40	$0.07	$/year/acre
O3		$39.71	$39.72	$1.87	$/year/acre
PM10		$31.16	$31.16	$0.74	$/year/acre
PM2.5		$274.50	$274.53	$15.15	$/year/acre
SO2		$0.15	$0.15	$0.01	$/year/acre
StormWater	Avoided runoff	$357.79	$357.83	$30.00	$/year/acre
Carbon Sequestration	Accumulated carbon	$153.68	$168.14	$145.75	$/year/acre
Total		**$859.00**	**$873.54**	**$193.60**	**$/year/acre**
Carbon Storage		$9,349.72	$8,166.75	$10,004.32	$/acre

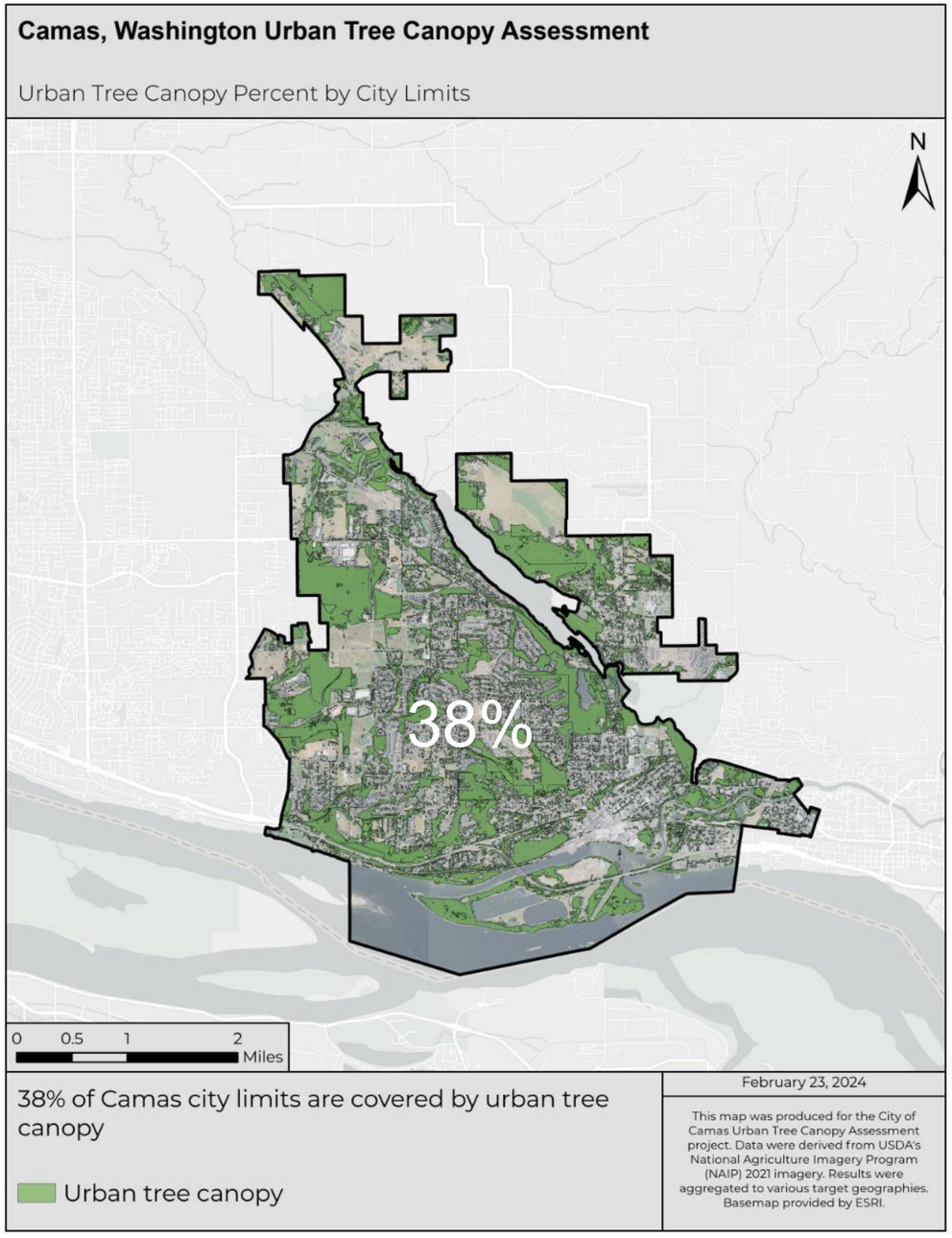
*Metrics are taken from iTree tool database. The tool classified a majority of the Camas area as "urban" which is reflected in the citywide calculations. With a more nuanced evaluation, some of the Camas land area may act as more rural, depending on the land use.

The annual economic benefits of Camas' urban tree canopy were quantified based on a commonly used standard (right). These numbers do NOT include benefits to energy savings, mental and physical health, wildlife, and other ecosystem services. They are for the tree canopy only, and do NOT quantify the benefits provided by other natural features and systems like wetlands, understory vegetation, lawns, and lakes. The quantified benefits are over 10x the annual Camas Parks and Recreation Department budget.

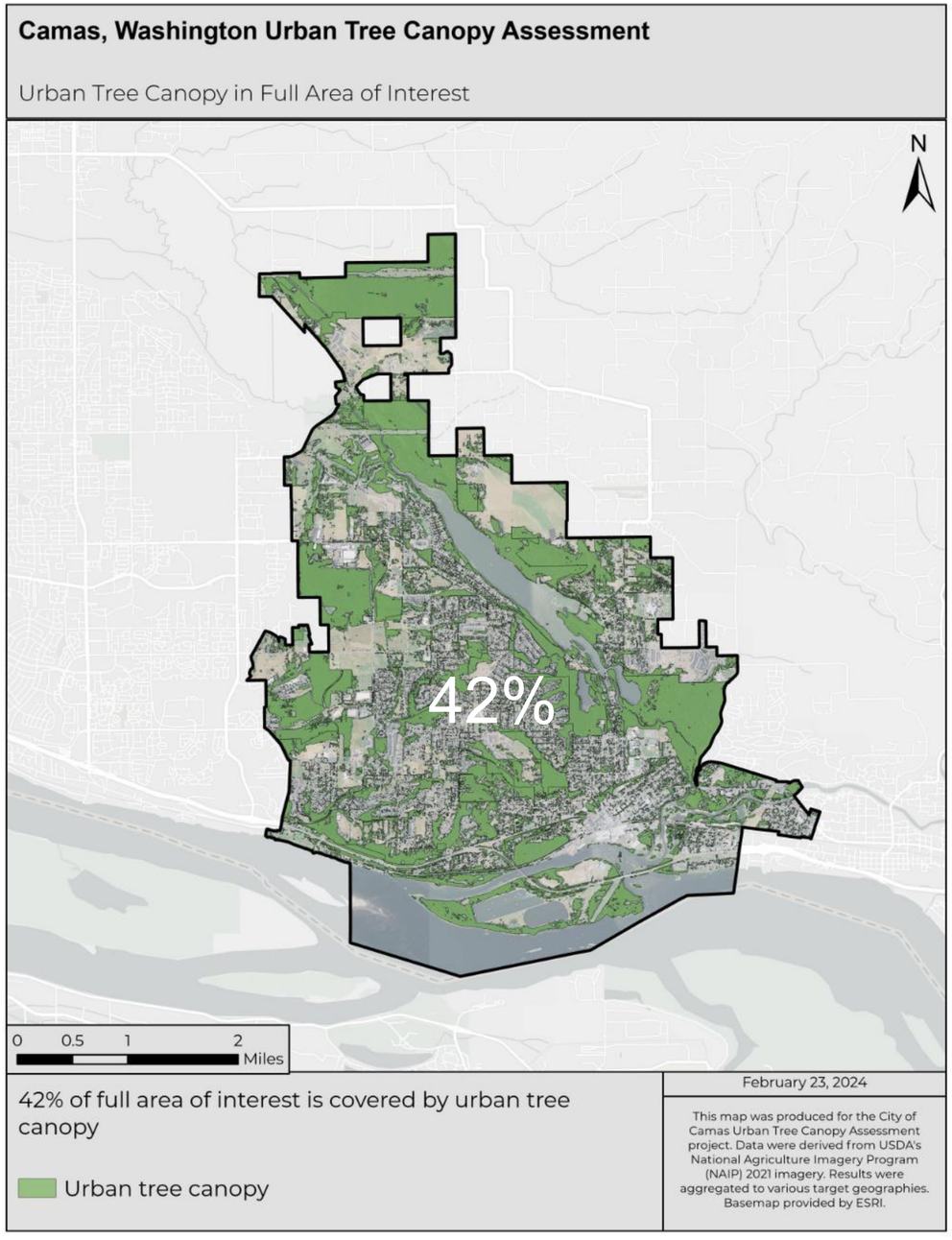
ECOSYSTEM SERVICES: CAMAS TREE CANOPY

Tree Canopy Assessment

As part of the POSMP, the team analyzed the existing conditions of the city-wide tree canopy as a whole, as well as inventoried a group of individual trees. These assessments establish a data-backed baseline to measure future conditions in order to track progress against goals. They looked at current conditions, change over the last decade, and potential for canopy enhancements.



CITY LIMITS

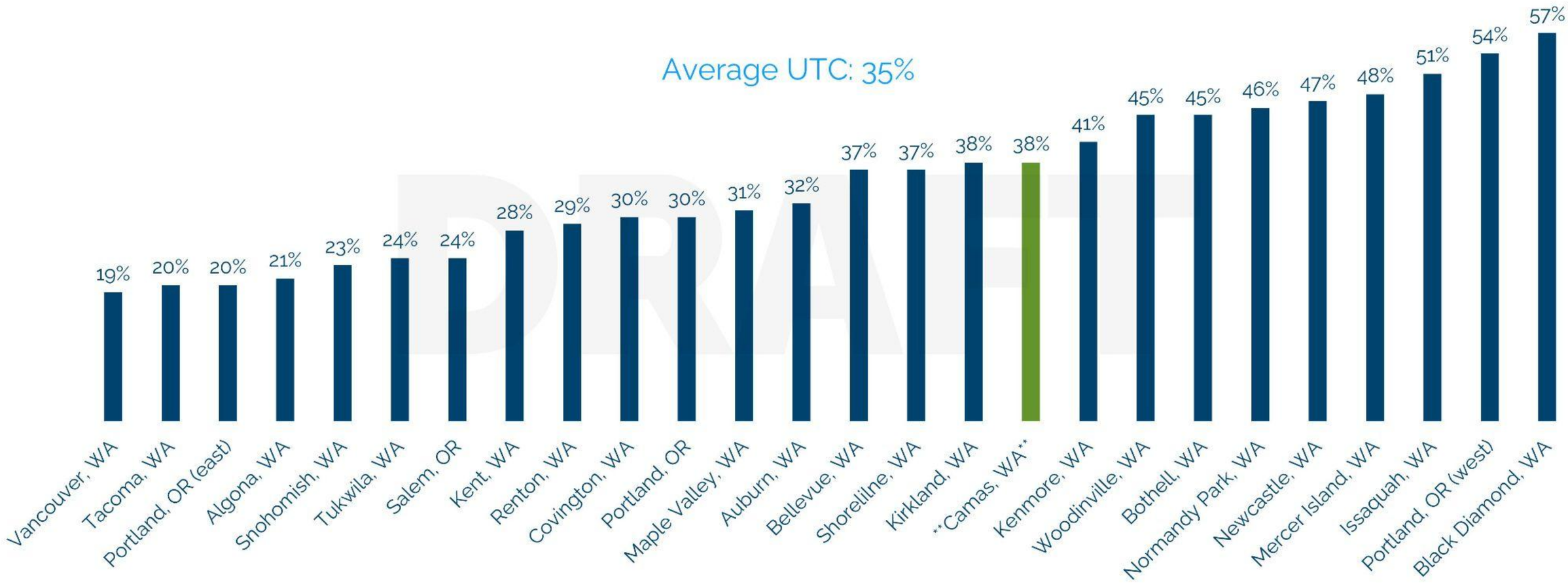


CITY LIMITS + COUNTY OPEN SPACE

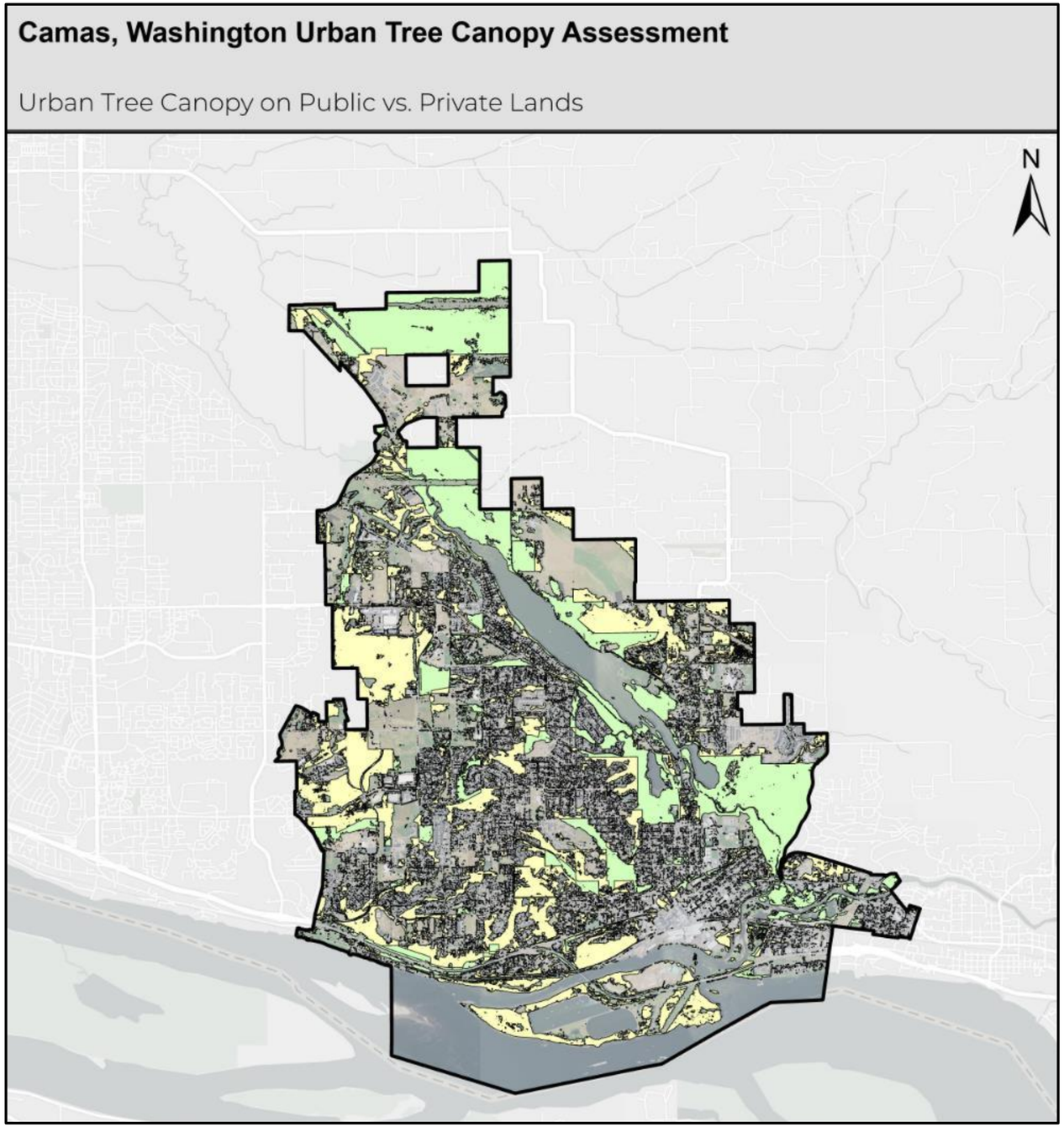
Land Type	Area
City Limits	3,399 acres
City Limits + County Open Space	4,205 acres

EXISTING

Percent canopy coverage within city limits as compared to other local communities.
Camas has more coverage than many urban areas, but less than more rural and suburban ones.



URBAN TREE CANOPY COMPARISONS



Land Type (City Limits & Clark County Open Space)	%	Area
Tree canopy on private lands	54.91%	2,293 acres
Tree canopy on public lands	45.09%	1,883 acres
All tree canopy (within POSMP area)	100%	4,176 acres

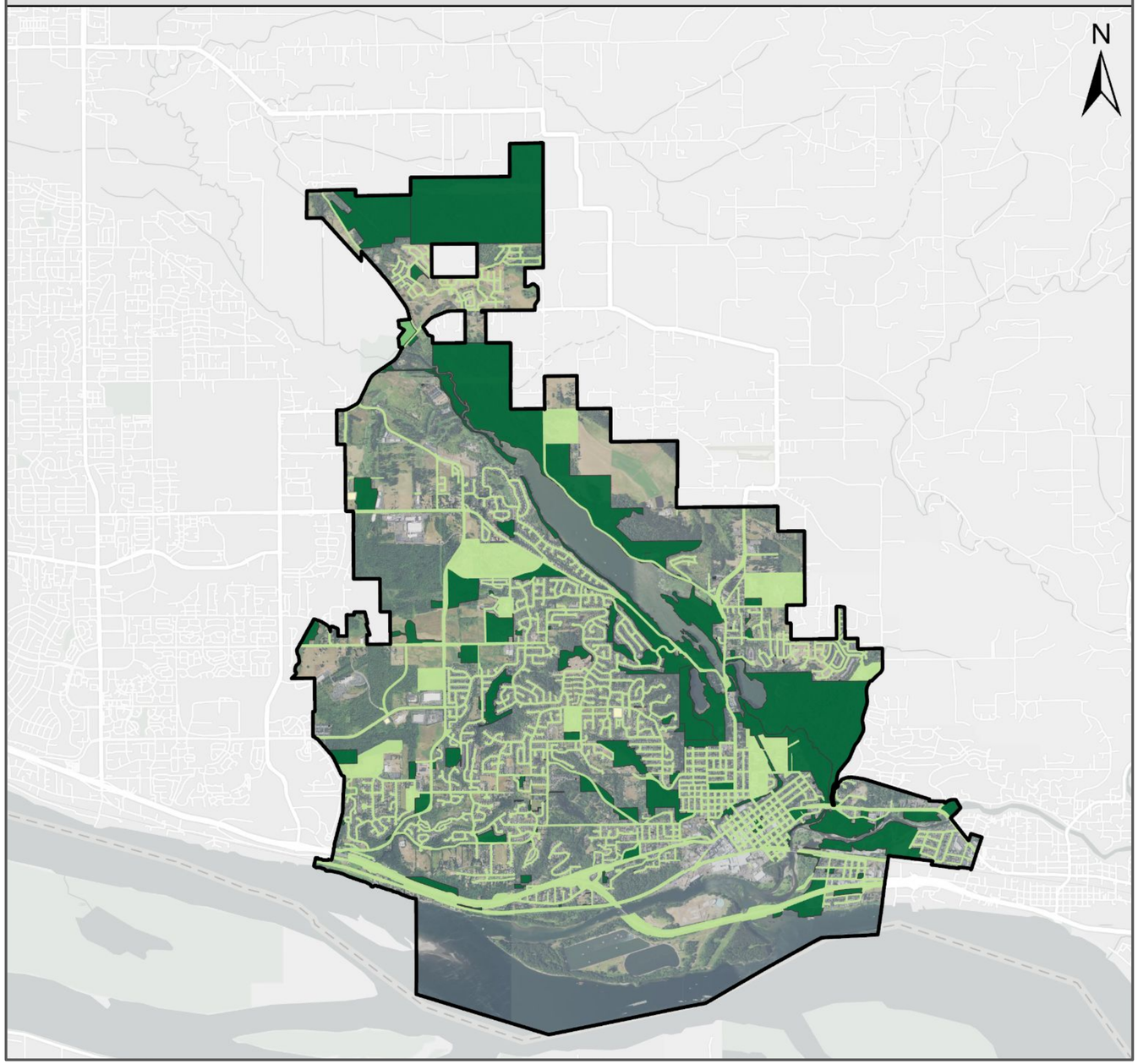
About half of all urban tree canopy in Camas is on private property.

EXISTING - URBAN TREE CANOPY

Camas, Washington Urban Tree Canopy Assessment

Urban Tree Canopy Percent by Public Land

PlanIT Geo™
developers of TreePlotter



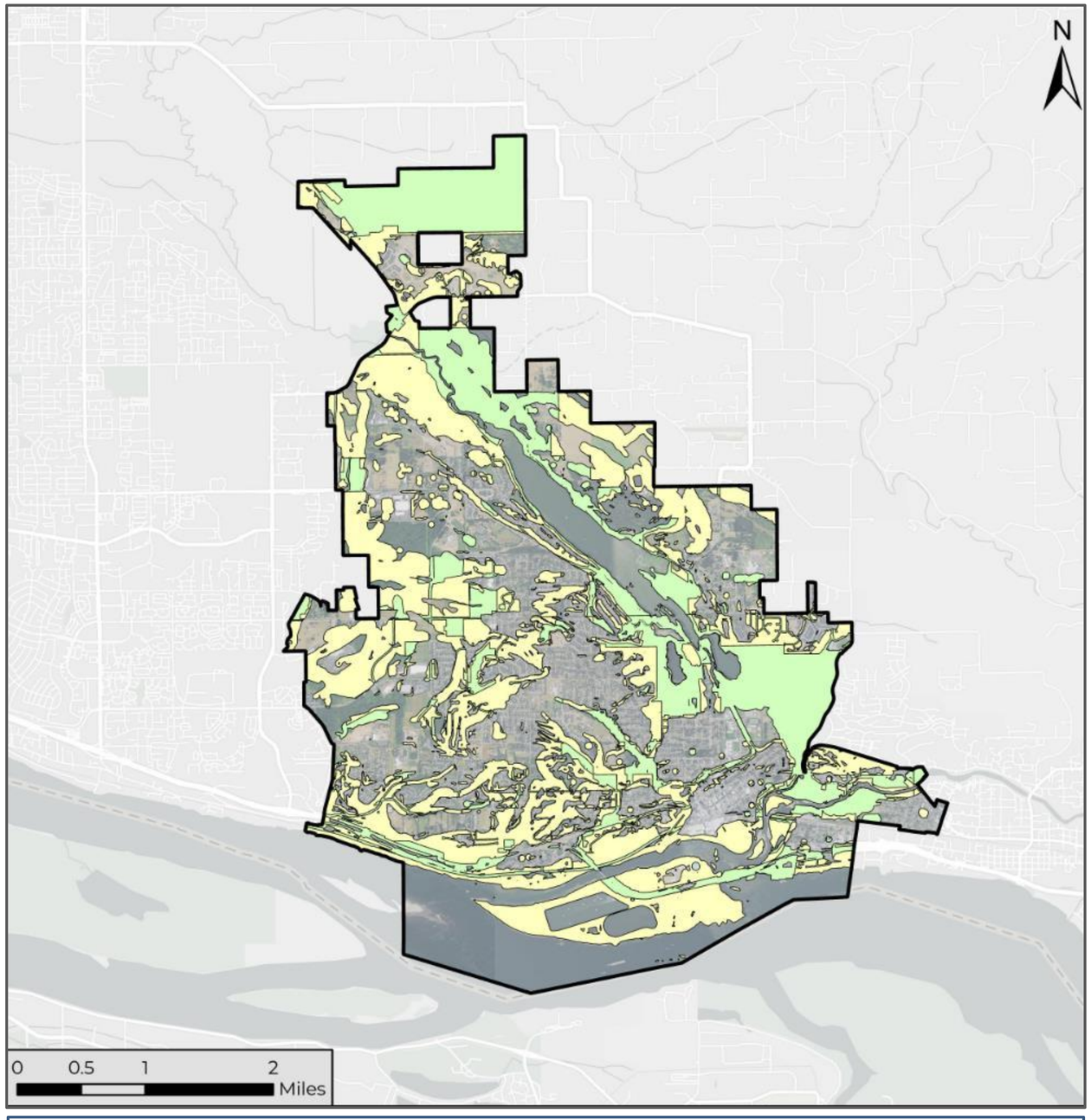
Urban Tree Canopy %

(City Limits & Clark County Open Space)

- 0% - 15%
- 16% - 25%
- 26% - 35%
- 36% - 45%
- 46% - 96%

Much of the public tree canopy is concentrated around Lacamas Lake and Green Mountain. Developed parks and street trees provide coverage throughout the city.

EXISTING - PUBLIC LANDS



	Land Type (City Limits & Clark County Open Space)	%	Area
	Privately-owned critical lands (within POSMP area)	53.96%	3,425 acres
	Publicly-owned critical lands (within POSMP area, includes bodies of water)	46.04%	2,922 acres
	All critical lands (within POSMP area)	100%	6,347 acres

About half of all critical areas in Camas are on private property.

Wetlands | Steep Slopes | Sensitive Habitat

Shoreline Master Program:

The City finds that critical areas provide a variety of valuable and beneficial biological and physical functions that benefit the City of Camas and its residents, and/or may pose a threat to human safety, or to public and private property.

Goals:

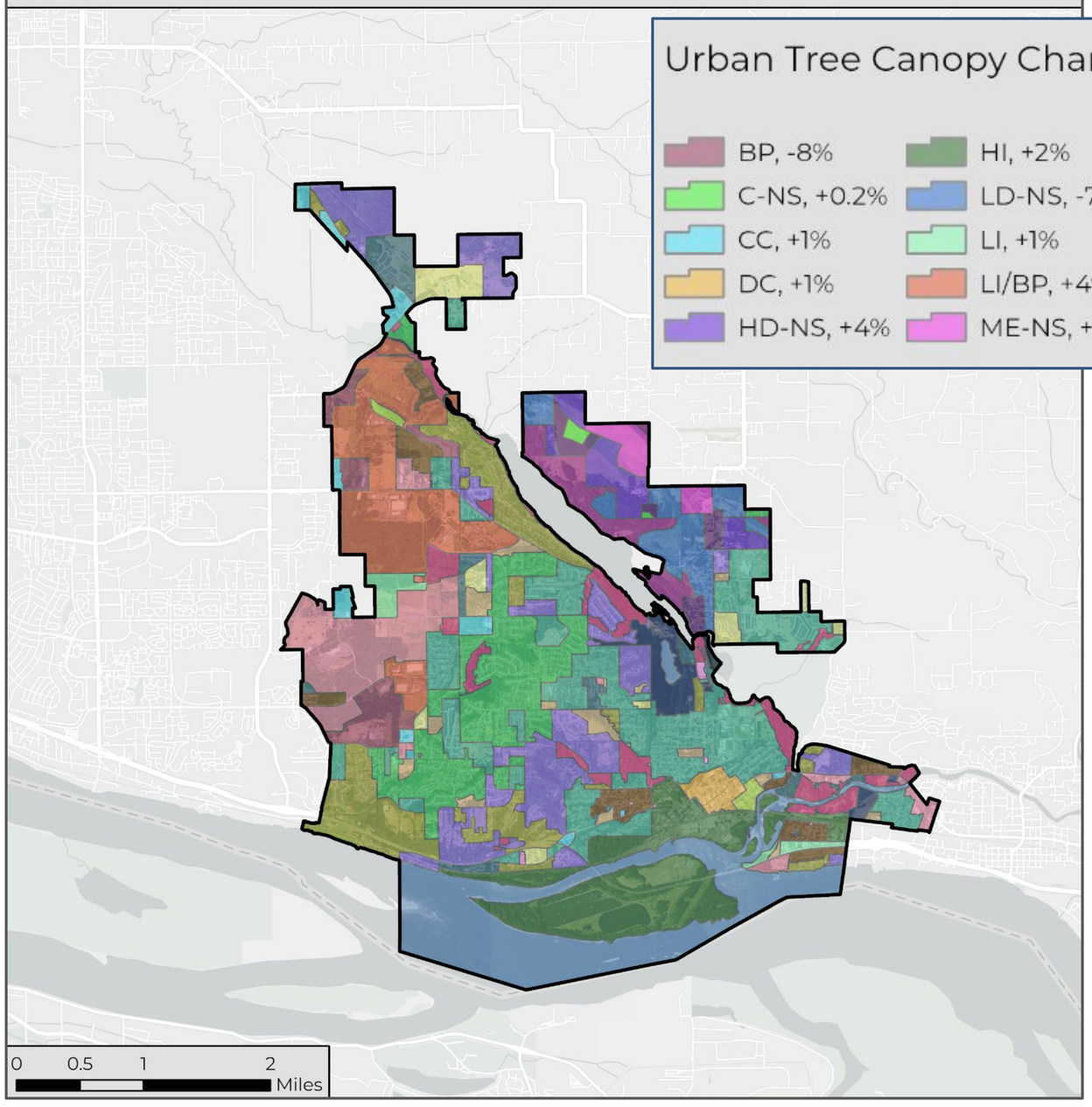
1. Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides and steep slope failures, erosion, seismic events, or flooding;
2. Protect unique, fragile, and valuable elements of the environment, including ground and surface waters;
3. Direct activities not dependent on critical area resources to less ecologically sensitive sites, and mitigate necessary impacts to critical areas by regulating alterations in and adjacent to critical areas; and
4. Prevent cumulative adverse environmental impacts to critical aquifer recharge and frequently flooded areas.

EXISTING - CRITICAL AREAS

Camas, Washington Urban Tree Canopy Assessment

Urban Tree Canopy Change Percent by Zoning

PlanIT Geo™ developers of TreePlotter



Total change of canopy coverage from 2011-2021

City + County Lands: -0.32% City Limits: -0.14%

Urban Tree Canopy Change % by Zoning Designation (descriptions)

BP, -8%	HI, +2%	MF-10, -4%	NP, +5%	R-15, 0%	Water, +7%
C-NS, +0.2%	LD-NS, -7%	MF-18, -9%	OS, +4%	R-6, -1%	
CC, +1%	LI, +1%	MX, +5%	POS-NS, 0%	R-7.5, -5%	
DC, +1%	LI/BP, +4%	MX-NS, +1%	R-10, -1%	RC, +3%	
HD-NS, +4%	ME-NS, +2%	NC, -4%	R-12, +4%	SU, +1%	

This analysis did not include an assessment of individual parcels or land types and their potential reasons for gain or loss.

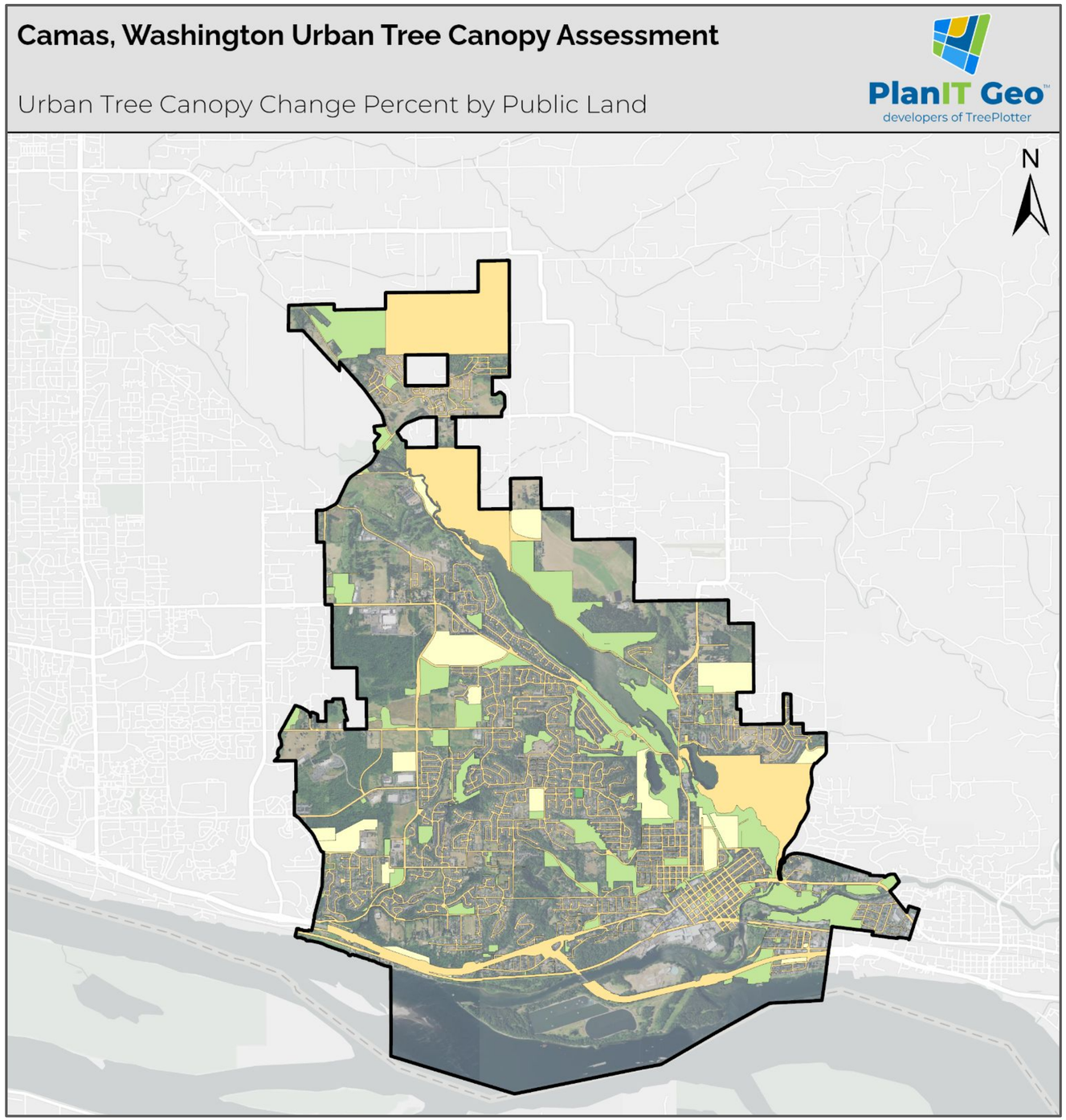
Common Reasons for %Gain

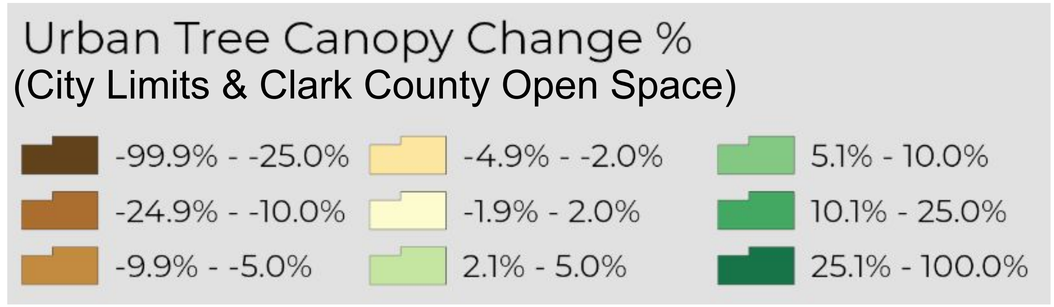
- Fallow field establishment
- Natural canopy expansion
- Restoration or infill

Common Reasons for % Loss

- Development
- Wildfire
- Expansion of land type
  - i.e. Right of Way added with small trees.

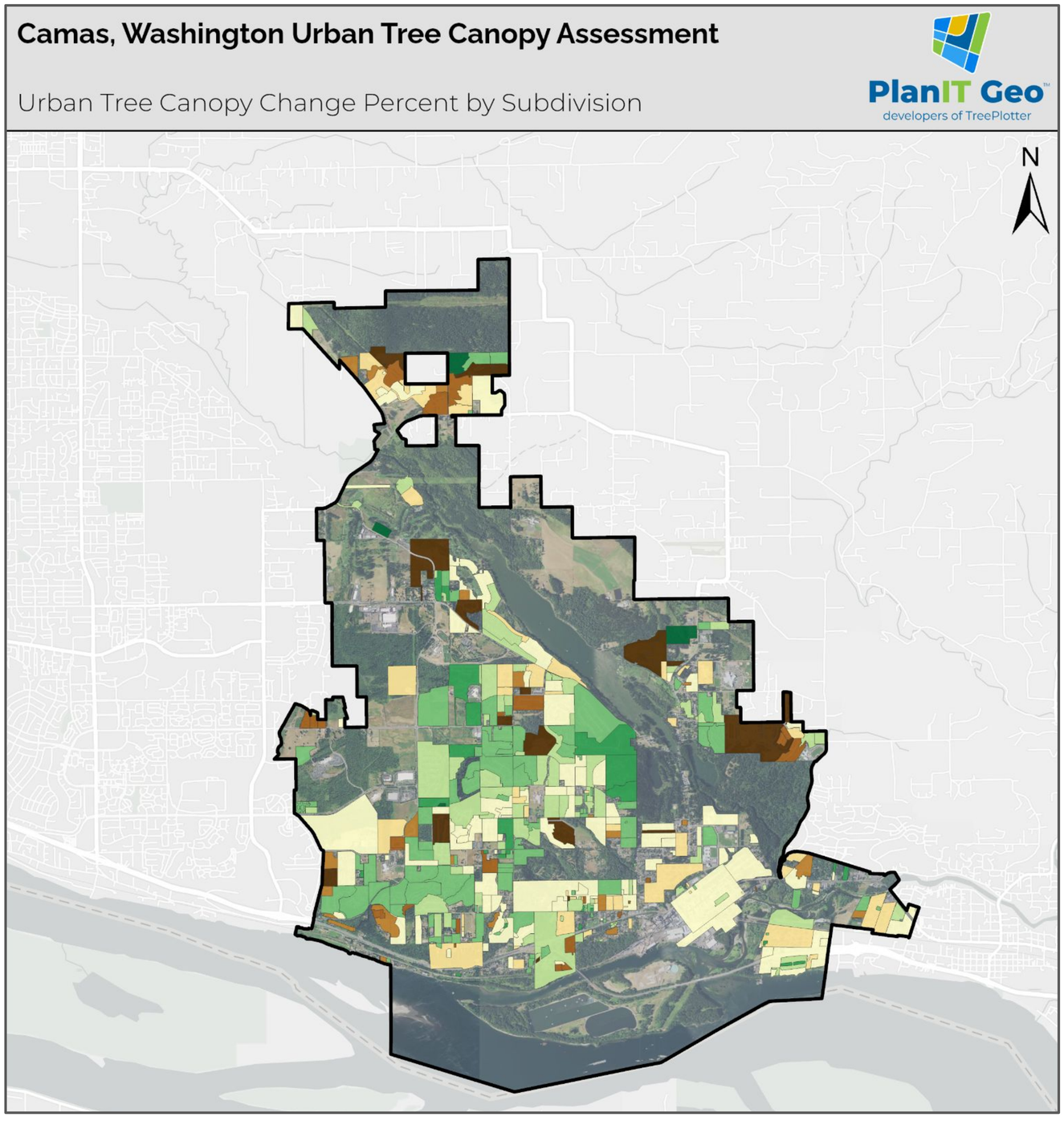
CHANGE (2011 - 2021)

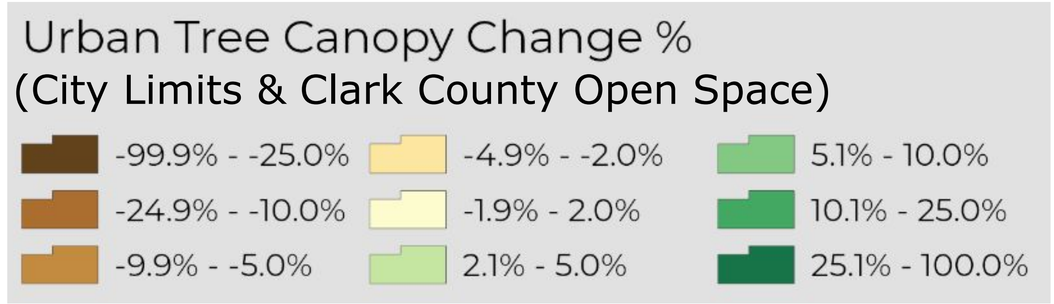




Low to moderate gains and losses occurred on public lands

CHANGE (2011 - 2021): PUBLIC LAND

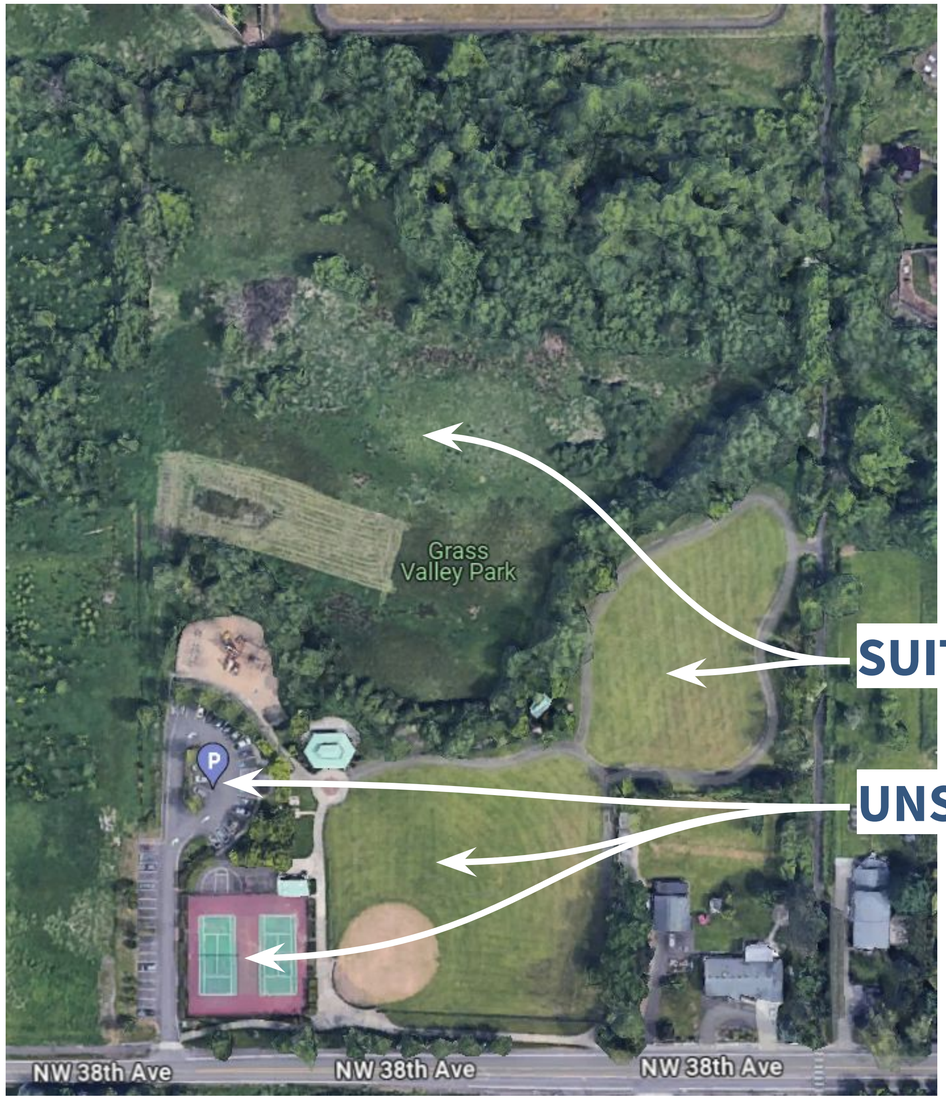




Biggest losses on subdivision land is likely due to private land development.

CHANGE (2011 - 2021): SUBDIVISIONS

All land areas in the City of Camas that were not currently tree canopy were classified as either possible planting areas (PPA) or unsuitable for planting.



POTENTIAL PLANTING AREAS

- Lawn, open fields, or grass areas
- Shrub and ground cover vegetation
- Bare or fallow soils

UNSUITABLE AREAS

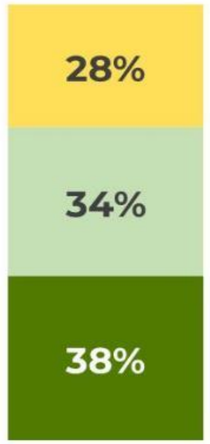
- Recreation fields
- Utility corridors
- Stormwater facilities
- Roadways
- Building Structures

POSSIBLE PLANTING AREA: EXAMPLE

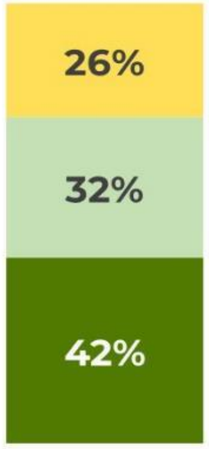
Results Charts

Key: Canopy | Total PPA | Unsuitable UTC

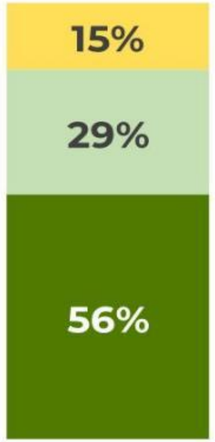
City Boundary



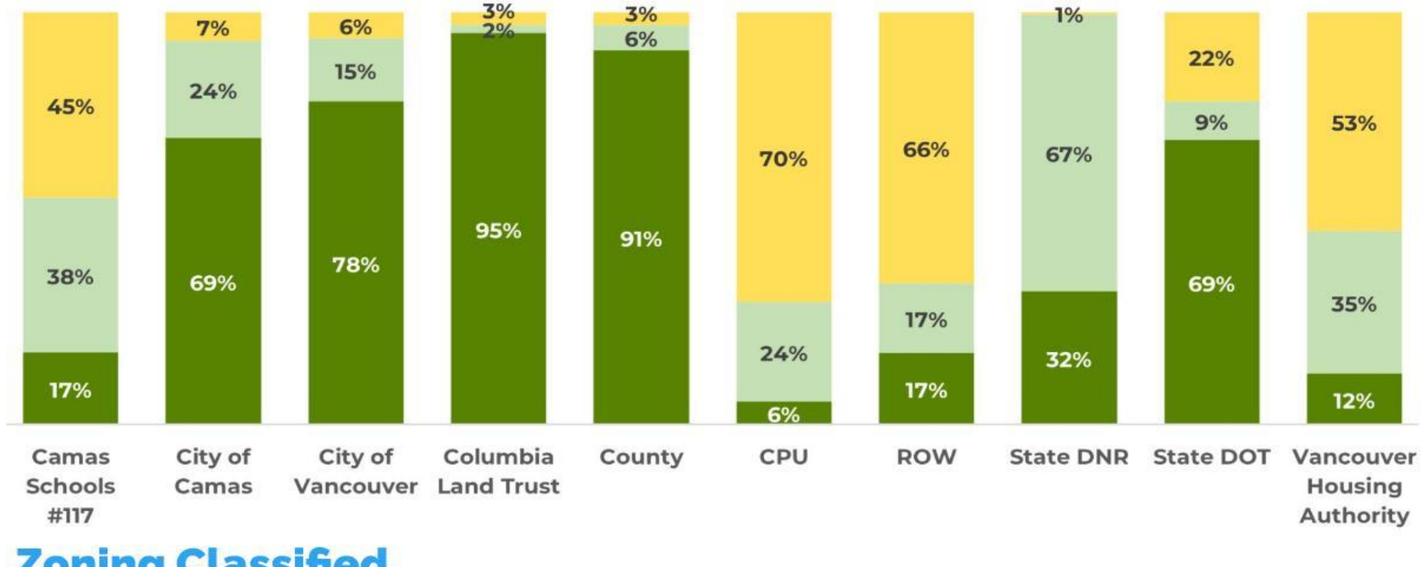
AOI



Critical Places



Public Lands

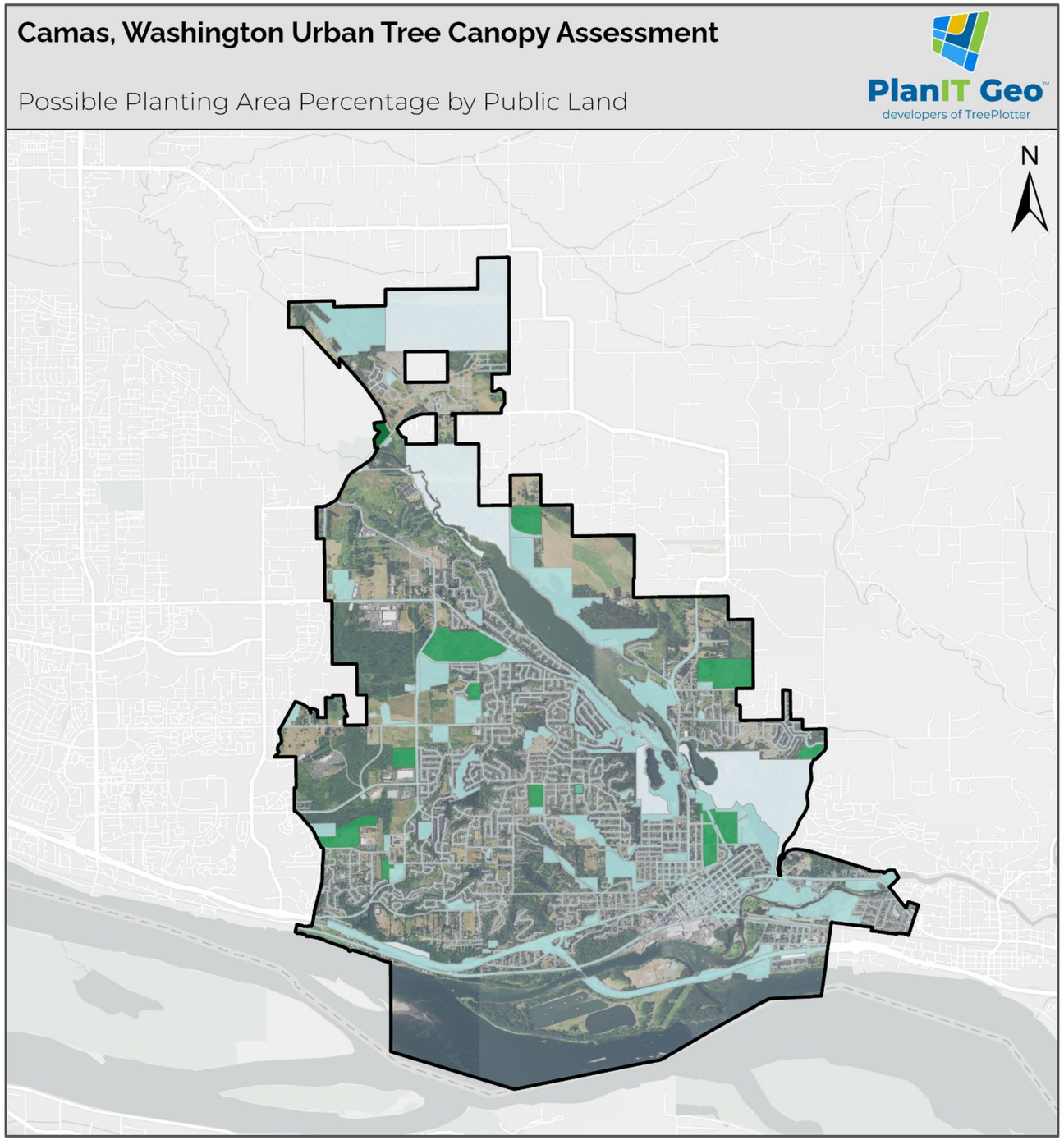


Zoning Classified



Existing tree canopy, potential planting area, and unsuitable areas for planting broken out by land use and ownership

POSSIBLE PLANTING AREA: SUMMARY

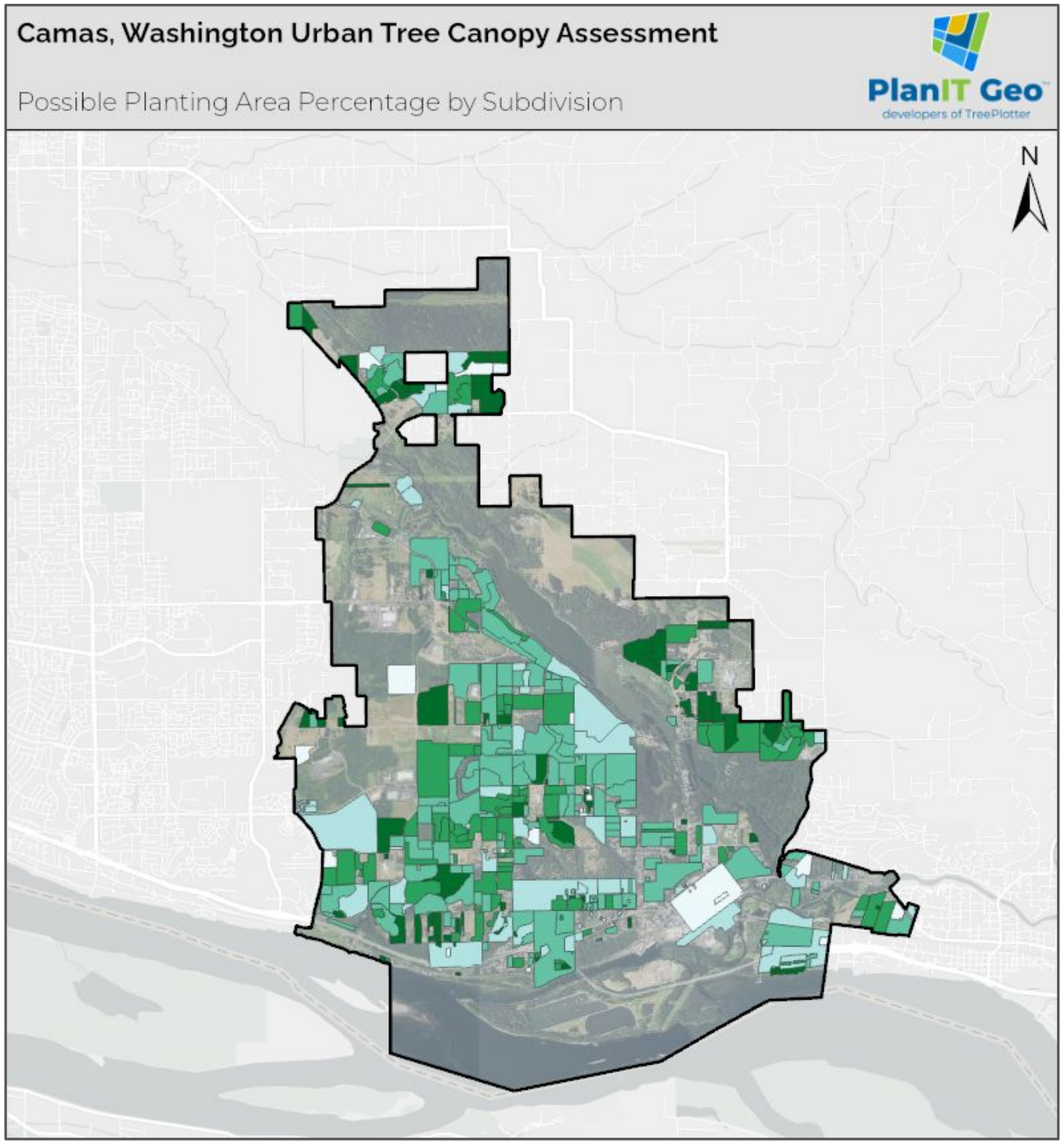


Possible Planting Area %
(City Limits & Clark County Open Space)

0% - 15%
16% - 25%
26% - 35%
36% - 45%
46% - 98%

Schools present the biggest opportunity for increased canopy coverage on public lands.

POSSIBLE PLANTING AREA: PUBLIC LANDS



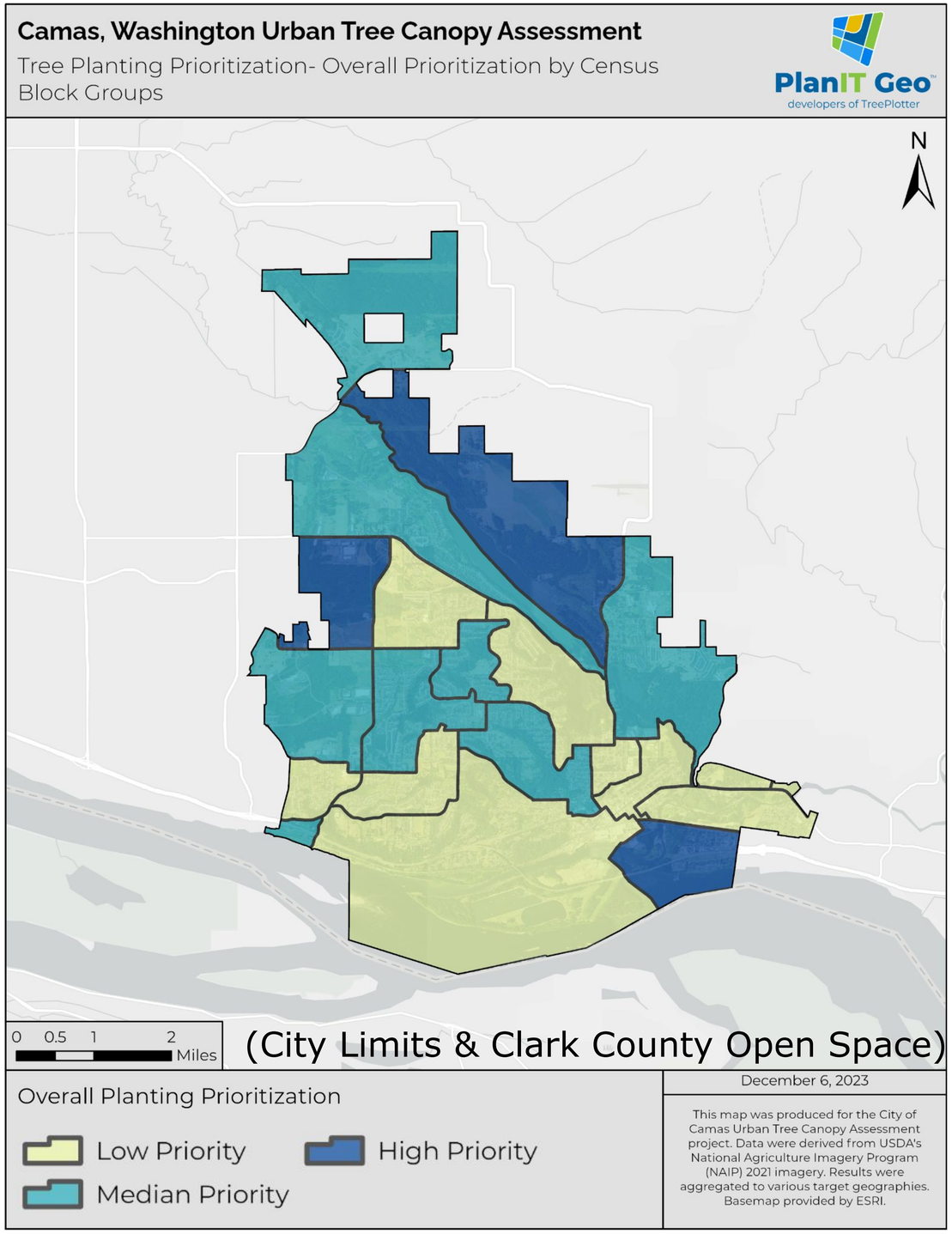
Possible Planting Area %

(City Limits & Clark County Open Space)

0% - 15%
16% - 25%
26% - 35%
36% - 45%
46% - 98%

HOAs carry a lot of potential to contribute to canopy gain.

POSSIBLE PLANTING AREA: SUBDIVISIONS



An assessment was done to determine priority areas for future planting. It was based on the following factors, equally weighted, which align with many grant applications with equity requirements:

- **Low UTC** - areas currently low in canopy cover
- **High PPA** - areas currently high in possible planting area
- **Economic vitality** - average annual household income
- **Poverty %** - percentage of population living below poverty line
- **Vulnerable population %** - percentage of residents under 18 or over 65
- **% unemployed** - percentage of residents considered unemployed
- **Educational attainment** - percentage of the population w/o GED or HS diploma
- **People of color** - percentage of residents of color

DEMOGRAPHIC PRIORITY AREAS

Plan for Adaptability

Urban areas around the world are facing dramatically intensifying extreme weather and climate impacts including drought, long-term water shortages, flooding, extreme weather events, and prolonged heat. Urban trees can play a significant role in making Camas, Washington resilient to weather and climate extremes, and in protecting human and ecosystem health and safety.

Increased temperatures and prolonged heat have a dramatic effect on urban trees. Urban trees already face many struggles of the urban environment, including competition for space, elements of an urban environment, vandalism, and harmful pests and diseases. Some of Camas's established trees are unlikely to survive the changes in the climate and weather patterns over the next 50-75 years. Planting the right trees for Camas today and in the future will play a vital role in the resiliency of the City's urban forest as well as overall community sustainability.

In pursuit of a sustainable and resilient urban forest, the City of Camas may seek to apply climate adaptation strategies to urban forest management planning. Building toward this objective, the City maintains a recommended tree list of small, medium, and large trees and trees that are prohibited for planting in public areas or through private development projects as a requirement of City Code. The Camas Urban Forest Vulnerability Report provides a summary of the changing climate, an analysis of urban tree species vulnerability to changing climate, and considerations for new tree species to integrate into Camas's urban forest over time. See Appendix for full report.

Climate Change Vulnerability Ratings for Northwest Urban Trees

Table Key:					
Urban Adaptability:		**Zone Suitability:**		**Vulnerability:**	
+	High: Species may perform better than modeled	√	Suitable	▼	Low: Suitable zone, high adaptability
●	Medium	X	Not Suitable	●	Low-moderate: Suitable zone, medium adaptability
–	Low: Species may perform worse than modeled			⊖	Moderate: Suitable zone, low adaptability or zone suitable, high adaptability
				○	Moderate-high: Zone not suitable, medium adaptability
				△	High: Zone not suitable, low adaptability

*Invasive species

Table 8. Climate vulnerability and suitability of urban trees in the Pacific Northwest (Source: Climate Change Response Framework, NIACS)

		HEAT ONLY		HEAT & HARDINESS	
Common Name (Alphabetized)**	**Urban Adapt-ability**	**Zone Suitability**	**Vulnerability**	**Zone Suitability**	**Vulnerability**
Aleppo pine	●	√	●	√	●
Alleghany serviceberry	+	√	▼	√	▼
American basswood	●	√	●	X	○
American beech	●	√	●	√	●
American elm	●	√	●	√	●
American hornbeam	+	√	▼	√	▼
American smoke tree	●	√	●	X	○
American sycamore	●	√	●	√	●
American witch-hazel	●	√	●	X	○
Amur maackia*	+	√	▼	X	⊖
Apricot	●	√	●	X	○
Arizona cypress	●	√	●	√	●
Austrian pine	●	√	●	X	○
Bald cypress	+	√	▼	√	▼
Big leaf maple	●	√	●	√	●
Birch bark cherry	●	√	●	X	○
Black cherry	–	√	⊖	√	⊖
Black locust*	●	√	●	X	○
Black maple	●	√	●	X	○
Black poplar	●	N/A	N/A	√	●
Black walnut	–	√	⊖	√	⊖
Boxelder	●	√	●	√	●
Callery pear*	●	√	●	√	●
Cherry plum	●	√	●	√	●
Chinese chestnut	●	√	●	X	○
Chinese elm	+	√	▼	√	▼

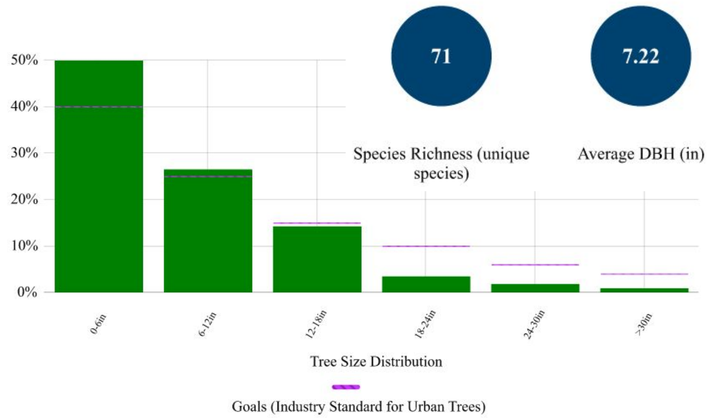
Example tree species list. See report for full list.

Measure What You Have

As part of assessing the urban tree canopy, this project inventoried over 9000 individual trees on public land across the city. This effort is a start to understanding the species and size diversity, health, and potential long- and short-term maintenance issues that may occur. The City will be adding to and managing this database in order to track changes over time in order to align more with the recommendations of this plan.

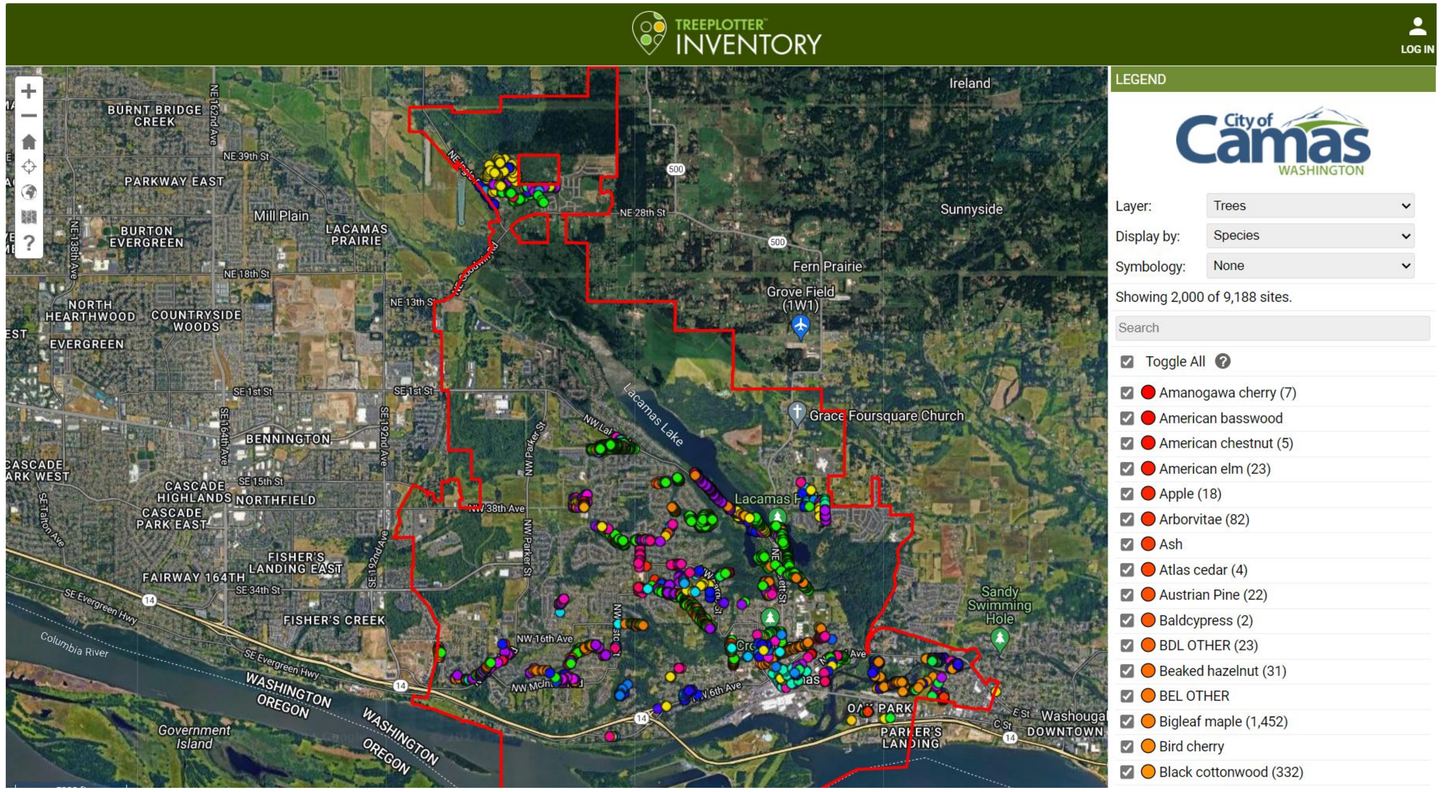
Street Trees

While not all street trees were inventoried, a snapshot of the diversity in species and size provides an overview of the overall conditions and can set a baseline for tracking future conditions. Many new trees were recently added, so care should be taken to allow them to mature and adapt to a changing climate.



Richards, N. A. 1983. "Diversity and Stability in a Street Tree Population." Urban Ecology 7(2):159–171.

Richards, N.A. 1993. Reasonable guidelines for street tree diversity. Journal of Arboriculture 19:344–349.



Visit [TreePlotter (pg-cloud.com/CamasWA/)](pg-cloud.com/CamasWA/) to see more details on the inventoried trees on Camas public lands. The first 9000 trees were prioritized to include downtown street trees, developed parks, and trail and open space corridors that might pose potential hazards to recreational uses. It also included a few sample Right of Way areas in residential neighborhoods.

Value & Resource Use

The POSMP used budget and spending data over the past several years to get a sense of existing resource allocation. These were compared to other local agencies and best practices to produce recommendations for re-aligning to meet Camas' Community Values.

Current Practices and Allocated Resources Assessment

Identifying gaps and opportunities in service delivery

In order to shift operations towards a long-term management and stewardship model, this plan summarized and assessed existing staffing, time and resource use, and relationships with other organizations. Understanding the gaps and strengths helped to focus recommendations on potential methods of improvements.

Best Practices focused on these three key areas. Finding a balance across these goals can lead to alignment with the priorities of this plan:

More efficient service delivery and resource allocation.
Changes to service delivery methods that reduce costs, level of staff effort, and timelines can more efficiently use public funding and resources, and typically lead to a greater quantity of services provided.

More equitable distribution of and access to services in the community.
A more equitable distribution of public resources can address deficiencies within communities that have been historically underserved by public programs, investments, and processes.

Higher quality ecosystem services and social benefits.
Public-sector agencies are recognizing parks, trails, and open space as critical infrastructure. Improving services in the context of natural resources can mean improving outcomes directly for the ecosystem (e.g. air and water quality) and social benefits (e.g. recreation and improved health outcomes).

Recommendations Summary

STRENGTHEN COLLABORATION WITH PARTNERS

- Create full time position focused on development, coordination, and implementation of a partnership and volunteer program that engages with HOAs, community-based groups, volunteers, and other government entities.
- Establish management standards that can give clear guidance to City staff and private landowners to help meet the goals of climate resiliency, best management practices, and effective resource allocation.
- Establish agreements with HOAs and other partners for collaborative management of ecosystem services and recreational resources.
- Create ongoing channels with state and county level partners.

ALIGN INTERNAL ORGANIZATION AND METRICS WITH POSMP FRAMEWORK

- Reorganize maintenance staff by land type and train or hire champions to provide overall stewardship practices and goals.
- Implement per-capita and/or per-acre spending targets and tracking metrics to ensure adequate funding levels for maintaining high-quality parks and recreation amenities that meet the needs of the community in Camas.

Service Delivery: Department Spending

In terms of spending per acre and level of service, Camas provides more acres per 1,000 residents than any comparable district while spending the second lowest amount per acre.

PARK PROVIDERS	POPULATION ESTIMATE	PARKS BUDGET	PARKLAND ACRES	PER-CAPITA SPENDING	PER-ACRE SPENDING	ACRES/1000 RESIDENTS
City of Tumwater	27,100	$7,608,421	514.5	$280.8	$14,788	19.0
City of SeaTac	31,740	$8,317,584	352	$262.1	$23,630	11.1
City of Port Angeles	20,240	$3,914,100	270	$193.4	$14,497	13.3
Park Districts of Si View	42,060	$6,250,632	890	$148.6	$7,023	21.2
PenMet Park District	40,000	$5,866,627	570.9	$146.7	$10,276	14.3
City of Camas	**27,420**	**$3,437,438**	**1,064**	**$125.4**	**$3,231**	**38.8**
City of Mercer Island	25,800	$2,127,581	479	$82.5	$4,442	18.6
City of Kenmore	24,230	$1,873,638	146	$77.3	$12,833	6.0
City of Longview	38,130	$2,170,690	488	$56.9	$4,448	12.8
City of Mountlake Terrace	23,810	$1,306,090	269	$54.9	$4,855	11.3
City of Maple Valley	29,250	$1,069,653	370.8	$36.6	$2,885	12.7

WA State Comparisons

In its 2022 Parks, Recreation, and Open Space (PROS) Plan, Camas identified comparisons with other cities in Washington with similarities to Camas to understand the variation in operations. The PROS Plan found that in 2018 data reviewed, Camas had considerably lower spending and operating budget on parks and recreation services compared with peer cities, allocating the equivalent of $78.65 per person. The PROS Plan used 2018 data to avoid pandemic distortions in local budget data. An updated comparison using 2023 data of park providers in Washington, Camas fell in the middle of per-capita spending looking at a broad section of cities but was still less than half of the cities with the greatest spending (the Cities of Tumwater and SeaTac). Total budget numbers include all O&M including recreational services.

Strengths, Weaknesses, Opportunities, and Threats

Summary of existing conditions to provide context for efficient service delivery related to operations and allocating resources

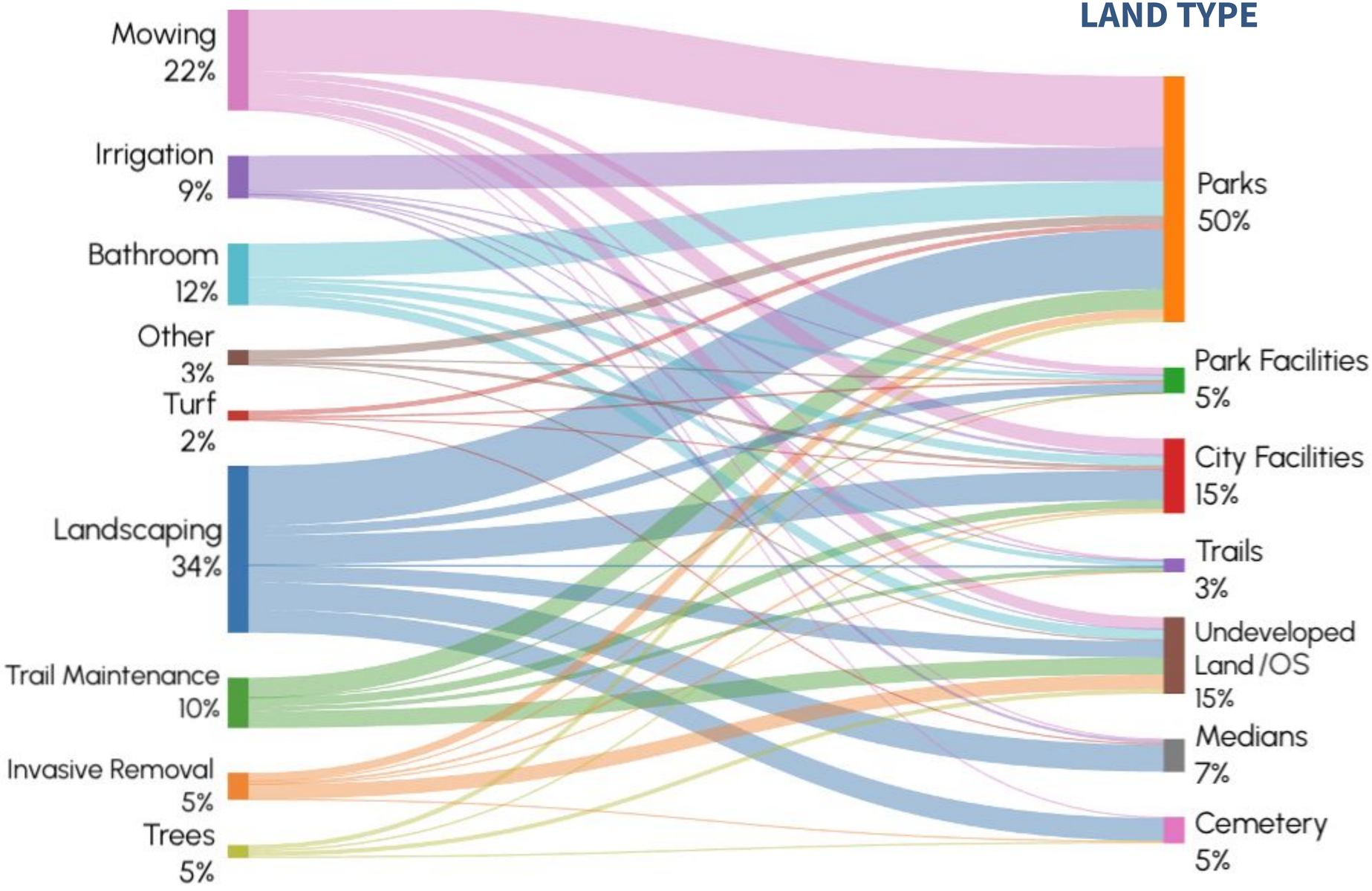
Strengths:
- Large and growing inventory of parks and open spaces
- High level-of-service acreage with 38.8 acres per resident (the highest among comparison districts analyzed)
- Skilled Parks and Recreation staff
- Diverse schedule of recreation activities for residents accessible for different ages
- Currently leveraging County resources to expand portfolio (Legacy Lands program) and other grant resources for capital projects
- Community member interest in parks and open space stewardship and greater involvement; existing Camas Parks Foundation and Ivy League for fundraising and invasive plant removal volunteers

Weaknesses:
- City subsidizes community use through low facility-rental fees and charges
- High amount of effort towards mowing/landscaping
- Significant time and resources spent on non-Parks and non-Open Space facilities
- Need for additional invasives removal in open spaces (citywide)
- Resources spent on reactive management to extreme weather events
- Lack of specialized stewardship experience for different land types or natural systems
- Lack of established standards, agreements or ongoing conversations with private entities (HOAs) about parks and natural system expectations

Opportunities:
- Increase staff capacity to grow partnerships with community-based groups and leverage potential volunteer efforts
- Identify opportunities for joint training for both staff and community members to improve knowledge and best practices
- Work with Homeowners Associations (HOAs) to collectively address natural area needs on private property (e.g. invasives removal, trail maintenance, replanting of native plants/trees)
- Identify best design practices that reduce need for ongoing maintenance to free up staff time to address long-term or proactive issues

Threats:
- Lack of additional external resources (grants) for maintenance and ongoing operations with new assets
- Low capacity at current staff levels to engage with volunteer/community partners
- Increasing need for more specialized contract services (e.g. arborists) to handle reactive issues
- Unpredictable weather patterns associated with climate change that create unexpected costs and maintenance needs and increase system-wide vulnerabilities.

TIME SPENT PER ACTIVITY

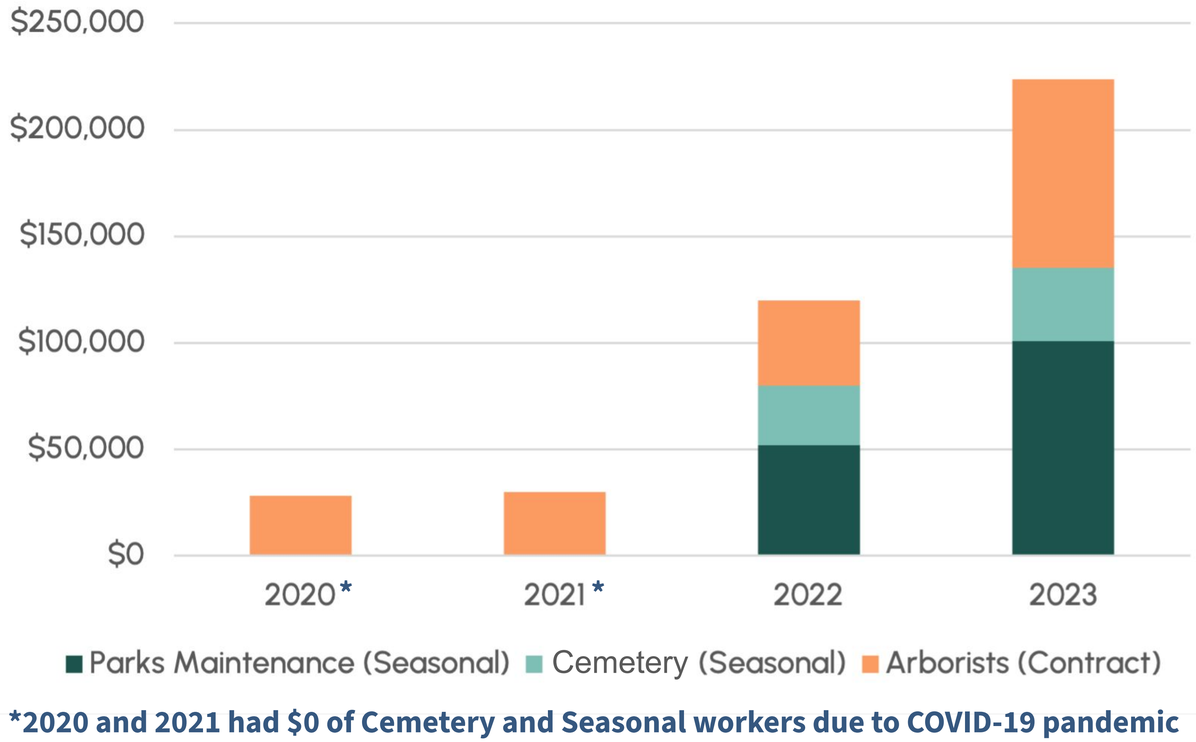


TIME SPENT PER LAND TYPE

Parks and Recreation staff maintenance hours for the 2023 year were also assessed as part of this process in order to understand how time and resources were being prioritized. As the graph indicates, about a third of the time was being spent on maintaining lawns and irrigation, with another third on more detailed landscaping. About half of all time spent was on developed parks, while much of the time was also spent on non-Park facilities.

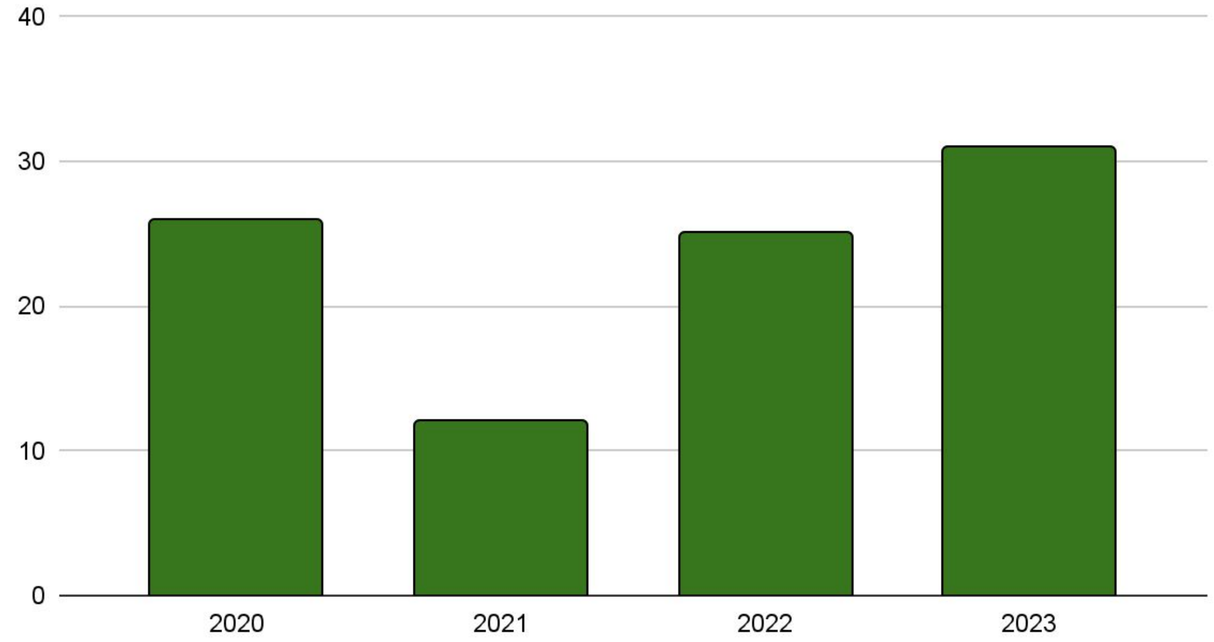
ANNUAL MAINTENANCE STAFF HOURS: 2023

Annual Contract Employee Costs

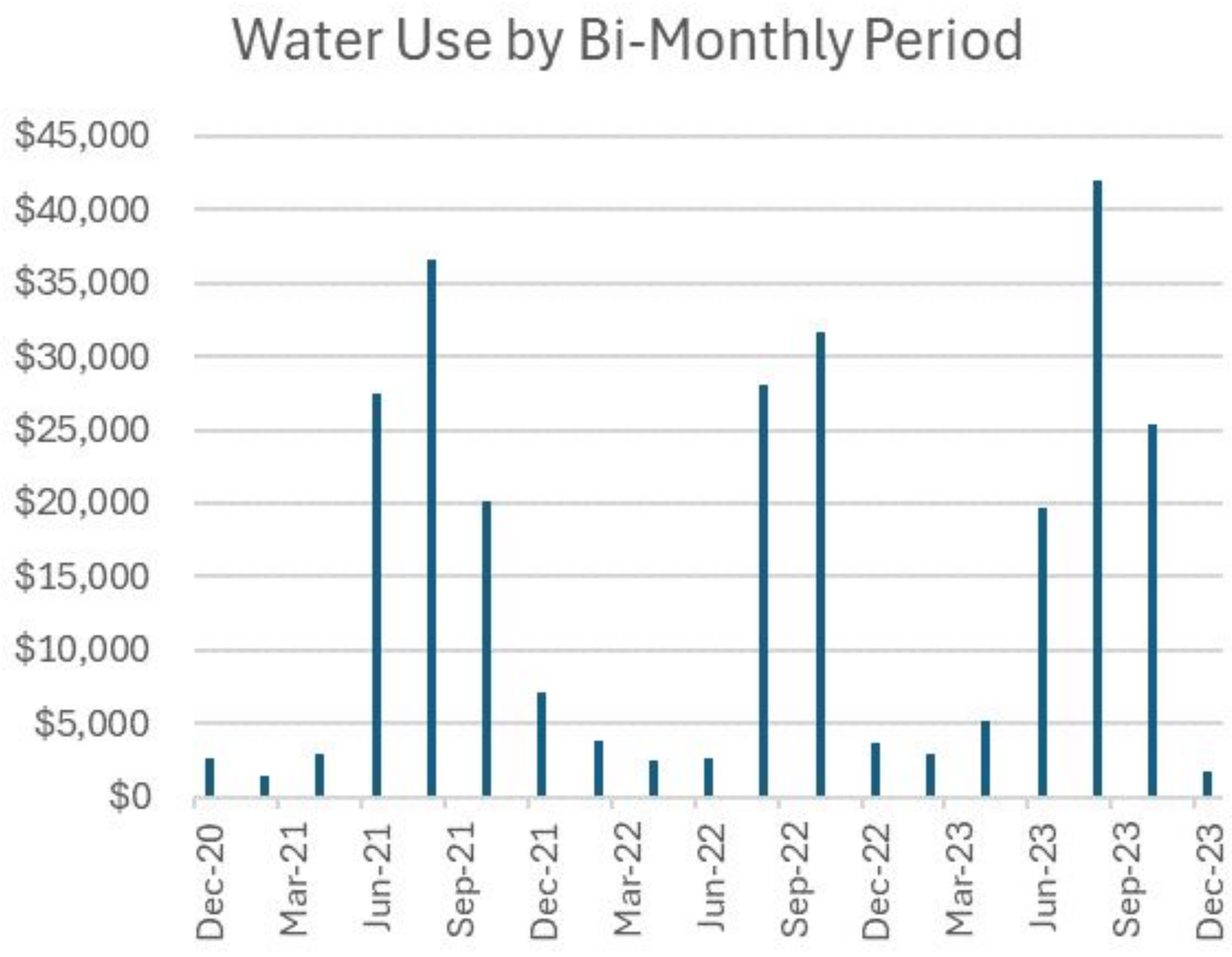


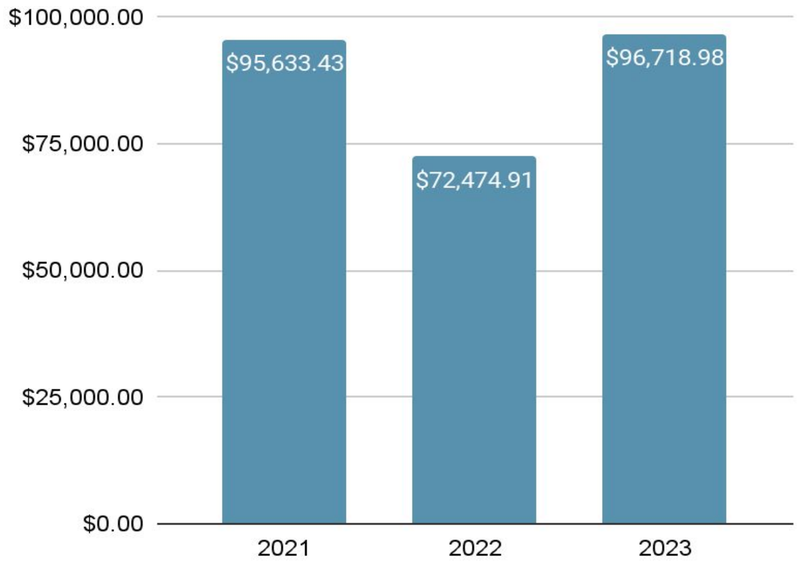
***2020 and 2021 had $0 of Cemetery and Seasonal workers due to COVID-19 pandemic**

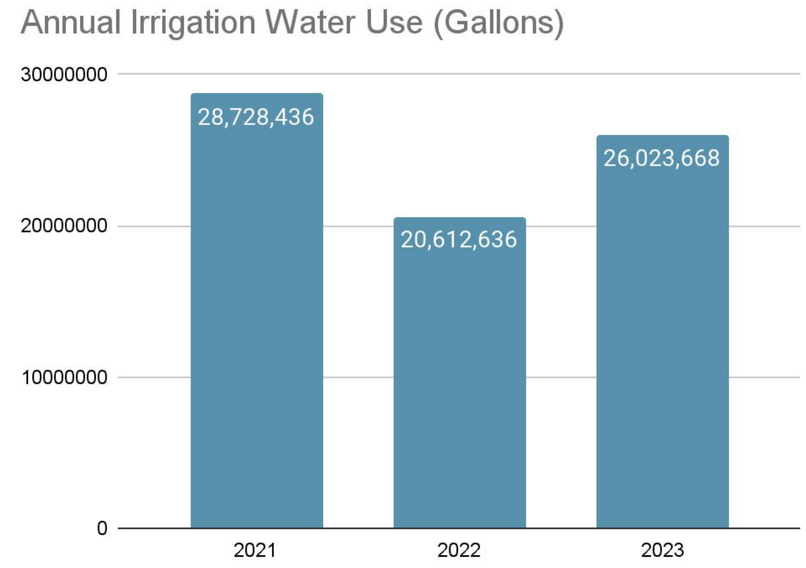
Number of Public Tree Requests



As extreme weather events and tree health and structural issues cause branch failures or risks, the number of public tree maintenance requests and other instances have increased. As public safety is a top priority, the city has been reactionary with the resources they have had, but mostly have contracted out arborists to handle these instances with costs increasing over the last several years.



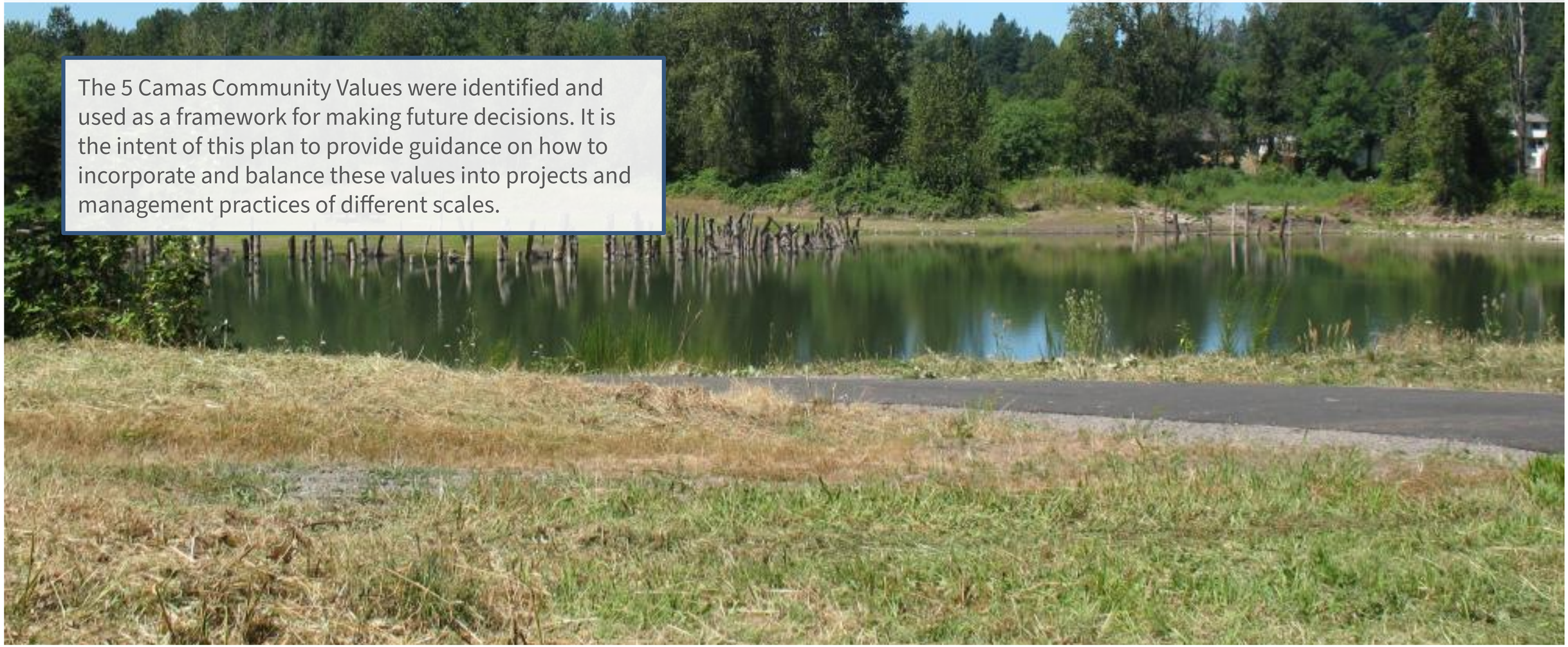




A significant portion of time and money goes into watering the public landscapes of Camas. The best practice recommendations look to find ways to reduce water use through use of native and adaptive vegetation.

ANNUAL IRRIGATION WATER USE: 2021-2023

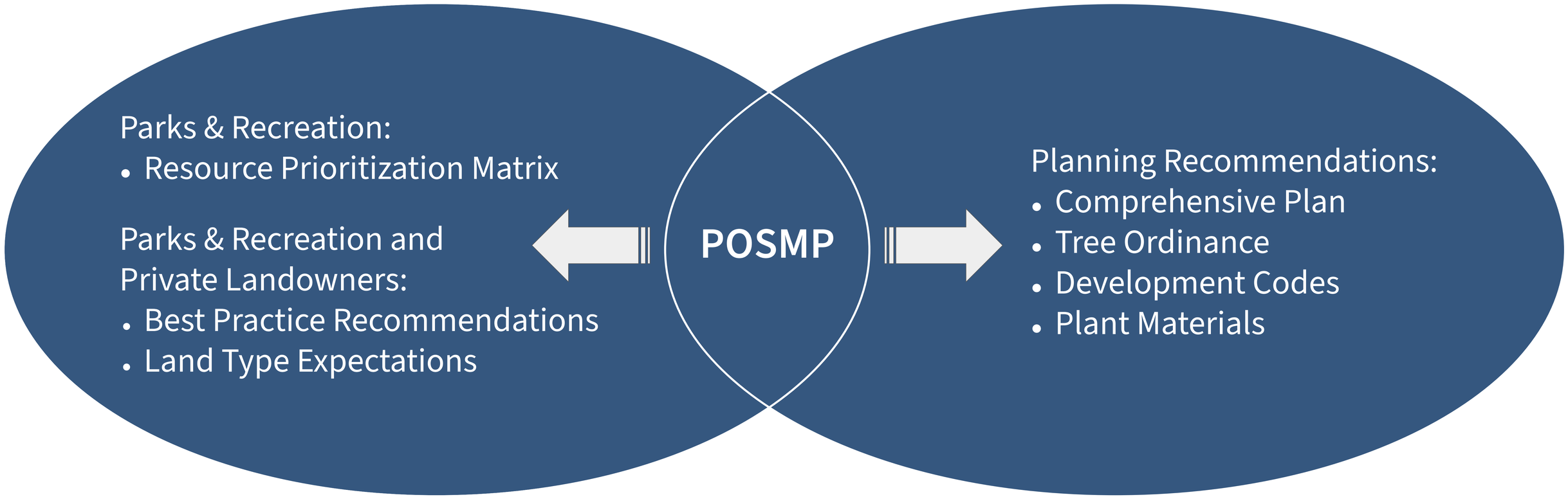
Resource Prioritization



The 5 Camas Community Values were identified and used as a framework for making future decisions. It is the intent of this plan to provide guidance on how to incorporate and balance these values into projects and management practices of different scales.

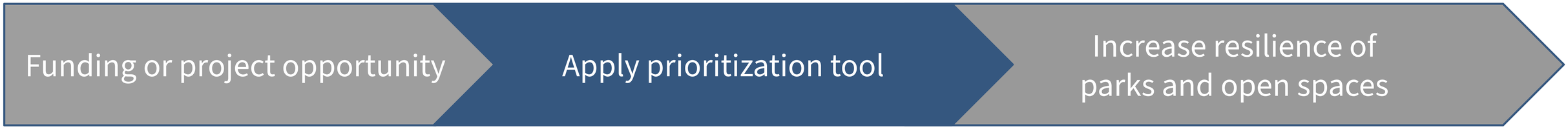
Recommendations

Based on the community values and existing conditions analysis performed by this plan, several types of recommendations were developed in order to find better alignment between the POSMP goals and the public and private practices that influence the resilience of the Parks and Open Spaces of Camas.



1989

Building a prioritization tool



How can we use our resources strategically to support our parks and open spaces when a funding source or project opportunity becomes available?

We can use a set of criteria to make good management decisions and prioritize opportunities.

By using a data-backed prioritization tool, we can effectively use resources and increase the resilience of our parks and open spaces.

Project Approach Matrix: Overview

Values	Goal
Financial and Resource Allocation	Optimize value and resource use in order to best balance the long-term performance goals with immediate needs for parks and public open space.
Outreach and Education	Provide opportunities for learning to gain efficiencies, institute best practices, and engage the community.
Natural Character	Maintain the existing natural character of Camas in ways that bolster community identity.
Equitable Access	Ensure that all community members have access to Camas' parks and natural resources and the benefits they provide.
Asset Protection + Public Safety	Protect ecosystems, human health, safety, and public and private assets through the management of natural systems to limit the effects of extreme weather, climate change, and other potential impacts .

Legend



Establishes system-wide resilience



Considers connectivity and impacts to other sites or organizations



Makes site or process improvements

Status Quo Current practices

Roadblocks Obstacles to implementation

Where most cities are required to focus and start from

Additional values Camas wants to incorporate into decision making and resource allocation

It is the intent of this tool to use these 5 community values as a guide to prioritize resources and projects in order to maximize the potential impact of the work. The following matrix should be used by each project team to initiate a conversation and develop an intentional approach for how each project is addressing these values. Each value can be addressed in a variety of ways to contribute to the project site, the surrounding area, and the system as a whole.

Community Value: Financial and Resource Allocation

Goal: Optimize value and resource use in order to best balance the long-term performance goals with immediate needs for parks and public open space.

Challenges with available resources have led to some misalignment between public expectations and the abilities of current staff to keep up with the needs across the management portfolio. These resource challenges have also been amplified as the City of Camas has acquired a substantial amount of land in the last 10 years. While additional funding opportunities may become available through the treatment of parks and open spaces as valuable infrastructure, decisions have to be made to shift time and resources to the most impact tasks in order to align with the community values and POSMP goals.

Key Opportunities for Allocating Resources

- **Incorporate the value of ecosystem services**
- **Expand decision making to intentionally incorporate the 5 community values**
- **Align goals with grant funding requirements**

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Do the goals and strategies open up opportunities for additional ongoing funding sources? • Does it reduce liability? • Can it utilize current practices or resources? • Are operational savings or ecosystem services quantified to support future assessments and tracking?	• Are off-site ecosystem services, trade-offs, or mitigation being considered? • Do the goals and strategies open up opportunities for supplemental grant funding?	• Does it reduce resource use or operational costs? • Are on-site ecosystem services included in the project goals and value discussions? • Does it reduce the need to hire outside vendors?	• Not currently funded or intentionally pursuing resources • Maintains status quo in funding for maintenance and operations • Is reactive to comprehensive ecosystem services.	• Increase maintenance costs or resource use. • Removes ecosystem services without mitigation.

Community Value: Outreach and Education

Goal: Provide opportunities for learning to gain efficiencies, institute best practices, and engage the community.

With so much natural land to manage, it will take public, private, and non-profit collaboration and efforts to meet the long-term management goals of the POSMP. The City is constantly looking for new partnering opportunities to improve skills, increase capacity, or supplement funding or resources. This plan also looks to provide alignment across organizations for goals and identify needs for training and knowledge gaps.

Priority Education and Training Needs

- **Tree hazard identification**
- **Tree pruning strategies**
- **Invasive identification**
- **Value of retaining existing mature trees and protecting natural systems**
- **Maintenance guidelines for HOAs**
- **Maintenance practices for residential wildfire prevention**
- **Maintenance for stormwater facilities**
- **Benefits of using native species vs ornamentals or lawns**
- **Pest management and chemical use**
- **Soil health**

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Does it enable a path for long-term community stewardship or collaborative partnerships? • Does it establish or implement a pilot program to test practices and capture learnings.	• Does it collaborate with outside organizations or volunteers? • Does it build public-private partnerships or shared knowledge, goals, or expectations?	• Does it include public educational opportunities to learn about a resource, site, or culture? • Does it adjust practices or provide training for staff or the public on innovative or Best Management Practice methods that improve performance?	• Utilizes existing internal staff to perform a routine task. • Supplement with contractor for tasks that require specific training and/or technical skills.	• Requires resources for extra staff training.

Community Value: Natural Character

Goal: Maintain the existing natural character of Camas in ways that bolster community identity.

The natural features of Camas contribute to a sense of beauty and place that makes it a great place to live, work, play, and visit. There are many different types of features, each requiring their own care, attention, and stewardship to maintain their character and functionality.

Types of Features

- Street Trees and Medians
- Park and Open Space Tree Canopy
- Habitat and Wildlife
- Creeks and Wetlands
- Bodies of Water and Shorelines
- Trails
- Forest Understory
- Meadows
- Wooded Hillsides
- Open Lawns
- Manicured Landscapes
- Sports Facilities
- Cemetery

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Does it incorporate and honor community connection to place? • Does it prioritize natural features over built ones? • Does it help to retain or enhance city-wide natural systems?	• Does it provide consistency that aligns with native ecosystems? • Does it consider impressions from arrival and departure?	• Does it preserve or protect significant natural features beyond code? • Does it replace or improve out of character or invasive landscapes?	• No additional considerations during planning or development to exceed existing code to benefit and/or preserve ecological systems.	• Does not align with the ecological or cultural context of Camas. • Removes significant features that have community value without mitigation.

Community Value: Equitable Access

Goal: Ensure that all community members have access to Camas' parks and natural resources and the benefits they provide.

Obstacles to resources can exist in many forms. Considerations should be made to avoid or remove barriers due to mode of transportation, connectivity, physical abilities, demographics, schedule, type of recreational activity, or feeling welcome or safe. All community members and guest of Camas should be able to experience and enjoy the natural environment and associated programming in ways that align with their needs and abilities.

Access for Who?

- **Children**
- **Parents**
- **Elderly**
- **Mobility impairments**
- **Sensory impairments**
- **Racial and Cultural Diversity**
- **Mixed-age groups**

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Does it fill a major gap or provide significant connectivity in the system. • Does it preserve large areas of natural resources in neighborhood of need?	• Does it support multi-modal transportation? • Does it provide connectivity between adjacent public and private lands?	• Does it maintain or enhance existing recreational amenities, programs, or resources? • Does it preserve recreational opportunities? • Does it improve site wayfinding?	• Service to neighborhood or demographic in need will be reactive and on an as needed basis.	• Is remote and does not serve a neighborhood or demographic in need. • Cuts off access to an existing resource.

Community Value: Asset Protection + Public Safety

Goal: Protect ecosystems, human health, safety, and public and private assets through the management of natural systems to limit the effects of extreme weather, climate change, and other potential impact.

Parks and open spaces are valuable infrastructure that can help mitigate effects of disruptions or stresses to the community. Projects should understand what potential vulnerabilities exist and plan on how to address them through planning, design, and management. Resources should ultimately shift from less reactionary to more preventative efforts

Key Assets to Protect

- Community and Human Health
- Trails and Recreation Amenities
- Urban Tree Canopy
- Public Facilities and Private Structures
- Road and Utility Infrastructure
- Natural Ecosystems
- Habitat and Wildlife

Priority Concerns

- Water quality
- Hazard trees due to ice or wind storms
- Disease, pests, and invasive species
- Facility closure due to extreme weather
- Wildfire
- Drought
- Climate change

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Does it significantly reduce the risk or liability of asset loss or damage due to stress or disruption? • Does it implement best practices to reduce or prevent long-term stressors, risks, or health issues?	• Does it assess the potential for risks to assets or humans across property lines? • Does it create collaboration between neighbors to address larger issues?	• Does it address a durability or wellbeing concern through routine maintenance and replacement program. • Does it eliminate a significant hazard or liability to human safety or health?	• Reactive to future disruptions, hazards or ongoing stressors to assets or people. • Reactive to addressing human safety and/or health needs.	• Takes priority. Reduces resources for other activities

Community Values: Project Approach Summary Matrix

	System	Connectivity	Local Improvements	Status Quo → Roadblocks	
Financial and Resource Allocation	• Do the goals and strategies open up opportunities for additional ongoing funding sources? • Does it reduce liability? • Can it utilize current practices or resources? • Are operational savings or ecosystem services quantified to support future assessments and tracking?	• Are off-site ecosystem services, trade-offs, or mitigation being considered? • Do the goals and strategies open up opportunities for supplemental grant funding?	• Does it reduce resource use or operational costs? • Are on-site ecosystem services included in the project goals and value discussions? • Does it reduce the need to hire outside vendors?	• Not currently funded or intentionally pursuing resources • Maintains status quo in funding for maintenance and operations • Is not intentional about valuing all ecosystem services. • Is reactive in responding to and mitigating hazards from extreme weather events and other effects of climate change.	• Increase maintenance costs or resource use. • Removes ecosystem services without mitigation.
Outreach and Education	• Does it enable a path for long-term community stewardship or collaborative partnerships? • Does it establish or implement a pilot program to test practices and capture learnings.	• Does it collaborate with outside organizations or volunteers? • Does it create new collaborations with outside organizations or volunteers? • Does it build public-private partnerships or shared knowledge, goals, or expectations?	• Does it include public educational opportunities to learn about a resource, site, or culture? • Does it adjust practices or provide training for staff or the public on innovative or Best Management Practice methods that improve performance?	• Utilizes existing staff to provide ad-hoc outreach and education to the public. • Supplement with contractor for tasks that require specific training and/or technical skills. • Partner with community and volunteer groups for invasive species removal.	• Requires resources for extra staff training. • Requires additional staff resources to provide and outreach and education program to the public.
Natural Character	• Does it incorporate and honor community connection to place? • Does it prioritize natural features over built ones? • Does it help to retain or enhance city-wide natural systems?	• Does it provide consistency that aligns with native ecosystems? • Does it consider impressions from arrival and departure?	• Does it preserve or protect significant natural features beyond code? • Does it replace or improve out of character or invasive landscapes?	• No additional considerations during planning or development to exceed existing code to benefit and/or preserve ecological systems.	• Does not align with the ecological or cultural context of Camas. • Removes significant features that have community value without mitigation.
Equitable Access	• Does it fill a major gap or provide significant connectivity in the system. • Does it preserve large areas of natural resources in neighborhood of need?	• Does it support multi-modal transportation? • Does it provide connectivity between adjacent public and private lands?	• Does it maintain or enhance existing recreational amenities, programs, or resources? • Does it preserve recreational opportunities? • Does it improve site wayfinding?	• Service to neighborhood or demographic in need will be reactive and on an as needed basis.	• Is remote and does not serve a neighborhood or demographic in need. • Cuts off access to an existing resource.
Asset Protection + Public Safety	• Does it significantly reduce the risk or liability of asset loss or damage due to stress or disruption? • Does it implement best practices to reduce or prevent long-term stressors, risks, or health issues?	• Does it assess the potential for risks to assets or humans across property lines? • Does it create collaboration between neighbors to address larger issues?	• Does it address a durability or wellbeing concern through routine maintenance and replacement program. • Does it eliminate a significant hazard or liability to human safety or health?	• Reactive to future disruptions, hazards or ongoing stressors to assets or people. • Reactive to addressing human safety and/or health needs.	• Takes priority. Reduces resources for other activities

Land Types and Minimal Expectations

There are many types of land that make up the parks and open spaces of Camas. Each type of land brings its own set of characteristics, values and management considerations.

Privately-owned properties

Privately owned properties play a key role in the parks and open space system by contributing to connectivity and management patterns within the larger landscape. Accountable management and stewardship of these lands are a crucial part of establishing a city-wide resilient system.

Homeowners associations

A homeowners association is an organization established within a residential community to manage and enforce rules and regulations. Homeowners associations manage common areas, which can include open spaces such as trails and stormwater facilities.

Minimum Maintenance Expectations: Alignment with expectations of other land types plus opportunity to partner with the City to improve overall ecosystem performance.

Private landowners

Private landowners own and manage significant portions of natural areas within or adjacent to critical areas. They are key partners in contributing to stewardship of our ecosystems.

Minimum Maintenance Expectations: Opportunity to align with the overall network and improve ecosystem performance.

Steep slopes

Hillsides having a 15 foot, or greater, vertical rise over 100 feet of horizontal run, or 15% slope

Minimum Maintenance Expectations: Human access should be limited and vegetation managed in order to minimize erosion. Development should be mindful of stability and impacts downslope, including beyond the property line.

Stormwater facilities

Stormwater facilities play a crucial role in managing runoff by capturing and treating rainwater to prevent flooding and pollution.

Minimum Maintenance Expectations: Facility inlets and outlets should be regularly cleaned of waste and sediment. Dead vegetation should be replaced in rain gardens. Grass should be mowed and saplings removed in detention ponds.

Open spaces

Open space is left primarily in its natural environment.

Minimum Maintenance Expectations: Maintenance of natural system functionality should take priority over recreational activities.

Publicly-owned properties

Publicly owned properties provide essential resources for conservation, recreation, and enjoyment. These properties often serve as the foundation for establishing protected areas and demonstrating best practices for management.

Trails

Pathways that provide access into natural areas and linkages across properties.

Minimum Maintenance Expectations: Safety hazards (including tree branches at-risk of falling) and waste should be removed. Uneven surfaces should be repaired.

Wetlands

Wetlands are transitional ecosystems that manage flood waters, create unique habitats and protect water quality. They are subjected to regulations by public agencies at the state, local, federal and tribal level.

Minimum Maintenance Expectations: Remove waste and invasive species. Prevent intrusion of contaminated water or excessive sediment.

Rights-of-way

A public right of way is land that is set aside for transportation purposes. This can include public roads, sidewalks, or medians.

Minimum Maintenance Expectations: Safety hazards (including tree branches at-risk of falling) and waste should be removed. Uneven surfaces should be repaired. Weeds should be removed or killed, and planting beds mulched. Dead plantings (especially trees) should be replaced.

Shorelines

Shorelines are linear spaces along bodies of water, managed in accordance with the state Shoreline Management Act.

Minimum Maintenance Expectations: Ensure access points are safe and devoid of hazards. Remove waste.

Parks

Parks are publicly accessible spaces that are developed to support recreational activities and programming.

Minimum Maintenance Expectations: Inspect equipment for safety. Assess and maintain trees and vegetation for health. Remove waste and repair furnishings. Maintain lawns to support recreational uses.

Recommendations

Best management practices for planning, operations, and site development were organized by system and aligned with each land type to provide guidance for moving beyond minimal expectations and towards systems-level resilience.

A systems approach

A systems approach to management involves understanding and optimizing the benefits each component can contribute to the overall community, while understanding potential trade-offs and synergies.

We are organizing the Management Plan Recommendations into these components in order to work towards giving each the attention they need to help the overall system thrive.



Best Practice Recommendations

In order to move beyond minimal expectations towards the goals of the city-wide system approach, the following recommendations are proposed to be considered for each project. Recommendations are organized by system and laid out by the template below. Utilizing these strategies can unlock the potential for more optimal management of resources that align with the 5 Camas Community Values.

HOW TO USE: Each project team should identify the applicable **Project Type** and **Land Types** that align with the project objectives and outcomes. The team should discuss and intentionally weigh the applicability of each relevant recommendation across the 7 systems as they apply to the project's goals, scope, and budget. A balance should be applied in order to equitably address the 5 Camas Community Values, and the Summary **Project Approach Matrix** should be referenced to ensure alignment.

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Best practices to unlock the most potential…		•••	•••	•••	•••	•••

Best management practices are listed here for the following **Project Types** for each system:

- **Operations & Maintenance -** Ways to manage established resources
- **Planning & Programming -** Ways to plan for future resources
- **Site Development -** Ways site design can impact management

The **Land Types** that can be managed using this practice are shown here using icons.

See Land Types page for descriptions and minimal expectations. These recommendations go beyond these expectations and work toward the community values at the site, organization, and system levels.

Each management practice is evaluated using the **Project Approach Matrix** and the alignment with each community value**.**



System



Connections



Improvements

SQ

Status Quo

N/A

Not Applicable

See Summary Matrix for criteria.

Water

Water is essential for life. Managing water in our parks and open spaces is vital for preserving natural ecosystems, ensuring access to clean water, and providing cooling and recreational opportunities for the community.



How does water impact us?

Stormwater
Stormwater management plays a crucial role in preventing flooding, recharging groundwater and mitigating pollution.

Irrigation
Irrigation is a valuable resource that provides a consistent water supply to vegetation when rainwater is scarce.

Water Quality
Water quality directly affects the health of humans, pets, vegetation, and wildlife.

Water Access
Water can be a calming presence and provide cool relief, a place for recreation, and sense of community - especially during extreme heat events.

What are the risks and concerns?

Flood Control
Floods can result in displacement of communities, damage to infrastructure, erosion and vegetation damage, and increased costs of living.

Drought
Droughts have adverse effects on ecosystems and communities such as tree and vegetation health, water scarcity, food shortages and economic losses.

Water Costs
High water costs can lead to disparities in water access, affecting both individual well-being and community development.

What are some key strategies?

Green infrastructure
Allowing rainwater to infiltrate the ground reduces runoff, prevents flooding and filters pollutants.

Stormwater facility sediment removal
Effective drainage systems ensure the longevity of stormwater infrastructure and prevent downstream pollution.

Water conservation practices
Reduce overall water consumption and promote efficient water use through use of native plantings, reduction in lawn, and efficient irrigation systems.

Engage Water
Improve access to water for drinking, cooling down, and supporting wildlife.

Privately-owned lands

Support water management through water-saving practices and integrating green infrastructure solutions.

Publicly-owned lands

Manage lands that absorb, celebrate, and provide access to clean and safe water.

Recommendations: Water

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Manage sediment before it impedes infiltration capacity. Remove sediments from drains, rain gardens, etc. annually, before the rainy season.		Opportunity to collaborate with HOAs.	Promote the use of green infrastructure.	Use resources proactively instead of reacting to stormwater facility failures. Improves natural infrastructure functionality.		Reduce flooding risks.
Apply filtration bags at storm drains before major storms, especially in the autumn to prevent leaves from clogging the system.				Reduce maintenance resources needed to clean out debris.		Reduce flooding risk.
Reduce chemical fertilizer and pesticide use to protect water quality downstream.	**All**	Opportunity to collaborate with private landowners.	Maintain healthy lakes, streams, and other bodies of water. Reduces potential damage to habitat and wildlife.	Reduce costs and labor for purchasing and applying chemicals.		Reduce risk of algal blooms and other water quality hazards.
Assess existing recreational water access points for safety, accessibility, and durability issues.			Increase engagement with natural water bodies for enjoyment.	Catch issues early to avoid full replacement of infrastructure.	Ensure recreational opportunities are maintained for all.	Reduce liability and risk of injury.
Designate lawn areas to go dormant during summer months to reduce water use.		Opportunity to educate public about water conservation practices.	Requires cultural shift in expectations to support desired uses.	Save on irrigation costs as well as mowing labor costs.		
Promote city-led inspection, guidelines, and education to private landowners and HOAs on ways to manage stormwater facilities.		Opportunity to collaborate with private landowners to improve system performance.	Promote the use of green infrastructure.	Improves natural infrastructure functionality.	Promote use of natural infrastructure on both public and private land.	Reduce flooding risk.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Water

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Size stormwater facilities to handle 100-year (1%) storms.				Reduce recovery costs and efforts to flooded areas.		Reduce flooding risk.
Ensure that shoreline and wetland trails account for future changes to water levels.					Protect future access to shorelines and wetlands.	Reduce potential for future damage.
Utilize water access to provide opportunities for cooling during hot days.					Ensure all community members have access to cooling resources.	Support public health.
Assess critical areas within the floodplain and ensure the plantings, soil, and materials can withstand flooding events.			Improve habitat and natural resources.	Save on rebuilding costs.		Plan for future floods to protect current resources.
See Lacamas, Round, and Fallen Leaf Lakes Management Plan for further actions						

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Water

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Look for opportunities to use a captured or recycled water source for irrigation use.		Opportunity to collaborate with private landowners.		Reduce irrigation costs.		Preserve water resources during extended drought.
Divert water running perpendicular to pathways from uphill sources into culverts or other durable structures.				Reduce costs of replacing paths and trails.	Increase longevity of paths and trails.	Increase safety of paths and trails.
Use drought-tolerant and/or adaptive plant species and cluster plantings by water use to reduce over-watering.		Opportunity to collaborate with private landowners.	Native planting supports habitat and wildlife.	Reduce irrigation costs.		
Celebrate the experience of rain water through ground surface treatments, artwork, and daylit water conveyance channels.		Stormwater education opportunity.	Promotes nature engagement with all ages.	Reduces the need for underground utilities.		
Ensure runoff is minimized and all stormwater is treated and infiltrated on site when possible. Consider the use of pervious surfaces.	**All**		Reduces impacts to downstream habitats.	Reduce future costs of repairing erosion impacts.		Reduces risk to adjacent property owners. Replenish local groundwater.
Plant trees adjacent to stream banks to provide shade, keep the water cool and reduce erosion into streams.			Protects habitat. Increases tree canopy cover.			Reduces erosion risks.
Protect waterways by not installing wood chip mulch below the ordinary high-water mark.						Reduce impacts to water quality.
Incorporate water sources to provide wildlife with a place to drink or cool down.		Opportunity to collaborate with private landowners to provide habitat connectivity.	Promote wildlife viewing and enhance enjoyment of natural spaces.			
Provide access to emergency water to protect non-irrigated trees and vegetation from extreme heat events.			Preserves tree canopy.	Reduce replanting costs.		Protects vegetation during extreme heat events.
Additional Best Practices found in the Rain Garden Handbook for Western Washington						

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Operations

Effective operations through stewardship and conversation can ensure optimized use of public funding, foster community engagement, promote safety and accessibility, and enhance the experience of these spaces.



How do operations impact us?

Safety
Well-maintained parks and open spaces are accessible and safe.

Enhanced experience
Visitors and community members will have a better experience in spaces that are functional, safe and well-kept.

Longevity
Taking care of assets ensures that they are still around in the future.

What are the risks and concerns?

Resource availability
Scarcity of resources limits the ability to maintain infrastructure, provide adequate programming and ensure visitor safety.

Lack of specialty knowledge
The lack of specialty knowledge can result in ineffective decision-making as well as missed opportunities for enhancement of parks and open spaces. It can also pose safety risks.

Loss of Recreational Opportunities
Inability to meet all of the maintenance tasks may lead to closures or reduced usage in parks and open spaces.

What are some key strategies?

Partnerships
Work with businesses, nonprofits and other community groups to establish project/program goals and partnerships.

Volunteer Coordinator
Hire a volunteer coordinator in order to best utilize volunteer groups to help focus on Management Plan goals.

Community engagement
Foster community engagement and connection to place in order to support long-term stewardship, a sense of ownership and investment in public spaces.

Privately-owned lands

Private landowners can partner with the City and learn from each others' operations practices, benefitting from shared knowledge and resources.

Publicly-owned lands

Public entities can provide opportunities for the community to participate in maintenance and learn about best practices.

Recommendations: Operations

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Consider reorganizing maintenance staff by land or system type and training or hiring champions to provide overall stewardship strategies, practices and goals.	**All**	Provide specialized knowledge to staff to align with systems approach.	Preserve and enhance the natural elements, features, and systems that contribute to the community identity.	Take a proactive approach to management and land stewardship.		System knowledge helps to identify issues early and work towards preventative measures.
Consider performing observations, evaluations, and surveys to help determine how spaces are currently used and capture ideas for potential improvements.		Engages community members to help form future efforts and priorities.	Allow management to focus on efforts that support current uses.	Allocate resources strategically.	Facilitate use of spaces by Camas residents. Help identify obstacles to desired uses.	
Hire city urban forester to provide overall stewardship, strategy, monitoring, and education to staff and the community.	**All**	Can coordinate educational opportunities for staff and community.	Support long-term health of tree canopy.			Address hazard trees and mitigate risk.
Hire a volunteer and/or HOA coordinator to organize and focus non-profit and community groups to align with POSMP goals.	**All**	Improve coordination and knowledge sharing amongst public and private groups.		Increase capacity for maintaining natural resources.		
Explore more potential funding sources that promote natural resources, parks, and open spaces as valuable, resilient infrastructure.	**All**	Align with other agencies on the value that nature can bring to communities.		Increase funding sources.		Explore resilience funding to reinforce natural infrastructure.
Partner with the Landscape Architecture Foundation and/or other institutions to create case studies or research to support ongoing monitoring and data-collection.	**All**	Bolster data-backed research and education around natural systems.		Better inform decision making and resource allocation.		

Recommendations: Operations

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Work with local businesses, nonprofits and other community groups to establish project goals, programs and partnerships.	**All**	Align with other agencies on the value that nature can bring to communities.	Align on expectations and provide consistency across the community.			
Establish agreements with HOAs and other partners for collaborative management of ecosystem services and recreational resources.			Align on expectations.	Maintain and enhance performance of ecosystem services.	Maintain and enhance trail and open space access through HOAs.	
Create ongoing channels with state and county level partners. Align and integrate ecosystem services with other City, County and State department goals, initiatives, funding sources, plans, and projects.	**All**	Align with other agencies on the value that nature can bring to communities.		Incorporate the valuation of ecosystem services into project planning across Washington.		Improve preparedness for inclement weather, fire, and other potential hazards.
Considering partnering with Camas School District as well as regional universities for citizen science programs or ongoing environmental monitoring initiatives.	**All**	Build partnerships and collect metrics that can inform decision making.		Collect data that can lead to more efficient utilization of available resources.		
Provide more volunteer orientation sessions to help familiarize them with the natural systems and expectations.	**All**	Increase hands-on experience and nature immersion to improve knowledge of natural systems.	Create opportunities for more connection to place.			
Obtain Tree City USA certification from the Arbor Day Foundation and pursue Growth Awards through innovative urban forest management efforts.	**All**	Increase awareness of efforts and progress through 3rd party organizations.				
Identify opportunities for joint training for both staff and community members to improve knowledge and best practices.	**All**			Use resource effectively though consolidating training efforts and promoting best practices.		Strengthen safety by creating shared understanding of operational and emergency procedures.
Engage tribal communities to build long-term relationships and understand best land management practices that could be incorporated into operations.	**All**	Opportunity for staff to move towards a stewardship model of land management.	Could lead to improved habitat and restoration of native ecosystems.	Could lead to increased ecosystem service perform across systems.	Is inclusive of tribal groups, practices, and knowledge.	

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Operations

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Provide staff review of design projects to identify potential maintenance efficiencies or improvements.				Ensure new designs align with maintenance expectations and capacity.		

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Materials and equipment

Materials and equipment selection and maintenance directly impact the functionality, durability, safety and aesthetic quality of parks and open spaces.



How do materials and equipment impact us?

Circulation and Gathering
Hardscapes allow for vehicular parking, pathways and open spaces to support programming.

Aesthetics and Character
Materials and furniture contribute to the overall character of Camas' parks and open spaces. Color selection, materiality and finish can provide consistency or a unique sense of place for each site.

Places for Recreation and Rest
Playground equipment, benches and picnic tables provide places for both active and passive recreation.

What are the risks and concerns?

Heat island effect
The heat island effect, characterized by elevated temperatures in urban areas, underscores the importance of selecting materials that minimize heat absorption.

Safety
It is critical to select materials that minimize potential hazards, reduce the risk of accidents or injuries and ensure the well-being of users.

Wear and Tear
Many materials degrade over time due to outdoor exposure to sun, water, soil, and frequent use.

What are some key strategies?

Consistent sourcing
Utilize a short list of standard furnishings, materials and colors to simplify replacement and maintenance costs and provide a consistent character across spaces.

Durability
Selecting durable materials ensures long-term functionality and minimizes the need for frequent maintenance or replacement.

Universal access
Provide universal access to program areas and for equipment options for people of all ages and abilities.

Privately-owned lands ← → **Publicly-owned lands**

Private landowners can provide durable surfaces for any publicly accessible trails or amenities.

Public lands can provide durable and accessible products to ensure long-term use for all.

Recommendations: Materials and Equipment

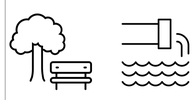
Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Continue to perform safety assessments annually to ensure that playground and other equipment is durable and safe for use.				Reduce liability risks.	Identify challenges to universal access and assess potential for universally accessible equipment.	Ensure safety of community members.
Provide recycling options next to all trash receptacles.		Support responsible habits for resource management.	Reduce impacts of landfills.			
Use materials for maintenance and repair of paving that reduce harm to environmental and human health, such as low-emitting sealants.		Set example of best practices.	Reduce risk of habitat contamination.			Protect health and safety of staff and end-users.
Pave existing highly-used soft-surface trails in popular areas.				Reduce liability from degradation.	Improve accessibility.	Provide long-term durability.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Materials and Equipment

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Provide universal access to program areas and equipment options for people of all ages and abilities.		Expand reach and impact of programming and educational signage.	Allow all community members to appreciate natural features and habitats of Camas.		Ensure that everyone can enjoy outside activities equitably.	
Design facilities to handle extreme events with minimal effects on continued functionality.		Promote disaster preparedness of community members.				Preserve building functionality overtime. Facilities could act as a resource for community members in an emergency event.

HOA  Private land  Steep slopes  Stormwater facilities  Open spaces  Trails  Wetlands  ROW  Shorelines  Parks 

Recommendations: Materials and Equipment

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Use contrasting material at stair nosing to promote visibility.						Increase safety of stairs.
Use durable materials that can handle UV exposure and flowing and standing water.				Reduce replacement costs.		Increase resistance to wear and tear.
Consider the use of high albedo materials to reduce heat absorption. Manage potential glare impacts.						Reduce urban heat island effect.
Select exterior luminaires that reduce light pollution.			Preserve connection to the night sky and reduce impacts to habitat.	Reduce energy costs for illumination.		
Select nature-based play equipment, seating, and climbing areas.			Aligns with the natural character of developed playgrounds and parks.			
Utilize a short list of standard furnishings, materials and colors.			Provide a consistent character across spaces.	Simplify replacement and maintenance costs		

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Access and amenities

It is critical to ensure that people of all ages and abilities can access and enjoy the variety of parks and open spaces that Camas has to offer.



How do access and amenities impact us?

Equity
Managing parks and open spaces to ensure everyone can access and enjoy them creates inclusive spaces that benefit the entire community.

Program
Amenities provide essential infrastructure and resources to support visitor experience. This creates spaces where people can recreate and gather.

Wayfinding
Wayfinding bolsters sense of place by guiding visitors through the parks and open spaces, and facilitates meaningful interactions with natural and cultural elements.

What are the risks and concerns?

Safety
Inadequate or poorly maintained facilities can compromise visitor safety and lead to underutilization of the place.

Exclusion
Lack of access creates barriers that prevent community members from fully participating in recreational activities, limiting their ability to enjoy and benefit from parks and open spaces.

Lack of amenities
Inadequate amenities such as lack of seating or restroom facilities may deter visitors from diverse backgrounds, increasing disparities in access to parks and open spaces.

What are some key strategies?

Avoid hazards
Lay out pathways to avoid hazards and sensitive or protected areas, and reduce bike and pedestrian conflicts with vehicles.

Universal access
Incorporate universally accessible pathways, amenities, and access to the extent practicable.

Education
Provide educational, wayfinding, and interpretive signage. Use multiple languages to address potential language barriers.

Privately-owned lands ← Private landowners can build partnerships to contribute and connect to the city-wide network of open spaces.

Publicly-owned lands → Public lands can ensure amenities accomodate the needs of all community members.

Recommendations: Access and Amenities

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Add or improve amenity spaces for gathering, playing or resting.		Increase community engagement.	Strengthen opportunities for connecting with natural spaces.		Prioritize in areas that lack similar amenity or feature.	Promote social and physical health.
Provide a higher level of maintenance to trailheads and main entrances to enhance visibility as well as visitor sense of safety.					Enhance visitor experience and attract new visitors.	Reduce crime and vandalism.
Utilize best management practices and caution when performing maintenance tasks that use excavation in areas with high probability of cultural, archeological, or historical resources.		Preserve and protect cultural resources.		Reduce project delays and costs.	Respect process and history of indigenous cultures.	
Improve ADA accessible pathways and access into parks and open spaces.		Increase community engagement.			Make parks and open spaces accessible to all by accommodating all levels of mobility.	Decrease risk of accidents and hazards.

Recommendations: Access and Amenities

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Provide low-impact access to natural areas and wetlands.		Opportunity for visitors to understand the value and purpose of natural resources.	Opportunity to experience wildlife and natural systems.		Diversify recreational opportunities.	Preserve critical areas from impacts of human use.
Identify public lands or facilities to act as community gathering and resource distribution in an emergency.		Increase community awareness and preparedness.		Increase eligibility for resilience-based grants.	Provides resources in an emergency where it is needed most.	Enhance emergency preparedness and increase community resilience
Incorporate universally accessible pathways, amenities and access to all program areas.					Expand user base and access.	Reduce liability risk.
Consider trail connectivity enhancements when planning subdivisions.			Provide increased opportunities for experience nature.		Increased recreational opportunities. Expand network connectivity.	
Consider multimodal transportation access when planning parks and trails.					Increased recreational opportunities.	Promote physical activity and public health.
Ensure that some amenities remain accessible year-round.		Increase community engagement.	Support experiences of natural systems in different seasons.	Maximize utilization of amenities and increase of rental revenue.	Opportunities to enjoy spaces all year.	
Develop a difficulty scale for trails and provide maps and/or signage to indicate appropriate skill levels - consider surface material, slope, and elevation gains.		Provide clarity on expectations and current conditions.			Ensure users are matched to the appropriate activities.	Protect health and safety of users.
Develop a consistent signage standard for use on public and private trails that define rules, etiquette, and trail conditions.		Ensure city-wide consistency on expectations, behavior, and management.	Provide consistent conditions and alignment on goals.			Protect health and safety of users.
Develop trail grade standards for both public and private lands that provide consistency of width, material, maintenance, and other supporting features.		Ensure city-wide consistency on expectations and management.	Provide consistent character and alignment on goals.		Ensure all trails are equitable and safe.	Protect health and safety of users.

Recommendations: Access and Amenities

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Locate parking to minimize intrusion into open spaces and avoid pedestrian conflicts.			Maximize utilization of open space.	Reduced maintenance and infrastructure costs.	Provide safe and efficient access to recreation opportunities.	Increase pedestrian safety.
Provide educational and interpretive signage.		Promote stewardship and community engagement.	Share value of preserving natural systems and features.		Enhance visitor experience.	
Look for small opportunities to provide comfort or interest along trails - seating, potable water, fitness equipment, shade, etc.			Create moments to appreciate natural surroundings.		Increase utilization of parks and open spaces.	Improve public health and wellness.
Provide clear visibility and wayfinding at key intersections.		Provide orientation and promote options.			Enhance visitor experience.	Provide effective emergency response.
Place signs in and around open spaces and critical areas, clearly identifying permitted and restricted uses.		Clarifies intent of public spaces and balance between human uses and natural functions.	Protects sensitive areas and natural features.	Reduce costs for enforcement and repair of misused assets.	Enhance visitor experience.	Prevent property damage and liability claims.

HOA  Private land  Steep slopes  Stormwater facilities  Open spaces  Trails  Wetlands  ROW  Shorelines  Parks 

Soil

Implementing appropriate soil management practices is essential for supporting vegetation growth, regulating water infiltration and drainage, and influencing ecosystem health and resilience.



How does soil impact us?

Water infiltration and quality
Soils that can absorb and filter water help to mitigate flooding, reduce erosion, and support healthy ecosystems.

Tree and vegetation health and stability
By supporting nutrient cycling, supporting microorganisms, and providing space for root growth, soils are a critical part of plant health.

Carbon storage
Healthy soils are typically able to sequrester and store more carbon than the vegetation they support.

What are the risks and concerns?

Erosion
Erosion can degrade landscapes, disrupt pathways and trails, harm vegetation, increase sedimentation in water bodies and compromise ecosystem health and recreational opportunities.

Soil loss and Contamination
Loss of healthy topsoil through removal or pollution can harm plant health and soil microorganisms.

Compaction
Compacted soils have a decreased ability to infiltrate water. They also impact ecosystem health by limiting root growth of plants, especially when surrounded by hardscape and heavy foot traffic.

What are some key strategies?

Soil protection zones
Protect soil areas during construction and operations to reduce compaction or contamination.

Increase soil volumes for trees
Provide trees with adequate space for root growth to ensure long term health and stability.

Plantings
Use dense plantings to discourage walking through planting areas and reduce compaction. Amend soils as needed to ensure long-term health.

Privately-owned lands

Private landowners can restore soils after disturbance to provide long-term plant health.

Publicly-owned lands

Public lands can protect soils by limiting access through sensitive conditions.

Recommendations: Soil

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Consider natural and/or constructed bank stabilization techniques in conjunction with any crossing projects.			Preserve and protect natural resources.	Increase asset longevity and reduce replacement costs.	Enhance recreational opportunities and user experience.	Risk and liability reduction.
Establish soil protection zones during construction projects to minimize compaction of adjacent areas.			Preserve and protect natural resources.	Reduce soil restoration costs.		Minimize erosion and sedimentation risk.
Use a single access route to work zones and minimize trips through the access route in order to decrease soil compaction and erosion.			Preserve and protect natural resources.	Reduce restoration and maintenance costs.		Minimize erosion and sedimentation risk.
Limit access routes across steep slopes and install access routes parallel to slope contours and perpendicular to water flow.			Preserve and protect natural resources.	Reduce restoration and maintenance costs.		Minimize erosion and sedimentation risk.
Limit crew size in wet areas and establish a project staging area outside of the wet areas.			Enhance wetland and water quality.	Increase crew efficiency and productivity.		Protect critical areas and worker safety.
Identify and address potential hazards or erosion concerns, especially after large storm events.				Reduced replacement and maintenance costs.		Protect infrastructure and property.
Increase soil areas of existing street trees through hardscape removal.			Protect character of large mature trees.	Preserve ecosystem services from tree canopy in urban areas.		Protect critical urban tree canopy.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Soil

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Prioritize the location of stormwater treatment facilities away from structures, at site low points, and where infiltration is likely to be effective.				Reduced stormwater management costs.		Reduce stabilization risks.
Use a phased approach to weed removal and restoration to minimize exposed soils and erosion.	**All**		Preserve aesthetic appeal of the space. Prevent return of invasive species.	Reduced stormwater management costs.		Mitigate erosion risks.
Find alignments that allow for <5% slopes for pathways through open spaces. Incorporate switchbacks when needed.					Provide accessible circulation.	Reduce bank destabilization risks.
Limit development and disturbance on steep slopes greater than 15%. Consider protecting them as publicly-owned critical areas.		Ensure land owners understand the potential risks and downstream impacts involved when building on steep slopes.	Preserve sensitive habitat areas.			Reduce bank destabilization risks.

Recommendations: Soil

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Maximize vegetated ground coverage as early as possible to reduce erosion impacts.			Preserve natural resources.	Cost savings on erosion control measures.		Protect infrastructure and property.
Use dense plantings, tree grates, other barriers, and/or signage to discourage walking through planting areas to avoid compaction, especially in high traffic areas.			Maintain attractive and well-preserved landscapes.	Reduce replanting and maintenance costs.		Protect long-term health of trees in urban spaces.
Utilize proper soil amendments to improve health and increase water storage. Perform a soil analysis as needed.		Develop an understand of soil health in public spaces.	Maintain healthy vegetation.	Reduced irrigation and maintenance costs.		Resist drought.
Allow for adequate soil volumes to support trees adjacent to hardscape paving. Allow for 8’ wide planting areas for large trees unless other measures are taken to provide the needed soil volumes and protection (see references).			Maintain mature tree canopy.	Reduce replacement costs.		Protect long-term health of trees in urban spaces.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Vegetation and habitat

Proper vegetation management provides vital habitat, reduces risks, and contributes to the overall quality of Camas' natural aesthetic.



How does vegetation impact us?

Biodiversity
Plants support biodiversity by providing suitable conditions for a variety of organisms to thrive and serving as habitat for wildlife. Biodiverse ecosystems are more resilient and provide support for human health and wellbeing.

Ecosystem services
Healthy plant communities purify the air, water and soil, stabilize soils and regulate temperature.

Aesthetic appeal
Vegetation provides colors, textures and shapes throughout the landscape. Plants provide shade and can support recreational activity such as hiking, nature appreciation and birdwatching.

What are the risks and concerns?

Fire management
Vulnerability to wildfires increases the risk of harm to infrastructure, human communities and wildlife.

Invasive species
Invasive species compete with native plants and disrupt ecosystem processes. They also result in increased management costs to control their spread and mitigate ecological impacts.

Improper pesticide use
Improper pesticide use harms non-target organisms, can contaminate soil and water resources and have negative impacts to human health.

What are some key strategies?

Preserve and re-establish key plant communities
Prioritize native and adaptive plant species that enhance ecosystem resilience and biodiversity. Protect and create key forest structures that are important habitat features for multiple wildlife strategies.

Integrated pest management
Utilize established integrated pest management plans and prioritize no-chemical pest control options when appropriate. Prioritize careful removal of invasives.

Support pollinators
Integrate native pollinator restoration to the greatest extent possible. Convert passive turf areas to native naturescaping.

Privately-owned lands

Private landowners can shift plant species selection to more native palettes and minimize the use of chemical inputs. They can be aware of and implement fire management best practices around their homes and businesses.

Publicly-owned lands

Public lands can establish and protect large-scale and connected native and adaptive plant communities to provide long-term habitat opportunities.

Recommendations: Vegetation and Habitat

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Protect and create key forest structures (standing dead trees/snags, downed logs, old trees, open gaps) that are important habitat features for biodiversity.			Enhance natural character and provide homes for wildlife.	Decrease maintenance costs of removing forest structures.	Enhance recreation opportunities such as birdwatching.	Work with arborists and other specialists to ensure safety.
Develop an integrated pest management plan and prioritize non-chemical pest control options as appropriate. Include regular tree inspection for pests and disease to reduce spread.	**All**			Reduce pesticide costs and staff time.		Increase resilience of ecosystems and landscapes.
Ban the use of neonicotinoids.	**All**	Communicate the value of protecting pollinator health.	Protect wildlife health.	Reduce pesticide costs and staff time.		Protect public health and water quality.
Take precautions to avoid spreading noxious weeds or invasive species between work/restoration sites. Designate "haul and drag" routes for removing plant material to minimize disturbance.	**All**			Reduce future invasive species removal costs.		
Consider using a mulching mower and leaving plant material in place over winter.		Share strategies for different ways to provide habitat.	Provide winter habitat to support biodiversity.	Enhance the health of turf and reduce maintenance costs.		
Provide educational material for fire mitigation maintenance practices including minimizing fire fuels, species to avoid, spacing, materiality, and defensible space zones		Educate Camas residents about wildfire resilience.	Balance expectations around safety and vegetation density.			Increase resilience to wildfires, and reduce fire spread potential across natural areas.
Provide training or educational materials on invasive species identification, monitoring, and removal.	**All**	Educate Camas residents about invasive species management.	Reduce competition with native plant species	Weed removal reduces competition for water with desired vegetation, reducing water use.		Protect health and functionality of native ecosystems.
When manually removing noxious weeds or invasive species from areas near waterways, prevent sediment and vegetative debris from entering the waterway.			Enhance aesthetic appeal of recreation areas.	Reduce future invasive species removal costs downstream.		Protect native habitat.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Vegetation and Habitat

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Partner with local nurseries to find alignmentment with native plant lists, prohibited species, and plant availability.	**All**	Builds partners to support native and adaptive plant goals	Supports wildlife.		Increases availability of native plant species.	
Preserve and enhance large, connected patches of undeveloped native vegetation.			Preserve key habitat patches and corridors. Retain urban tree canopy.		Increase access to recreational opportunities.	Mitigate flood risk. Improve air and water quality. Reduce urban heat island effect.
Use succession planning to identify species that will thrive in Camas as the climate changes.	**All**	Identify climate-adaptive plantings to encourage use.	Ensure natural character of Camas persists for future generations.	Reduce long-term maintenance costs.		Reduce tree mortality, fall hazards, and wildfire fuels.
Perform a needs assessment based on surrounding neighborhood densities and service area to determine how much open lawn space is needed in developed parks to support the community.		Work with residents to understand use needs and balance of natural spaces.	Right size turf use to allow space for native plant communities.	Reduce the need for lawn care and water use for under-utilized turf.	Ensure communities have amenities that supplement home uses.	
Integrate native pollinator restoration into urban design and municipal open space plans.		Share value of support pollinators.	Increase aesthetic value of space. Encourage wildlife.	Reduce maintenance costs from water use.		

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Vegetation and Habitat

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Support crime prevention through environmental design by planting trees with high canopy, preserving view corridors, and utilizing vegetation with transparency.			Balance expectations around safety and vegetation density.		Increase use of existing spaces.	Increase public safety.
Use plant stock from multiple seed zones for a given species to increase genetic diversity and enhance long-term survival.	**All**			Reduce long-term arborist and maintenance costs for removal and replacement.		Biodiversity provides resilience to pests and changing climate conditions.
Convert existing underutilized lawn area to native naturescaping (i.e. meadow or forest understory).		Share potential value for wildlife habitat.	Increase habitat and wildlife value.	Reduce maintenance costs.		
Provide interpretive signage for native/adaptive plantings or restoration areas.	**All**	Educate visitors about ecological best practices. Encourage native plant use on private property.				
Provide appropriate plant materials to shade stormwater facilities and other shallow water bodies to reduce temperature impacts downstream.			Preserve quality habitat in and around water bodies.	Reduce cost of downstream interventions to reduce stream temperature.	Enhanced recreational opportunities.	Mitigate urban heat island effects.
Integrate native flowering plants and habitat structure into vegetated stormwater infrastructure.			Increase aesthetic value of natural areas. Improve habitat.			
Increase turf diversity by seeding passive turf areas with drought-tolerant flowering perennials.			Increase aesthetic value of space.	Reduce water use.		

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Tree Canopy

The tree canopy is the keystone to the natural character of Camas while also providing essential ecosystem services to benefit the community.



How do trees impact us?

Shade and cooling
Trees help to mitigate the urban heat island effect and enhance comfort by providing shade and cooling.

Air and Water purification
Trees absorb pollutants and carbon dioxide, improving air and water quality as well as human health.

Natural character
Trees are a major contributor to the natural character of Camas and its location within the Pacific Northwest.

What are the risks and concerns?

Fall hazards
Unhealthy or storm-damaged trees may fall unexpectedly, potentially causing damage or injury.

Development
While new construction is needed to accommodate the growth of the Camas community, it sometimes comes at the cost of land clearing and canopy loss.

Disease, Pests, and Die off
Disease, pests, or extreme climate events can weaken the health of trees and reduce their resilience to other environmental stresses.

What are some key strategies?

Revise planning regulations
Adjust planning codes and work with private landowners and public property to at least maintain the amount of tree canopy city-wide as land continues to develop.

Training and education
Provide training and education for staff and the public on forestry and tree health.

Adaptive tree palette
Develop a plant palette and succession plan strategy to establish a diverse canopy that reduces vulnerabilities to climate change.

Privately-owned lands

Private landowners can preserve large clusters of mature trees and work with best practices to maintain their health and reduce hazards.

Publicly-owned lands

Public lands can provide opportunities to expand canopy coverage, transition to adaptive species, and improve the health of right of way trees.

Recommendations: Tree Canopy

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Remove or prune hazard or dead trees or branches where they pose a risk to safety or property damage.	**All**		Maintain tree canopy health.	Reduce liability.		Protect people and property from damage.
Ensure newly installed trees have a minimal watering period of two years to ensure establishment	**All**		Ensure succession and healthy establishment.	Reduce replacement costs.		
Replace trees adjacent to hardscapes when they get removed or die off. Consider removing some hardscape around tree well.			Retain Camas' identity as a tree-friendly city.	Preserve critical urban ecosystem services over time.		Ensure long-term resistance to natural hazards from canopy coverage.
Provide training for staff and public on forestry and tree health. Include protocols and procedures for public tree risk assessments, pruning, risk mitigation, and emergency preparedness and response.	**All**	Educate Camas residents and staff to promote tree health.	Maintain tree canopy health.	Increase maintenance capacity through partnerships.	Increase access to knowledge to be applied locally.	Identify issues before they become hazards.
Remove invasive species and provide training for the public on how to identify and remove invasive species.	**All**	Educate Camas residents about invasive species management.	Create healthier environment for native plants to survive.			
Utilize climate-adaptive species for new or replacement plantings.	**All**		Ensure long-term succession of healthy ecosystems.	Decrease long-term replacement costs.		Resist die-off from extreme weather and climate change.
Prioritize protection, maintenance, and restoration of at-risk species or plant communities.	**All**	Opportunity to partner with nonprofits or community stewardship groups.	Preserve most valuable ecosystems and habitat.			Ensures longevity for vulnerable resources.
Establish a free tree planting program to increase canopy coverage and promote community engagement.		Partner with nonprofit for funding and outreach.			Support tree canopy coverage in at-risk communities.	
Complete a comprehensive tree inventory of public trees and maintain and update data over time.		Support public education with data-backed assessments.	Identify trends to help preserve existing canopy.	Use data to track long-term health and influence decision making.	Identify gaps in canopy.	Identify trends and issues holistically.
Partner with HOAs to generate tree inventories to track health and adaptability over time.		Support public education with data-backed assessments.	Identify trends to help preserve existing canopy.	Use data to track long-term health and influence decision making.	Identify gaps in canopy.	Identify trends and issues holistically.

HOA · Private land · Steep slopes · Stormwater facilities · Open spaces · Trails · Wetlands · ROW · Shorelines · Parks

Recommendations: Tree Canopy

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Work with local nurseries to adjust supplies to meet future needs and remove invasives or problem species.	**All**	Increase public awareness about problem species. Look for opportunities to subsidize through partnerships.	Shift market to align with native natural character.		Increase availability of native trees for more land owners.	Reduce ecosystem impacts from invasives.
Introduce tree infill planting on public lands.			Offset canopy loss.	Mitigate ecosystem services lost from development.		
Align trails, pathways, and amenities to avoid impacting mature trees and other sensitive habitat.	**All**		Preserve key specimen trees that promote connection to place.	Reduce damage and replacement costs.		Protect existing resources.
Work with schools to identify opportunities for additional canopy cover or educational opportunities.			Promote natural identity in public areas		Provide canopy in public areas	
Require ecosystem service mitigation for reduction in tree canopy for new development.		Promote value that nature provides to built environment.	Relocate key natural features when lost.	Require compensation for loss of infrastructure	Retain natural systems on private lands.	Reduce stress on remaining natural infrastructure.
Develop succession plans to establish a species, age, and structurally diverse canopy that reduces vulnerabilities to climate change.	**All**		Ensure long-term succession of healthy ecosystems.	Decrease long-term replacement costs.		Resist die-off from extreme weather and climate change.
Reduce the required DBH size for preservation/significant tree designation. Pair with a heritage tree program that includes both public and private specimen.	**All**		Maintain a diversity of canopy ages and mature tree coverage.	Preserve ecosystem services performed by largest existing trees.		
Establish a tree canopy project preservation goal beyond code requirements for any project where existing canopy is above the city average			Offset canopy loss and preserves mature canopy coverage.	Reduce ecosystem services lost from development.		
Prioritize new tree plantings in areas that have low existing canopy coverage and a high possible planting area percentage.	**All**		Expand natural character across Camas.		Improve access to benefits of tree canopy.	Reduce heat island effect.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Tree Canopy

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Introduce a minimum tree well size/width for when trees are planted adjacent to paved surfaces.			Maintain mature tree canopy over time.	Reduce replacement costs.		Ensure longevity of trees in urban areas.
Ensure pathways, gathering, and resting areas are shaded to reduce surface and air temperatures.			Provide enjoyment of natural areas in multiple seasons.		Support recreation for a variety of user needs.	Protect public health and safety.
Plant trees quickly after site disturbance, such as construction or invasive removal.	**All**		Reduce chance of invasive establishment.	Reduce erosion impacts and rework.		
Implement a species diversity requirement for new plantings.	**All**		Biodiversity supports wildlife.			Resist pests, disease, and climate vulnerability.
When feasible, use a soil cell system to provide more growing space for trees.			Maintain mature tree canopy over time.	Reduce replacement costs.		Ensure longevity of trees in urban areas.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Monitoring and Performance Metric Recommendations

What are realistic and implementable ways of measuring progress and success?

One of the goals of this plan was to establish a data-driven process to help make more-informed decisions. While decisions cannot be made on numbers alone, there are some ways to help better inform the process to understand how progress is being made towards the goals, priorities and values in the POSMP.

Recommended metrics to incorporate into Operational practices:

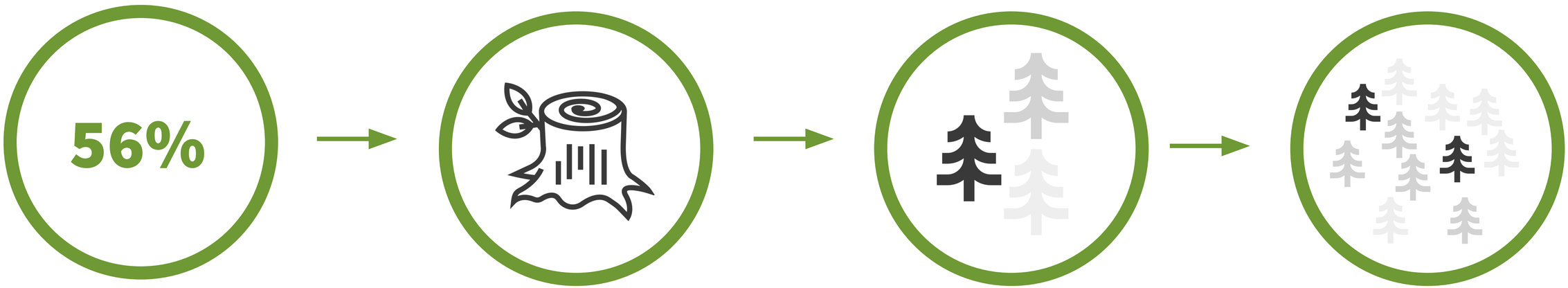
- Coordination with Comprehensive Plan and future PROS Plan updates
- Annual tracking and review of staff hour allocations by task and land type
- Annual tracking and review of water use
- Annual tracking and review of contract worker expenses
- Annual tracking and review of volunteer hours by project type or system (i.e. invasive removal)
- Perform city-wide canopy assessment every 10 years
- Maintain and expand tree inventory database
  - Completion of public tree canopy inventory
  - Coordination with HOA's and private land owners to perform tree canopy inventory
- Implement per-capita spending targets and tracking metrics to ensure adequate funding levels for maintaining high-quality parks and recreation amenities that meet the needs of the community in Camas.
- Require master plans and site development projects to propose site-base performance metrics to align with POSMP goals and prioritization criteria
  - Based on different land uses and ecosystem types
- Regular assessments of planted tree species should be conducted to identify any issues and take necessary corrective measures. This could involve adjusting watering schedules, providing additional care during extreme weather events, and replanting trees that fail to thrive.
  - Camas could establish a dedicated team or partner with existing organizations to monitor and manage the program. Utilizing technology like remote sensing and data analysis tools can aid in effectively tracking the health and progress of the planted trees. By continuously adapting to the changing environment, Camas can ensure the sustainability and success of its tree planting program, contributing to a greener and more resilient future for the City.

Planning Recommendations

In order to achieve alignment with the goals of this plan, updates to planning, code, and ordinance documents are recommended. These will help supplement the management practices on public land with adjustments to private development practices.

Planning Recommendation Path

The current city-wide tree canopy coverage is ~38%. As the population of Camas continues to grow, development could have significant impacts. If no changes to current regulations or practices are made, tree canopy losses will accumulate over time. Understanding existing code and development patterns reveals several opportunities to adjust planning approaches and change the trajectory.



About half of canopy is on private lands

While the City can do their best to maintain and enhance canopy on public lands, it will take efforts on the private side to make sure city-wide canopy retains its value and benefits to the community.

Canopy on private lands is being lost

For example, residential lots had a net loss of tree canopy of **99 acres** from 2011-2021 (or a 5.8% loss in canopy area in those zones).

Tree ordinance requirements are not preserving existing canopy

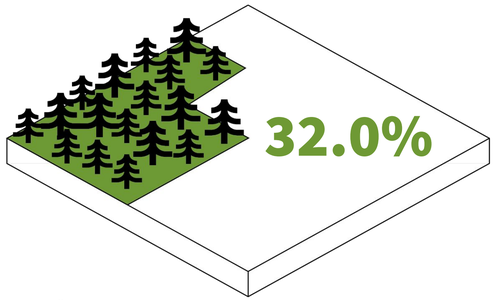
The current tree ordinance only replaces/preserves a portion of lost existing canopy because it allows the removal of large trees, while mitigating some losses with much smaller new trees (see next page).

These losses will be compounded over time

As development on private land continues and canopy is lost, the canopy will see an immediate reduction in coverage and value. It will take decades for mitigation of removed trees with smaller trees to regain their benefit as mature trees.

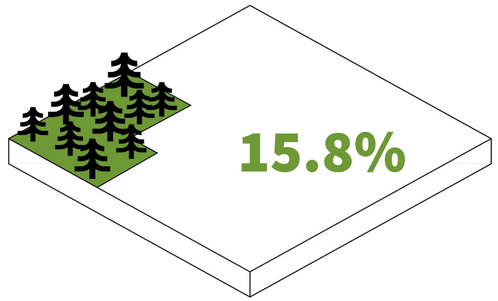
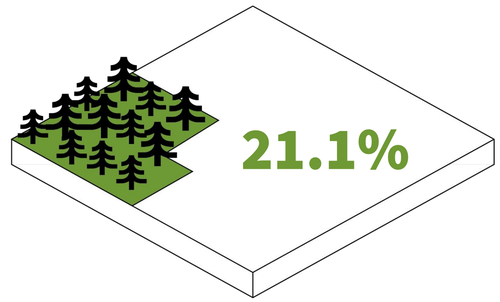
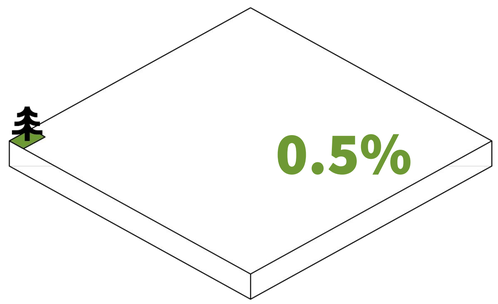
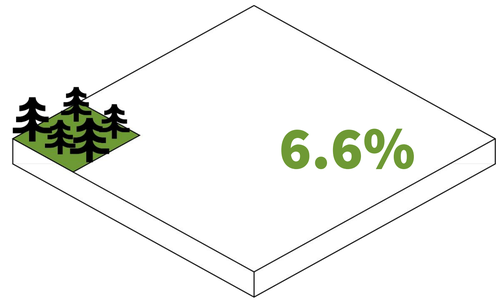
Tree Density Requirements

Comparing existing conditions to tree code minimal requirements, there is potential for significant immediate tree canopy loss as lands develop. Mitigation with new trees will increase canopy over decades if species are adaptive and well maintained, but immediate ecosystem services are mostly lost with removal of existing mature trees.



City-wide Average Canopy Coverage of Existing Residential Zones (40 - 80 tree units per acre)

Many existing, undeveloped, private properties are at or above the city average for canopy coverage. If those developments stick to the code minimum, the chart to the right shows the best- and worst- case scenarios for immediate canopy coverage after development.

	Potential Development (per acre)	
	Standard tree code (20 units)	**North Shore tree code (30 units)**
Best-case immediate scenario	 **Maximum Immediate Canopy Coverage - Preserve a few large existing trees**	 **Maximum Immediate Canopy Coverage - Preserve a few large existing trees**
Worst-case immediate scenario	 **Minimum Immediate Canopy Coverage - (20) New 2” Trees**	 **Minimum Immediate Canopy Coverage - Half new 2” trees, half preserve existing**

Planning Recommendations: Tree Ordinance

Issues, Lack of Clarity or Misalignments with POSMP Goals	Recommendations	Notes
Tree Unit quantities do not relate to canopy area	Adjust tree units to reflect tree canopy area in addition to DBH	Adjust to give higher tree unit value to larger trees. This would only be effective if the total tree unit requirement is raised proportionately.
Tree Unit requirements are not defined for public parks	Define tree density requirement specifically for parks and open spaces. Units should be greater than other developed areas and align with canopy goals.	
Tree Unit requirements lower than existing conditions could result in significant canopy reduction over time	Increase total Tree Unit requirements to reflect canopy goals.	Could provide overlay zones in the Comp Plan for areas with existing higher coverage.
Preservation of significant trees is confusing and loosely defined and at only a higher DBH	Redefine significant tree size and require a higher tree unit replacement for damaged or removed significant trees. Develop a Heritage Tree Program that restricts all removal above a certain size for certain species. Require all properties (not just North Shore) to include the preservation of existing trees as a portion of the total Tree Unit requirement.	Replacement could be a 1:1 for DBH removed. If larger trees are used for replacement (not a requirement), extra care should be given to them for establishment as they are typically more challenging to keep alive.
Preservation or mitigation of native / adaptive species is not recommended or required	Give more value to native and adaptive species and/or prohibited/non-adaptive trees get a value of 0.	This could come in the form of a higher tree unit value or be part of a Heritage Tree program that values mature native trees.
No value or guidance is given regarding tree removal or preservation strategies for stability	Provide guidance and recommendation language on preservation and removal of clusters of trees.	The goal is to preserve clusters as-is to keep stability of the root system. If a tree needs to be removed in a cluster, it is recommended to leave the stump if possible.
Planter widths are given, but there is no guidance on soil volumes in Rights of Way. Many trees are planted in spaces that are too small to promote long-term health	Provide guidance and requirements on minimum soil volumes in Rights of Way	Require 8’ wide widths for all large trees unless other measures are taken to provide adequate soil volumes, stability, and protection.

Planning Recommendations: Plant Materials

Issues, Lack of Clarity, or Misalignments with POSMP Goals	Recommendations
Current Plant Materials List identifies species name, size, form, and some character descriptions (deciduous for some trees but not others). Some additional info would be helpful to align with code and POSMP goal expectations to help in decision making and long-term success.	Include more info for each species to help guide plant selection to meet planning development code and POSMP goals. Add the following columns for recommended plantings: • Evergreen • Drought-tolerance • Native • Sun exposure • Fire resistance/hazard • Climate change heat and hardiness vulnerability rating (per Urban Tree Canopy Vulnerability Report)
Private residents or developers may have a difficult time selecting the right tree species from a long list of options.	A tree selection tool could be developed that streamlines species that meet site-specific criteria in order to simplify decision making and ensure proper adherence to the criteria. Care should be taken to still promote diversity in selection.
Some species listed are projected to not adapt to climate change	Consider moving some or all of the non-adaptive, non-native species to prohibited list.
The shrubs, grasses, and groundcovers lists contain many non-native species and few native ones	Expand shrubs, grasses, and groundcovers lists to include native species and their benefits.
Some tree species listed will have a difficult time growing and staying healthy in the planter width allocated for them without many other supportive measures.	Revise planter widths for tree species as appropriate.

Planning Recommendations: Development Code

Issues, Lack of Clarity, or Misalignments with POSMP Goals	Recommendations
18.13.050 B provides a good list of the benefits of trees, but reads like tree species should be selected specifically for these functions.	Existing development code could be revised to clarify direction versus benefits, and be supported by additional information on species to help with selection. Clarify if evergreen requirement is for trees, vegetation, or both and how percentage requirements are counted (i.e. % species, % plants, % area coverage).
Parking lot are significant contributors to urban heat island effect and stormwater runoff.	18.13.060 H - Consider increasing planting and tree requirements to achieve a higher percent coverage. Reduce number of spaces between landscape dividers.
Desired ecosystem service mitigation may not be feasible on sites where building density is needed to support community needs.	18.13.052 C - Set up mitigation banks for invasive removal, wetland restoration, or tree planting if unable to meet requirements on-site.
It is common practice to use a small variety of trees in the right of way and in large developments. This can lead to vulnerability to pests and disease and does not align with habitat goals.	Include direction, requirements, or incentives for utilizing a variety of native tree species in rights of way or large development.

18.13.050 Standards for landscape, tree and vegetation plans.

A. The property owner shall be responsible for any future damage to a street, curb, or sidewalk caused by landscaping.

B. Landscaping and trees shall be selected and located to deter sound, filter air contaminants, curtail erosion, minimize stormwater run-off, contribute to living privacy, reduce the visual impacts of large buildings and paved areas, screen, and emphasize or separate outdoor spaces of different uses or character.

C. Landscape, Tree and Vegetation Plan must include a combination of trees, shrubs, and ground cover to achieve the purposes of this chapter.

1. Required landscaping shall be comprised of a minimum of sixty percent native vegetation (or adapted to northwest climate), or drought-tolerant vegetation, and fifty percent evergreen.

Existing code language

17.19.030F Tract, block and lot standards: Landscaping

2. The city council finds that the existing mature landscaping of trees, and shrubs provide oxygen, filter the air, contribute to soil conservation and control erosion, as well as provide the residents with aesthetic and historic benefits. For these reasons,the city encourages the retention of existing trees that are not already protected as significant trees under the Camas Municipal Code. Generally, the city may allow the tree requirements under subsection (F)(1) of this section to be reduced at the request of the developer, by a ratio of two new trees in favor of one existing tree, provided such trees have been identified on approved construction plans.

Existing code language

Planning Recommendations: Comprehensive Plan

Section	Recommendations
Natural Environment Element Overview	Revise Natural Environment element language to include the concept of natural systems as valuable infrastructure.
NE-1.1: Consider the immediate and long-term environmental impacts of policy and regulatory decisions.	Incorporate the use of ecosystem services as a reference point for these discussions and evaluations.
1.4.4 Natural Environment	Develop tree preservation overlay zones for priority canopy areas to be maintained ● Increase tree unit requirement ● Require preservation or steep mitigation for trees above **X** DBH
1.4.4 Natural Environment	Develop an urban forestry program that works to implement the best practice recommendations that are a part of this POSMP in order works towards system-wide stewardship and resilience.
3.4.2 Critical Areas	Consider designating large areas of connected tree canopy as critical areas to be preserved.
3.4.3 Shorelines	Consider adding a goal that addresses providing the community with safe and accessible ways to engage with shorelines that balances recreation with ecological needs.
3.4.4 Landscape Enhancement and Tree Preservation	Include heat island reduction, improved air quality, and stormwater management as additional added values for protecting the urban tree canopy.
3.4.4 Landscape Enhancement and Tree Preservation	Identify public lands that can act as mitigation banks to counteract canopy loss over time. Spread throughout the city to make sure replacement is within ½ mile of development site ● Prioritize more urban conditions to maximize ecosystem service value ● Provide incentives for private land to preserve existing or mitigate losses
4.4.4 Design and Low-Impact Development	Consider adding a goal that addresses tree canopy coverage, health, and replacement.
5.7.3 Park Impact Fees	Consider the Level of Service needed as large areas of land develop and population density increases (i.e. North Shore)
5.7.3 Park Impact Fees	Assess specialized amenities and programming as a system and consider repurposing land based on density and walkability vs driving - i.e. ball fields (specialized use) vs parks (universal use) near dense housing

Community Outreach

The planning process included outreach and education events in order to capture community feedback and raise awareness of the plan.

Public Participation & Education Strategy

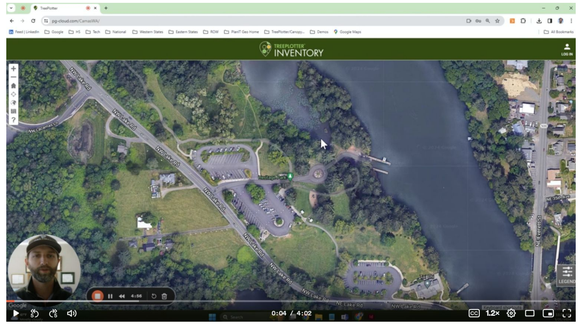
The POSMP builds off of previous planning efforts in Camas around parks, open spaces, and recreation. Community feedback and priorities from efforts like the PROS plan were reviewed, summarized, and built upon to lead to the 5 Camas Community Values that provided a framework for this plan. The POSMP provides a pathway on how to prioritize and implement those values. Drafts of the plan and its strategies were reviewed with the Camas Parks and Recreation Commission 2/28/24 and 7/31/24) and City Council (5/6/24 and 8/5/24) to ensure alignment with other city goals and collect feedback.

Education, training, and public feedback was a key part of the plan development process. A project website was set up to keep the community informed about the process and engagement opportunities.

Camas Parks and Open Space Management Plan | Engage Camas

The team hosted an open house to share progress of the plan, answer questions, and collect feedback on the overall approach. There were interactive sessions that explained the system-based approach to management and gathered ideas around impacts, risks, and strategies to inform the best practices recommendations. Feedback was collected on the 5 Community Values in order to inform the project approach matrix. An online survey was set up and posted on the project website to duplicate these activities and a recording of the presentation was included to provide the background context.

Finally, a public tree inventory session* was co-hosted by the City of Camas, PlanIT Geo, and Washington Department of Natural Resources (DNR). It was held the day after the open house on Earth Day weekend to align with other community events. On-site training was provided on how to use the the inventory tool as well as education on tree health and maintenance. Plan IT Geo's arborists verified the data in order to include it in the city-wide inventory database for future use.



Camas Volunteer Inventory Training Video
provided to the community before the event through the website to prepare for the inventory.

*The original plan was to work with local students to provide education and a sample inventory. Due to the local teachers strike at the onset of the project, student availability and class curriculum didn't align with the time of year to perform the inventory. It was decided to open it up to the public later on in the project timeline.



This flyer was used to advertise the public events, as well as social media, and local newsletter postings.

Camas Parks and Open Space Management Plan

Community Open House

April 19th, 2024

Agenda

Presentation (30 minutes)

- Project overview and goals
- Tree Canopy Analysis
- Financial and Operations Assessment
- A Systems Approach, Valuing Nature
- Resource Prioritization

Activity #1 - Poster feedback (30 minutes)

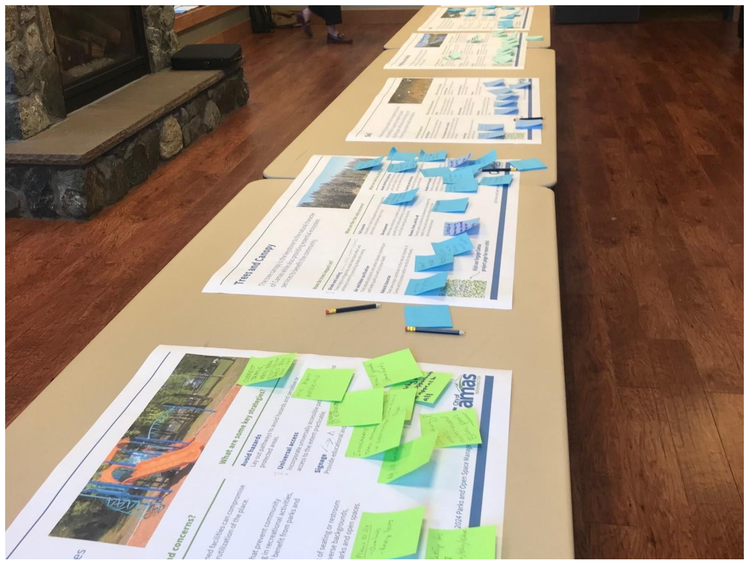
Activity #2 - Table discussions (30 minutes)

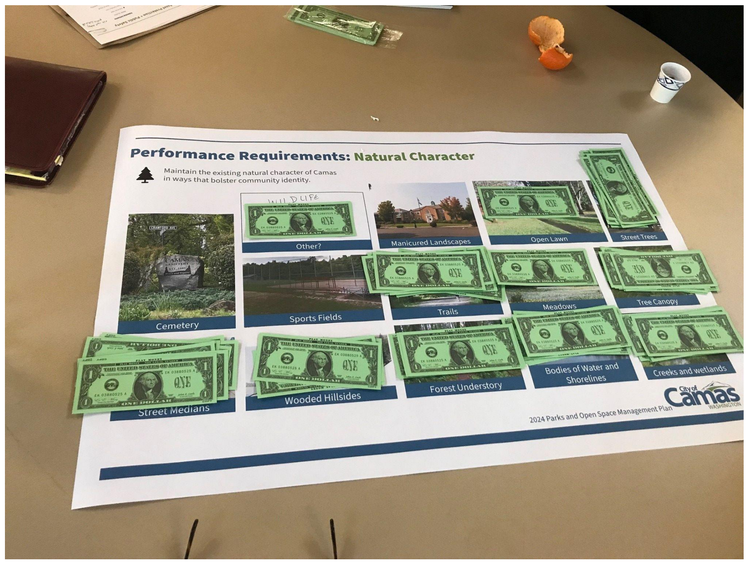
Community Feedback

Community Open House

An open house was held at Lacamas Lodge on April 19, 2024. Participants provided feedback on the systems through discussions and through annotating posters. Group activities were used to obtain feedback on the performance requirements identified for the Parks and Open Space management plan.







Online survey feedback

An online survey was provided through Engage Camas. The survey was open until May 5, 2024. There were 9 survey responses. The survey questions explored the following:

- **Outreach & Education:** What are potential gaps in knowledge that require training for land management practices for public and/or private landowners?
- **Natural Character:** What does natural character mean to you and which features contribute most to the identity of Camas?
- **Equitable Access:** What are the biggest obstacles to access natural resources and park amenities?
- **Financial & Resource Allocation:** How else does nature benefit you and the community?
- **Asset Protection & Public Safety:** What are your priority natural impacts, human activity, and safety concerns that (will) have impacts on Camas?

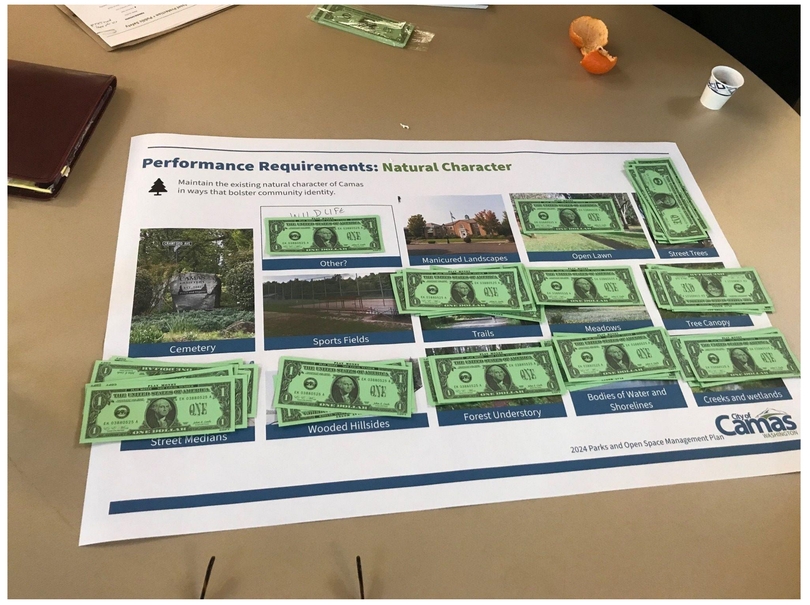
- **Systems Approach:** Is there anything missing or other ideas to consider as it relates to the following systems?
  - Water
  - Operations
  - Materials & Equipment
  - Access & Amenities
  - Soil
  - Vegetation & Habitat
  - Trees & Canopy

Open House Feedback Summary

Key Takeaways:

- This will be a large change initiative for the city and community.
- Camas' natural resources, parks, and open space are a **valuable asset** and serve as **key infrastructure** to the city.
- Clear incentives, restrictions, and guidelines should be put in place for basic maintenance tasks, tree preservation, and appropriate planting practices.
- Program, amenities, and assets should be looked at from a system-wide perspective and located based on diversity of uses, population density, and adjacencies to other land uses and natural resources.
- There's a lot of potential in the volunteer organizations and HOA residents if organized and educated properly
- There was a long-term desire to progress from reactive maintenance to systemic stewardship.





Community Feedback: Performance Requirements



Online survey feedback

The ecosystem services graphic above identifies the many ways our parks and open space system provides benefits and value to our community. How else does nature benefit you and the community?

- Opportunities to learn more about nature
- Social/emotional wellbeing and resilience to stress, particularly stress from climate change
- Enhanced community connection
- Physical health
- Access to nature and developing sense of place
- Environmental benefits: carbon storage, cooling
- Economic benefits: tourism destination, attract investment

Community Feedback: Performance Requirements



Online survey feedback

What does natural character mean to you and which features contribute most to the identity of Camas?

- 5 mentions: Trails, Tree Canopy
- 4 mentions: Bodies of Water and Shorelines, Creeks and Wetlands
- 3 mentions: Forest Understory, Meadows, Street Trees
- Other comments:
  - Buildings and other urban features seen as elements that detract from the natural character of Camas.
  - Bike paths contribute to natural character of Camas, as do wooded hillsides that are not built upon.

Community Feedback: Performance Requirements



Online survey feedback

What are your priority natural impacts, human activity, and safety concerns that (will) have impacts on Camas?

- Water quality was mentioned frequently in the survey results. Safe and clean household water was mentioned as a concern. Toxic bacteria in Lacamas Lake was also specifically mentioned as a concern.
- Wildfire was mentioned frequently in the survey results. Respondents noted that climate change brings increasing threat of wildfire, and that there is a need for education and management of fuels.
- Invasive species and their threats to tree health and native vegetation were mentioned. Blackberries were specifically mentioned as an invasive species of concern.
- Several respondents were concerned about the impacts of development; specifically, that development might come at a cost of investment in existing assets. There were additional concerns about the potential strains on existing infrastructure and natural ecosystems that might occur as a result of future development.
- Loss of outdoor programming and wilderness education was shared as a concern by several respondents.
- Climate change was mentioned as a major threat, including impacts such as extreme changes in heat and water availability.
- Tree canopy loss was also a concern mentioned repeatedly in the survey responses.

Community Feedback: Systems

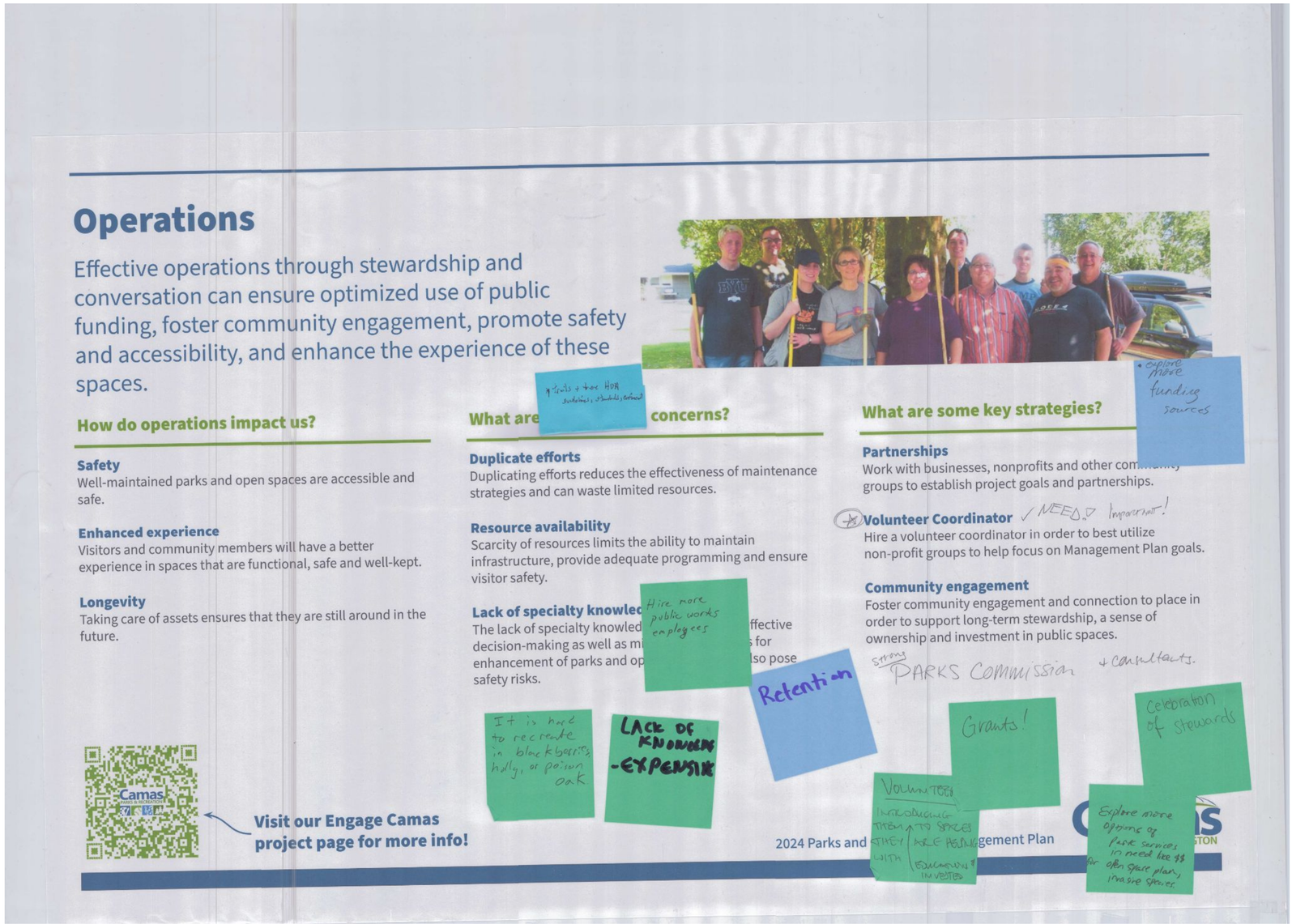


Online survey feedback

Managing water in our parks and open spaces is vital for preserving natural ecosystems, ensuring access to clean water, and providing cooling and recreational opportunities for the community. Is there anything missing or other ideas to consider as it relates to water?

- Access to clean and safe water is critical.
- Increase outreach to homeowners and private landowners to educate them about best practices for managing water quality. Work with them to address water quality issues upstream of stormwater infrastructure.
- Consider reducing irrigation as well as reducing lawns.
- What long-term measures is Camas taking to enhance climate resilience, beyond just focusing on climate mitigation?
- Lacamas Lake water quality is a concern.
- Could a user fee at lakes and boat ramps provide fiscal support for maintaining water quality?

Community Feedback: Systems



Online survey feedback

Effective operations through stewardship and conversation can ensure optimized use of public funding, foster community engagement, promote safety and accessibility, and enhance the experience of these spaces. Is there anything missing or other ideas to consider as it relates to operations?

- Continue efforts to engage Camas citizens in stewardship events and parks cleanups - these have been successful so far.
- Consider partnerships with universities as well as local K-12 schools.
- Lots of support for a volunteer coordinator position. Are there other opportunities to support community volunteer efforts?
- Funding is a concern when it comes to implementing operational changes through the Parks and Open Space Management Plan.

Community Feedback: Systems



Materials and equipment

Materials and equipment selection and maintenance directly impact the functionality, durability, safety, and aesthetic quality of parks and open spaces.

How do materials and equipment impact us?

Circulation and Gathering
Hardscapes allow for vehicular parking, pathways and open spaces to support programming.

Aesthetics and Character
Materials and furniture contribute to the overall character of Camas' parks and open spaces. Color selection, materiality and finish can provide consistency or a unique sense of place for each site.
local sourcing?

Places for Recreation and Rest
Playground equipment, benches and picnic tables provide places for both active and passive recreation.

ACTIVE & PASSIVE RECREATION - DEFINE

What are the risks and concerns?

Heat island effect
The heat island effect, characterized by elevated temperatures in urban areas, underscores the importance of selecting materials that minimize heat absorption.

Safety
It is critical to selec... minimize potential hazards, reduce the... injuries and ensure the well-being of us...

INCREASE LEVELS OF RISK FOR DIFFERENT SKILL LEVELS - THINK SKIING - GREEN/BLUE BLACK

Durability
Selecting durable materials ensures long-term functionality and minimizes the need for frequent maintenance or replacement.

What are some key strategies?

Consistent sourcing
Utilize a short list of standard furnishings, materials and colors to simplify replacement and maintenance costs and provide a consistent character across spaces.

Permeability —
Pervious materials allow water to infiltrate the surface and reduce flooding and erosion.

Universal access
Provide universal access to program areas and for equipment options for people of all ages and abiliti...
-- logical connectivity

LONGEVITY OF TRAILS - PREVENT EROSION RESILIENCE

Visit our Engage Camas project page for more info!

2024 Parks and Open Space Management Plan

City of Camas WASHINGTON

Online survey feedback

Materials and equipment selection and maintenance directly impact the functionality, durability, safety, and aesthetic quality of parks and open spaces. Is there anything missing or other ideas to consider as it relates to materials and equipment?

- Prioritize access when selecting materials. Camas has a large aging population, so this will continue to be a critical consideration.
- Retain natural character to the greatest extent possible, balancing this with needs for equitable access. Incorporate naturescaping and sustainable materials.
- Consider paving high-use trails to decrease degradation and enhance access in the long term.
- Maintain existing materials and equipment to a sufficiently high standard.

Community Feedback: Systems

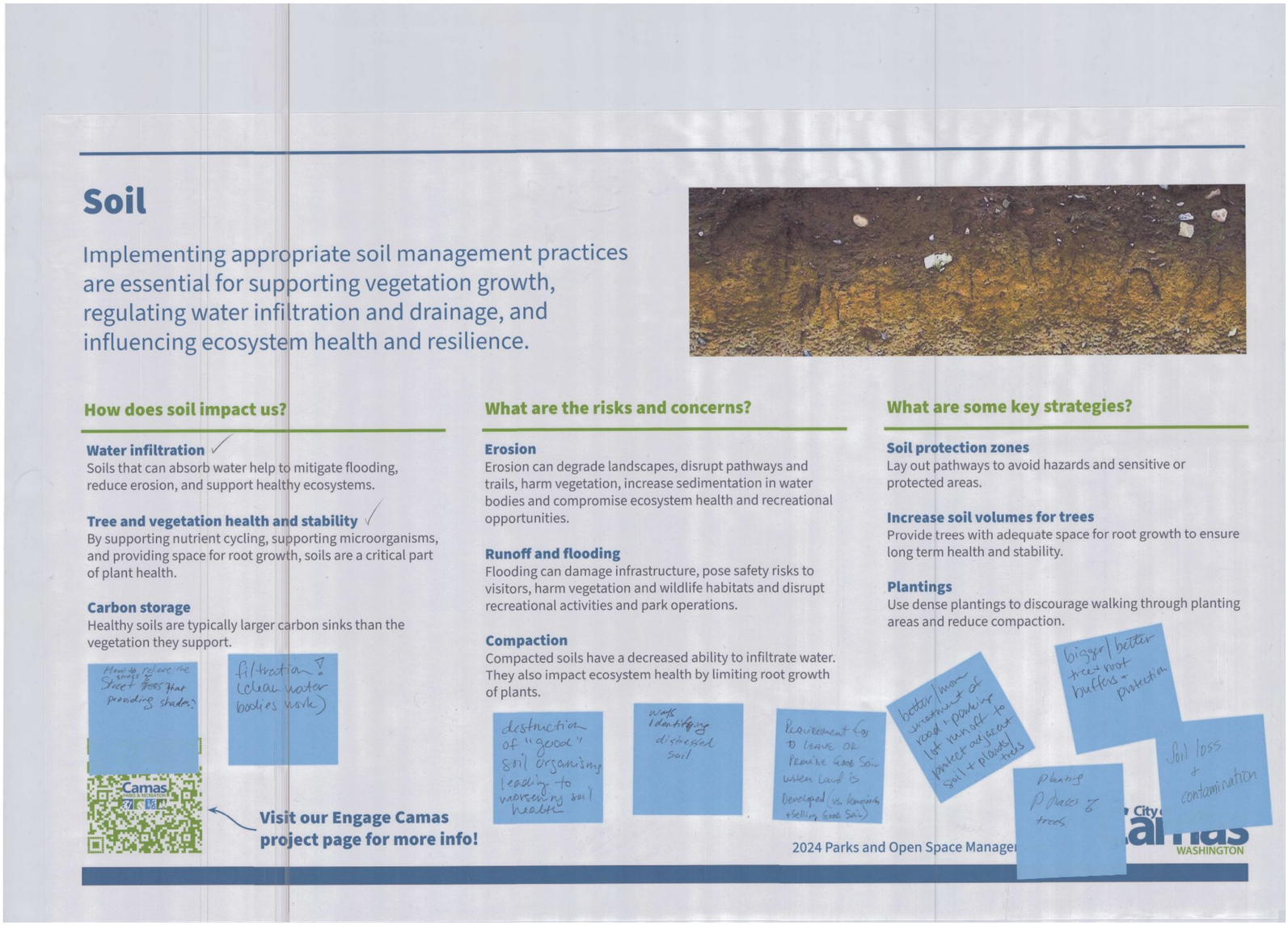


Online survey feedback

It is critical to ensure that people of all ages and abilities can access and enjoy the variety of parks and open spaces that Camas has to offer. Is there anything missing or other ideas to consider as it relates to access and amenities?

- Providing more information on amenity options as well as their costs and benefits would increase buy-in from the community.
- Safety and vandalism are concerns.
- Consider signage options that can be used by individuals with vision limitations.
- Explore ways that signage can be integrated into the existing natural character, as well as ways that signage can complement opportunities for education and outreach.
- Improve connections and wayfinding through the City.
- Incorporate universal access into parks and amenities.
- Ensure that people of all backgrounds can feel welcome in parks and open spaces.

Community Feedback: Systems

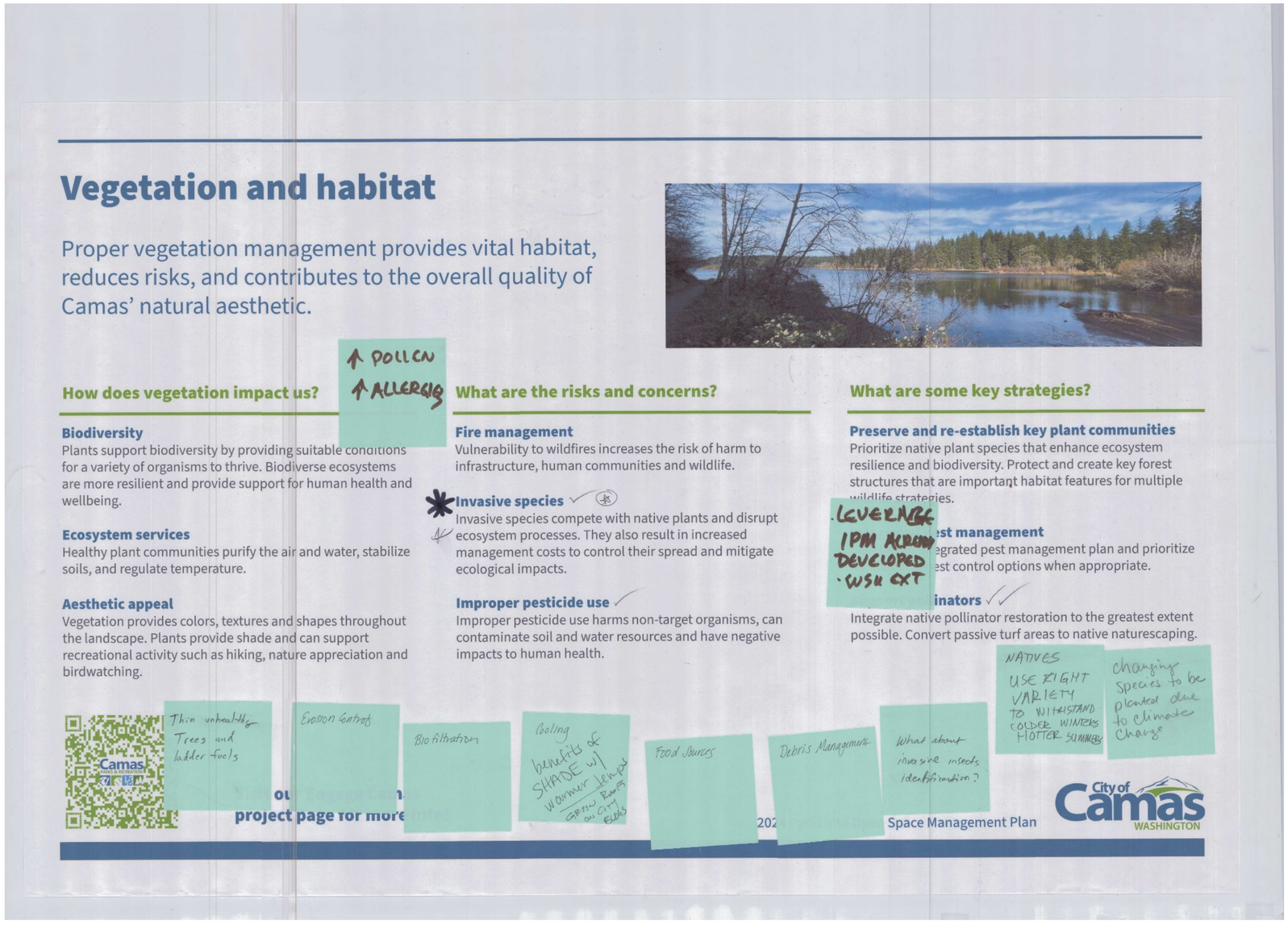


Online survey feedback

Implementing appropriate soil management practices are essential for supporting vegetation growth, regulating water infiltration and drainage, and influencing ecosystem health and resilience. Is there anything missing or other ideas to consider as it relates to soil?

- Enhanced wayfinding and signage could help keep people and trails and reduce compaction in sensitive areas.
- Consider long-term resilience when selecting and placing plantings.
- Enhance planting vaults for street trees.
- Support composting. This could include a City compost facility as well as infrastructure for residents in apartment complexes and new developments who wish to compost.

Community Feedback: Systems

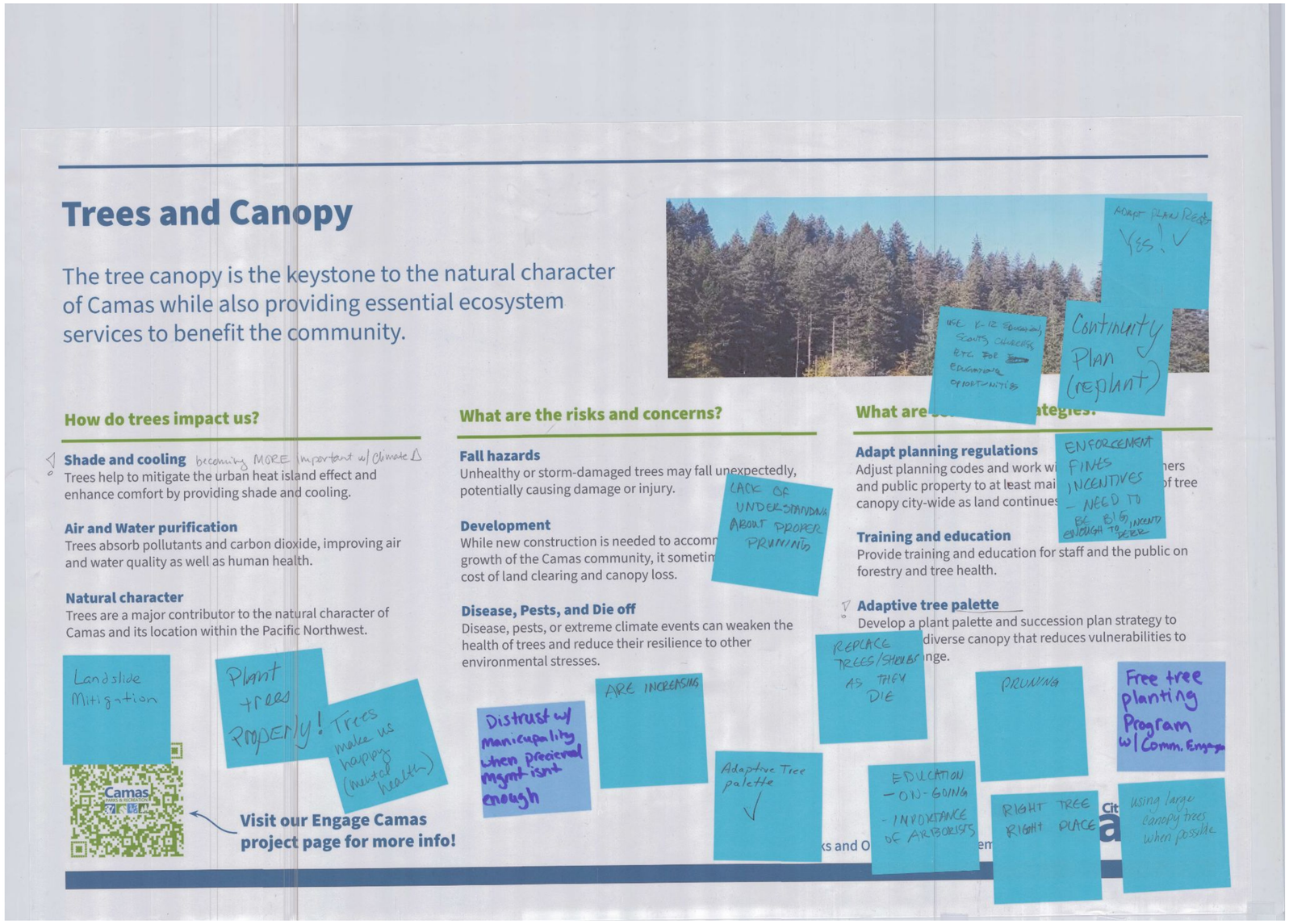


Online survey feedback

Proper vegetation management provides vital habitat, reduces risks, and contributes to the overall quality of Camas' natural aesthetic. Is there anything missing or other ideas to consider as it relates to vegetation and habitat?

- Emphasize wildfire prevention and management practices.
- Consider changing maintenance practices such as reducing mowing frequency or leaving areas unmowed.
- When selecting plants, account for the impacts of climate change - "native species" may need to be redefined.
- What efforts are being made to reintroduce native plants that have been previously displaced?
- Establish a maintenance schedule that allows for proactive management of vegetation.

Community Feedback: Systems



Online survey feedback

The tree canopy is the keystone to the natural character of Camas while also providing essential ecosystem services to benefit the community. Is there anything missing or other ideas to consider as it relates to trees and canopy?

- Wildfire is a major threat to trees and canopy.
- How will environmental justice be incorporated into how the City manages trees and canopy?
- Seek guidance of foresters or forest management experts to balance selective thinning of trees with the need to preserve biodiversity.
- Canopy is a huge part of what makes Camas a wonderful place.
- Provide clearer guidance to private landowners about managing trees and use tree permits to avoid unnecessary removal of trees.
- Use planning and code to shift development away from sites that require land clearing and to prioritize retention of existing mature trees.
- Young trees used in mitigation plantings cannot replace the many benefits of mature trees.
- Trees in sidewalk strips have been removed by homeowners because of their impacts on the sidewalk. Permeable sidewalks and more planning for trees could address this problem.

References and Resources

Other

- SITES Rating System
- Landscape Planning for Washington's Wildlife (WDFW)

Trees

- Tree shift prediction tool (Washington Post)
- Climate Resilience Guide for Small Forest Landowners in Western Washington
- Portland's Tree Damage, through the Eyes of an Arborist

Access and Safety

- 7 Principles of Universal Design, Centre for Excellence in Universal Design
- ADA Accessibility Standards, US Access Board
- Best Management Practices for Crime Prevention Through Environmental Design in Natural Landscapes, Green Seattle Partnership
- Crime Prevention Through Environmental Design (CPTED)
- Public Playground Safety Handbook, U.S. Consumer Product Safety Commission
- Standards, Illuminating Engineering Society Standards

Operations and Management Plans

- Green Seattle work crew specifications
- Storm Mitigation Planning - Green Infrastructure Center
- Urban Forest Management Plan - City of Wilsonville, OR
- Urban Forest Management Plan - Renton, WA
- Community Forest Storm Mitigation Planning Template - USFS

Soil

- Urban Soil Management for Climate Resilience
- Specifying Soil Volumes to Meet the Water Needs of Mature Urban Street Trees and Trees in Containers
- Soil for Urban Tree Planting

Table 1: Stewardship calendar

STEWARDSHIP CALENDAR	1 JAN	2 FEB	3 MAR	4 APRIL	5 MAY	6 JUNE	7 JULY	8 AUG	9 SEPT	10 OCT	11 NOV	12 Dec	NOTES
planting considerations:													
primary planting season	go	go	go	go	go	stop	stop	stop	stop	stop	stop	stop	optimal planting is when plants are dormant during the rainy season
wetland planting season	stop	stop	stop	stop	proceed with care	go	go	go	go	stop	stop	stop	applies to soils that dry out during part of year
wetland planting season	stop	stop	stop	stop	stop	proceed with care	proceed with care	go	go	go	go	go	applies to soils that are saturated year-round
wildlife considerations:													
primary bird nesting season	go	go	go	go	go	stop	stop	stop	stop	stop	stop	stop	includes majority of songbird species; some birds nest later into end of August
early bird nesting season	go	go	proceed with care	proceed with care	proceed with care	stop	stop	stop	stop	go	go	go	includes larger species such as herons, geese, raptors, and hummingbirds
duck nesting season	go	go	go	stop	stop	stop	stop	go	go	go	go	go	avoid shoreline/adjacent areas
amphibian reproduction	stop	stop	stop	stop	stop	stop	stop	go	go	go	go	stop	applies to sites with 10 cm standing open water, avoid 25 feet from waters edge
professional crew considerations:													
steep slope work	stop	stop	stop	stop	stop	proceed with care	proceed with care	go	go	go	stop	stop	do not carry out activities that have potential for soil disturbance in winter without BMPs in place
knotweed herbicide treatment	stop	stop	stop	stop	stop	stop	stop	go	go	go	stop	stop	early or late applications may be acceptable to avoid impacts to pollinators
ivy herbicide treatment	stop	stop	stop	stop	proceed with care	proceed with care	proceed with care	go	go	stop	stop	stop	early applications may be acceptable, but not as effective for long-term control
blackberry herbicide treatment	stop	stop	stop	stop	proceed with care	proceed with care	proceed with care	go	go	stop	stop	stop	do not make applications to fruiting vegetation

Legend: go; proceed with care; stop

Source: Green Seattle work crew specifications

Vegetation and Habitat

- Landscape Plants, Oregon State University
- Great Plant Picks, Elisabeth C. Miller Botanical
- Gardening in Washington State, Washington State University Extension Master Gardeners
- Noxious Weeds Program, USDA Animal and Plant Health Inspection Service
- Washington State Noxious Weed Control Board
- Noxious Weeds, Washington State Department of Agriculture
- The Native Pollinator Habitat Restoration Guide (EarthCorps)
- Integrated Pest Management, Washington State University
- Urban Forest Pest Readiness Playbook - Washington

Fire Management

- Preparing Homes for Wildfire, National Fire Protection Association
- Fire Adapted Ashland, City of Ashland

Steep Slopes

- Steep Slopes, Integrated Transportation and Community Planning

City of Camas WASHINGTON

Water System Plan Update







FINAL
October 2019

carollo
Engineers...Working Wonders With Water®


City of Camas
WASHINGTON
City of Camas
Water System Plan Update
FINAL • October 2019
carollo
Engineers...Working Wonders With Water®

CITY OF CAMAS

WATER SYSTEM PLAN UPDATE

October 2019

FINAL

Digitally signed by Daniel L. Reisinger
Contact Info: Carollo Engineers, Inc.
Date: 2019.10.29 15:54:31-07'00'



1218 THIRD AVENUE, SUITE 1600 • SEATTLE, WASHINGTON 98101 • P. 206-684-6532 • F. 206-903-0419

CITY OF CAMAS

WATER SYSTEM PLAN UPDATE

TABLE OF CONTENTS

Page No.

EXECUTIVE SUMMARY

ES.1 INTRODUCTION ES-1
ES.2 PLANNING CONSIDERATIONS ES-1
ES.3 EXISTING SYSTEM ES-2
ES.4 OPERATIONS AND MAINTENANCE ES-2
ES.5 WATER REQUIREMENTS ES-7
ES.6 WATER USE EFFICIENCY ES-7
ES.7 WATER QUALITY ES-9
ES.8 WATER RESOURCES ES-9
ES.9 SYSTEM ANALYSIS ES-9
ES.10 CAPITAL IMPROVEMENT PLAN ES-15
ES.11 FINANCIAL PLAN ES-15

CHAPTER 1 - INTRODUCTION

1.1 PURPOSE 1-1
1.2 LOCATION 1-1
1.3 OWNERSHIP AND MANAGEMENT 1-1
1.4 ENVIRONMENTAL ASSESSMENT 1-1
1.5 APPROVAL PROCESS 1-1
1.6 DOH WATER SYSTEM PLAN CHECKLIST 1-2

CHAPTER 2 - PLANNING CONSIDERATIONS

2.1 INTRODUCTION 2-1
2.2 STUDY AREA 2-1
2.2.1 Water System History 2-1
2.2.2 Ownership and Management 2-3
2.2.3 Service Area 2-3
2.2.4 Regional Environment 2-7
2.2.4.1 Climate 2-7
2.2.4.2 Topography 2-7
2.2.4.3 Surface Water 2-7
2.2.4.4 Critical Areas 2-8
2.2.4.5 Geology 2-12
2.3 LEGISLATION, REGULATIONS, AND PERMITS 2-12
2.3.1 Federal Clean Water Act 2-12
2.3.2 Safe Drinking Water Act 2-13
2.3.3 Endangered Species Act 2-13
2.3.4 Reclaimed Water Standards 2-14
2.3.5 National Environmental Policy Act 2-14

2.3.6 State Environmental Policy Act 2-15
2.3.7 Growth Management Act 2-15
2.3.8 Shoreline Management Act Permit 2-16
2.3.9 Floodplain Development Permit 2-16
2.3.10 Hydraulic Project Approval 2-16
2.3.11 Local Permits 2-16
2.4 WATER RIGHTS 2-17
2.4.1 Water Right Claim 2-17
2.4.2 Water Right Permit 2-17
2.4.3 Water Right Certificate 2-17
2.5 REGULATORY AGENCIES 2-17
2.5.1 United States Environmental Protection Agency 2-17
2.5.2 United States Fish and Wildlife Service 2-18
2.5.3 The National Marine Fisheries Service 2-18
2.5.4 United States Army Corps of Engineers 2-18
2.5.5 Washington State Department of Health 2-18
2.5.6 Washington State Department of Ecology 2-19
2.5.7 Washington State Department of Fish and Wildlife 2-19
2.5.8 Watershed Resource Inventory Area 2-19
2.5.9 Local Health Departments 2-19
2.5.10 County Planning Policies 2-20
2.6 CITY POLICIES 2-20
2.6.1 Related Documents 2-20
2.6.2 Regional Planning Documents 2-20
2.6.2.1 Clark County Coordinated Water System Plan 2-20
2.6.2.2 Clark County Comprehensive Plan (2015 - 2035) 2-21
2.6.2.3 Clark County Public Utilities Water System Plan 2-21
2.6.2.4 Metropolitan Transportation Plan for Clark County 2-22
2.6.2.5 City of Vancouver Comprehensive Water System Plan 2-22
2.6.2.6 City of Washougal Water System Plan Update 2-22
2.6.2.7 Salmon-Washougal and Lewis Watershed Management Plan (Lower Columbia Fish Recovery Board, July 21, 2006) 2-23
2.6.2.8 City of Camas 2010 Water System Comprehensive Plan (Gray & Osborne, Inc.) 2-23
2.6.2.9 Jones and Boulder Creek Watershed Forest Management Plan 2-24
2.7 DRAFT POLICIES AND CRITERIA 2-24

CHAPTER 3 - EXISTING SYSTEM

3.1 INTRODUCTION 3-1
3.2 PRESSURE ZONES 3-1
3.3 SOURCES OF SUPPLY 3-10
3.3.1 Surface Water Sources 3-10
3.3.2 Groundwater Sources 3-10
3.4 WATER TREATMENT 3-12
3.4.1 Surface Water 3-12
3.4.2 Groundwater 3-12
3.4.3 Groundwater Under the Direct Influence of Surface Water 3-13
3.5 STORAGE FACILITIES 3-14
3.5.1 Butler Reservoir 3-14

3.5.2 Gregg Reservoir 3-16
3.5.3 Lacamas Reservoir 3-16
3.5.4 Lower Prune Hill Reservoirs 3-16
3.5.5 Upper Prune Hill Standpipe and Reservoir 3-16
3.6 TRANSMISSION AND DISTRIBUTION FACILITIES 3-21
3.6.1 Piping System 3-21
3.6.2 Pressure Reducing Stations 3-22
3.7 BOOSTER PUMPING STATIONS 3-28
3.7.1 Butler Booster Station 3-28
3.7.2 New Gregg Booster Station 3-28
3.7.3 Forest Home Booster Station 3-28
3.7.4 Lower Prune Hill Booster Station 3-32
3.7.5 Lacamas Booster Station 3-32
3.7.6 Angelo Booster Station 3-32
3.7.7 Upper Prune Hill Booster Station 3-32
3.7.8 Crown Road Booster Station 3-37
3.8 INTERTIES 3-37
3.9 SCADA 3-39

CHAPTER 4 - OPERATION AND MAINTENANCE

4.1 WATER SYSTEM MANAGEMENT AND PERSONNEL 4-1
4.1.1 Operator Certification 4-1
4.1.2 Professional Growth and Training 4-1
4.2 ROUTINE SYSTEM OPERATING PROCEDURES AND PREVENTATIVE MAINTENANCE 4-5
4.2.1 Routine Operating Procedures 4-5
4.2.2 Preventive Maintenance 4-5
4.3 CONDITION ASSESSMENT 4-6
4.3.1 Booster Pump Stations and Supply Wells 4-6
4.3.2 Reservoirs 4-7
4.4 EMERGENCY RESPONSE PROGRAM 4-15
4.5 CROSS-CONNECTION CONTROL PROGRAM 4-15
4.6 CUSTOMER COMPLAINT RESPONSE REPORTING 4-18
4.7 RECORD KEEPING AND REPORTING 4-18
4.8 PIPELINE REPAIR AND REPLACEMENT 4-19
4.8.1 Pipe Material and Age 4-19
4.8.2 Useful Life 4-25
4.8.3 Remaining Useful Life Analysis 4-26
4.8.4 Pipeline R&R Program 4-27
4.9 O&M IMPROVEMENTS 4-28

CHAPTER 5 - WATER REQUIREMENTS

5.1 HISTORICAL WATER USE 5-2
5.1.1 Historical Accounts 5-2
5.1.2 Historical Consumption 5-3
5.1.3 Water Use per Account and Equivalent Residential Units 5-6
5.2 SEASONAL DEMANDS 5-7
5.3 HISTORICAL PRODUCTION 5-7
5.3.1 Distribution System Leakage 5-7
5.3.2 Historical Average and Maximum Demands 5-11

5.4 DEMOGRAPHIC FORECAST 5-13
5.4.1 Land Use 5-13
5.4.1.1 Existing Land Use 5-13
5.4.1.2 Future Land Use 5-13
5.4.2 Demographic Growth Rates 5-19
5.4.3 Service Area 542 Projections 5-24
5.5 PROJECTED NUMBER OF CONNECTIONS 5-24
5.6 PROJECTED WATER DEMAND 5-27
5.6.1 Potential Range in Future Water Demand 5-27
5.6.2 Large Users Demand Forecast 5-28
5.6.3 Projected ERUs 5-29
5.6.4 Projected Average Day and Maximum Day Demands 5-29

CHAPTER 6 - WATER USE EFFICIENCY

6.1 WUE PROGRAM BACKGROUND 6-1
6.1.1 Current WUE Program 6-1
6.1.1.1 Supply-Side Measures 6-2
6.1.1.2 Demand-Side Measures 6-2
6.1.2 Distribution System Leakage 6-3
6.1.3 Historical Effectiveness of Current WUE Program 6-4
6.2 FUTURE WUE PROGRAM 6-5
6.2.1 Mandatory Measures 6-5
6.2.1.1 Rate Structure 6-5
6.2.1.2 Reclaimed Water 6-5
6.2.2 Future WUE Program Supply-Side Measures 6-6
6.2.3 Future WUE Program Demand-Side Measures 6-6
6.2.4 Projected Demands with WUE Goals 6-6
6.2.5 Future WUE Program Effectiveness 6-8
6.2.6 Budget 6-8
6.3 WATER SHORTAGE PLAN 6-9

CHAPTER 7 - WATER QUALITY

7.1 INTRODUCTION 7-1
7.2 OVERVIEW OF REGULATORY REQUIREMENTS 7-1
7.3 SOURCE WATER QUALITY 7-4
7.3.1 National Primary and Secondary Drinking Water Standards 7-4
7.3.2 Inorganic Chemicals 7-5
7.3.2.1 Monitoring Requirements 7-6
7.3.2.2 Compliance 7-7
7.3.3 Volatile Organic and Synthetic Organic Compounds 7-7
7.3.3.1 Monitoring Requirements 7-9
7.3.3.2 Compliance 7-9
7.3.4 Radionuclides 7-9
7.3.4.1 Monitoring Requirements 7-10
7.3.4.2 Compliance 7-10
7.3.5 Arsenic Rule 7-10
7.3.5.1 Monitoring Requirements 7-11
7.3.5.2 Compliance 7-11
7.3.6 Surface Water Treatment Rules 7-11
7.3.6.1 Surface Water Treatment Rule 7-11

7.3.6.2 Long Term 2 Enhanced Surface Water Treatment Rule 7-12
7.3.6.3 Monitoring requirements 7-13
7.3.6.4 Compliance 7-13
7.3.6.5 Filter Backwash Recycling Rule 7-14
7.3.7 Groundwater Rule 7-14
7.3.7.1 Monitoring Requirements 7-15
7.3.7.2 Compliance 7-16
7.3.8 Unregulated Contaminant Monitoring Rule 7-16
7.3.8.1 Monitoring Requirements 7-16
7.3.8.2 Compliance 7-17
7.4 DISTRIBUTION SYSTEM WATER QUALITY 7-17
7.4.1 Total Coliform Rule 7-17
7.4.1.1 Monitoring Requirements 7-18
7.4.1.2 Compliance 7-18
7.4.2 Stage 1 Disinfectants and Disinfection Byproducts Rule 7-18
7.4.2.1 Monitoring Requirements 7-19
7.4.2.2 Compliance 7-19
7.4.3 Stage 2 Disinfectants and Disinfection Byproducts Rule 7-19
7.4.3.1 Monitoring Requirements 7-20
7.4.3.2 Compliance 7-20
7.4.4 Lead and Copper 7-20
7.4.4.1 Monitoring Requirements 7-21
7.4.4.2 Compliance 7-21
7.5 WATER QUALITY MONITORING PROGRAM 7-22
7.5.1 Consumer Confidence Report 7-22
7.5.1.1 Compliance 7-22
7.5.2 Public Notification Rule 7-22
7.5.2.1 Compliance 7-23
7.5.3 Operator Certification 7-23
7.5.3.1 Compliance 7-24
7.6 FUTURE REGULATORY REQUIREMENTS 7-24
7.6.1 Unregulated Contaminant Monitoring Rule 7-25
7.6.2 Contaminant Candidate List 7-25
7.6.3 Radon Rule 7-25
7.6.4 Perchlorate 7-26
7.6.5 Revisions to the Lead and Copper Rule 7-26
7.6.6 Carcinogenic Volatile Organic Compounds (cVOC) Rule 7-26
7.7 SUMMARY AND RECOMMENDATIONS 7-26

CHAPTER 8 - WATER RESOURCES

8.1 WATER RIGHT ANALYSIS 8-1
8.1.1 Water Rights Summary 8-2
8.1.2 Water Rights Analysis 8-4
8.2 ABILITY TO PUMP 8-5
8.2.1 MDD Ability to Pump 8-6
8.2.1.1 MDD Supply Analysis 8-7
8.2.2 ADD Ability to Pump 8-7
8.2.2.1 ADD Supply Analysis 8-13
8.3 INTERTIES 8-15
8.4 WATER SUPPLY STRATEGY 8-15

8.4.1 Washougal Wellfield Renewal 8-15
8.4.2 Construct Wells for Existing Water Rights 8-16
8.4.3 Secure Additional Water Sources 8-16
8.4.4 Continue a Water Use Efficiency Program 8-17
8.4.5 Summary of Improvements 8-17
8.5 GROUNDWATER MANAGEMENT 8-23
8.5.1 Wellhead Protection Program 8-23
8.5.2 Wellhead Protection Area 8-23
8.5.3 Existing and Potential Contamination Hazard Identification 8-24
8.5.4 Protection Strategies and Implementation Tasks 8-24

CHAPTER 9 - SYSTEM ANALYSIS

9.1 INTRODUCTION 9-1
9.2 SERVICE AREAS 9-1
9.3 PUMPING ANALYSIS 9-2
9.3.1 Pumping Criteria 9-2
9.3.2 Pumping Reliability 9-2
9.3.3 Pumping Redundancy 9-12
9.3.4 Pumping Recommendations 9-12
9.4 STORAGE ANALYSIS 9-17
9.4.1 Storage Components and Governing Criteria 9-17
9.4.1.1 Operational Storage 9-17
9.4.1.2 Equalizing Storage 9-19
9.4.1.3 Fire Suppression Storage 9-19
9.4.1.4 Standby Storage 9-19
9.4.2 Available Storage 9-20
9.4.3 Required Storage 9-20
9.4.4 Storage Recommendations 9-25
9.4.5 Summary of Recommended Supply, Pumping and Storage Improvements 9-25
9.5 HYDRAULIC MODEL UPDATE 9-25
9.5.1 Physical Features Update 9-25
9.5.1.1 Butler/Gregg Booster Pump Station Site Updates 9-26
9.5.1.2 Upper Prune Hill Reservoir Site Updates 9-26
9.5.1.3 Reservoir Levels 9-26
9.5.1.4 Operational Settings 9-26
9.5.2 Future Expansion 9-28
9.5.3 Demand Allocation 9-28
9.5.4 Calibration Verification 9-29
9.5.5 Fire Flows 9-29
9.6 DISTRIBUTION SYSTEM ANALYSIS 9-30
9.6.1 Evaluation Criteria 9-30
9.6.2 Supply Improvements 9-30
9.6.2.1 2021 Supply Improvements 9-31
9.6.2.2 2025 Supply Improvements 9-37
9.6.2.3 2035 Supply Improvements 9-37
9.6.3 Identified Deficiencies 9-37
9.6.3.1 2021 Deficiencies 9-37
9.6.3.2 2025 Deficiencies 9-43
9.6.3.3 2035 Deficiencies 9-43

9.6.4 Recommended Distribution System Capacity Improvements 9-43
9.6.4.1 Upper Prune Hill Pressure Improvements Study 9-43
9.6.4.2 PRV Zone Study Program 9-51
9.6.4.3 Dead-end Looping Program 9-51
9.6.4.4 2021 Improvements 9-51
9.6.4.5 2025 Improvements 9-52
9.6.4.6 2035 Improvements 9-52
9.6.5 Average Day Demand Simulation 9-52
9.7 LIMITING CAPACITY ANALYSIS 9-59

CHAPTER 10 - CAPITAL IMPROVEMENTS PLAN

10.1 INTRODUCTION 10-1
10.1.1 Capital Project Categories 10-1
10.1.2 Capital Project Types 10-1
10.1.3 Capital Planning Periods 10-2
10.1.4 Standard Development Charges 10-2
10.1.5 Developer Share 10-2
10.2 COST ESTIMATING ASSUMPTIONS 10-2
10.2.1 Cost Estimate Level 10-2
10.2.2 Cost Estimates Elements 10-3
10.2.3 Pipeline Unit Costs 10-3
10.2.4 Pump Station Costs 10-3
10.2.5 Well Costs 10-4
10.2.6 Reservoir Costs 10-5
10.2.7 Additional Costs 10-5
10.3 CIP PROJECT SHEETS AND COST SUMMARY 10-6
10.3.1 Supply Project Sheets 10-11
10.3.2 Distribution System Improvements Project Sheets 10-27
10.3.3 Pump Station Project Sheets 10-45
10.3.4 Storage Project Sheets 10-61
10.3.5 General Project Sheets 10-73
10.3.6 Repair and Replacement Project Sheets 10-77
10.3.7 North Shore Expansion Project Sheets 10-87
10.3.8 Cost Summary 10-93

CHAPTER 11 - FINANCIAL PLAN

11.1 INTRODUCTION 11-1
11.1.1 Past Financial Performance 11-1
11.1.2 Comparative Financial Statements 11-1
11.2 FINDINGS AND TRENDS 11-4
11.3 CURRENT FINANCIAL STRUCTURE 11-5
11.3.1 Financial Plan 11-5
11.3.1.1 Capital Funding Plan 11-5
11.4 CAPITAL FINANCIAL STRATEGY 11-7
11.5 AVAILABLE FUNDING ASSISTANCE AND FINANCING RESOURCES 11-8
11.6 CITY RESOURCES 11-8
11.6.1 Capital Connection Charges 11-8
11.6.2 Local Facilities Charges 11-8
11.7 OUTSIDE RESOURCES 11-9
11.7.1 Grants and Low Cost Loans 11-9

11.7.2 Bond Financing 11-10
11.8 FINANCIAL FORECAST 11-11
11.9 CURRENT FINANCIAL STRUCTURE 11-12
11.9.1 Fiscal Policies 11-12
11.9.2 Financial Forecast 11-14
11.10 CITY FUNDS AND RESERVES 11-15
11.11 CURRENT AND PROJECTED RATES 11-16
11.11.1 Current Rates 11-16
11.12 PROJECTED RATES 11-16
11.12.1 Conservation Based Rates 11-17
11.13 METHODOLOGY 11-18
11.14 RESULTS 11-18
11.15 AFFORDABILITY 11-19
11.16 CONCLUSION 11-20

LIST OF APPENDICES

APPENDIX A Adopting Resolution
APPENDIX B SEPA, Agency Comments
APPENDIX C Intertie Agreements
APPENDIX D WUE Minutes
APPENDIX E Water Quality Reports
APPENDIX F Water Facility Inventory
APPENDIX G Water Right Documentation
APPENDIX H Water Right Self-Assessment
APPENDIX I Wellhead Protection
APPENDIX J Modeling
APPENDIX K Design Standards
APPENDIX L 2018 Water Audit

LIST OF TABLES

Table ES.1 CIP Project Summary ES-17
Table 1.1 DOH Water System Plan Checklist 1-2
Table 2.1 Water System Historical Timeline 2-1
Table 2.2 Evolutionarily Significant of Listed Salmonid Species 2-14
Table 2.3 Service and Extension Policies 2-25
Table 3.1 Pressure Zones 3-9
Table 3.2 Groundwater Sources 3-11
Table 3.3 Treatment Facilities 3-12
Table 3.4 Existing Storage Facilities 3-21
Table 3.5 Pipe Diameter and Material 3-22
Table 3.6 Pressure Reducing Valves 3-23
Table 3.7 Booster Pump Station Summary 3-37
Table 4.1 Certified Operators 4-2
Table 4.2 Condition and Strategic Replacement CIP Summary 4-9
Table 4.3 Pipe Length by Decade Installed and Material Type 4-25
Table 4.4 Useful Life of Pipes 4-25
Table 4.5 Remaining Useful Life 4-27

Table 5.1	Historical Number of Accounts by Customer Class	5-3
Table 5.2	Historical Water Demand by Customer Class (mgd)	5-4
Table 5.3	Historical Annual Water Use per Account (gpd/account)	5-6
Table 5.4	Historical Distribution System Leakage	5-9
Table 5.5	Historical Average Production, Maximum Day Demand, and Peaking Factor	5-11
Table 5.6	Retail Water Service Area Demographic Growth Rates	5-23
Table 5.7	Account Projections	5-25
Table 5.8	Demand Projection Parameters	5-28
Table 5.9	Large Users Demand Projections	5-30
Table 5.10	ERU Projections	5-31
Table 5.11	Average Day Demand Projections	5-32
Table 5.12	Maximum Day Demand Projections	5-32
Table 6.1	Distribution System Leakage (3-year Rolling Average)	6-3
Table 6.2	WUE Demand Projections	6-8
Table 7.1	Drinking Water Regulations	7-2
Table 7.2	Primary MCLs for Inorganic Chemicals	7-5
Table 7.3	Secondary MCLs for Inorganic Chemicals	7-6
Table 7.4	Inorganic Chemicals Monitoring Results	7-7
Table 7.5	Regulated Volatile and Synthetic Organic Chemicals	7-8
Table 7.6	Regulated Radionuclides	7-10
Table 7.7	Disinfection Byproducts Rule Monitoring Results	7-20
Table 7.8	Lead and Copper Rule Monitoring Results	7-21
Table 7.9	Future Regulatory Requirements	7-25
Table 8.1	Water Right Summary	8-2
Table 8.2	Instantaneous Water Rights (Qi) Summary	8-4
Table 8.3	Instantaneous Water Rights (Qa) Summary	8-5
Table 8.4	Maximum Day Demand Ability to Pump Summary	8-8
Table 8.5	MDD Ability to Pump Analysis	8-9
Table 8.6	Annual Ability to Pump Summary	8-11
Table 8.7	ADD Ability to Pump Analysis	8-13
Table 8.8	Supply Improvements - ADD Ability to Pump	8-19
Table 8.9	Supply Improvements - MDD Ability to Pump	8-20
Table 9.1	Pumping Reliability Analysis	9-9
Table 9.2	Pumping Redundancy Analysis	9-13
Table 9.3	Fire Suppression Storage Requirements	9-19
Table 9.4	Storage Analysis Results	9-21
Table 9.5	Operational Storage Calculations	9-21
Table 9.6	Equalizing Storage Calculations	9-23
Table 9.7	Standby Storage Calculations	9-23
Table 9.8	Customer Class Demand Factors	9-29
Table 9.9	Fire Flow Requirements	9-30
Table 9.10	Butler Site PRV Settings	9-53
Table 9.11	Supply Improvements	9-54
Table 9.12	North Shore Transmission Main Improvements	9-54
Table 9.13	Distribution System Improvements	9-55
Table 9.14	Pumping Improvements	9-57
Table 9.15	Storage Improvements	9-58
Table 9.16	Limiting Capacity Demand Parameters	9-59
Table 9.17	Storage Limiting Capacity Analysis	9-60
Table 9.18	Source Capacity Limiting Capacity Analysis	9-60

Table 9.19 Booster Pump Station Limiting Capacity Analysis 9-61
Table 9.20 Limiting Capacity Analysis Summary 9-61
Table 10.1 Cost Factors 10-3
Table 10.2 Pipeline Unit Costs 10-4
Table 10.3 Pump Station Unit Costs 10-4
Table 10.4 Well Unit Costs 10-5
Table 10.5 Reservoir Unit Costs 10-5
Table 10.6 Additional Reservoir Costs 10-6
Table 10.7 CIP Project Summary 10-7
Table 10.8 CIP Cost by Project Category Summary 10-93
Table 10.9 CIP Cost by Project Type Summary 10-94
Table 11.1 Summary of Historical Fund Resources and Uses Arising from Cash Transactions 11-2
Table 11.2 Summary of Historical Comparative Statements of Net Position 11-3
Table 11.3 10- and 20-year CIP 11-6
Table 11.4 10 Year CIP (escalated $) 11-6
Table 11.5 20-year Capital Funding Strategy 11-7
Table 11.6 10-year Financial Forecast 11-15
Table 11.7 Ending Cash Balance Summary 11-15
Table 11.8 Existing Schedule of Rates 11-16
Table 11.9 Proposed Schedule of Rates 11-17
Table 11.10 Residential Conservation Rates 11-19
Table 11.11 Affordability Test 11-20

LIST OF FIGURES

Figure ES.1 Service Area ES-3
Figure ES.2 System Facility Map ES-5
Figure ES.3 Average and Max Day Demand Projections ES-8
Figure ES.4 Recommended Supply, Pumping, and Storage Improvements ES-10
Figure ES.5 2035 PHD Pressure and Fire Flow Results with Recommended Improvements ES-13
Figure 2.1 Service Area 2-5
Figure 2.2 Physical Environment 2-9
Figure 2.3 Critical Aquifer Recharge Area (CARA) Map 2-11
Figure 3.1 System Facility Map 3-3
Figure 3.2A Hydraulic Profile Schematic, part A 3-5
Figure 3.2B Hydraulic Profile Schematic, part B 3-7
Figure 3.3 Butler Reservoir 3-15
Figure 3.4 Gregg Reservoir 3-17
Figure 3.5 Lacamas Reservoir 3-18
Figure 3.6 Lower Prune Hill Reservoirs 3-19
Figure 3.7 Upper Prune Hill Reservoirs 3-20
Figure 3.8 Butler Booster Pump Station 3-29
Figure 3.9 New Gregg Booster Pump Station 3-30
Figure 3.10 Forest Home Booster Pump Station 3-31
Figure 3.11 Lower Prune Hill Booster Pump Station 3-33
Figure 3.12 Lacamas Booster Pump Station 3-34
Figure 3.13 Angelo Booster Pump Station 3-35
Figure 3.14 Upper Prune Hill Booster Pump Station 3-36

Figure 3.15 Crown Road Booster Pump Station 3-38
Figure 4.1 Organizational Chart 4-3
Figure 4.2 Annual Backflow Protection Device Testing Notification 4-17
Figure 4.3 Water Mains by Material 4-21
Figure 4.4 Water Mains by Age 4-23
Figure 4.5 Length of Pipe Replacement by Decade 4-29
Figure 4.6 Remaining Useful Life 4-31
Figure 5.1 Distribution of Water Consumption and Accounts by Customer Class 5-5
Figure 5.2 Average Seasonal Demand by Customer Class 5-8
Figure 5.3 Distribution System Leakage 5-10
Figure 5.4 MDD/ADD Peaking Factor 5-12
Figure 5.5 Existing Land Use 5-15
Figure 5.6 Future Land Use per Comprehensive Plan 5-17
Figure 5.7 Transportation Analysis Zones and Service Areas 5-21
Figure 5.8 Average and Max Day Demand Projections 5-33
Figure 6.1 Projected Demands with Water Use Efficiency 6-7
Figure 8.1 MDD Ability to Pump 8-10
Figure 8.2 ADD Ability to Pump 8-14
Figure 8.3 MDD Ability to Pump with Improvements 8-21
Figure 8.4 ADD Ability to Pump with Improvements 8-22
Figure 9.1 Service Areas 9-5
Figure 9.2 Existing System Pumping and Storage Capacities 9-7
Figure 9.3 2035 Pumping Reliability Deficits 9-11
Figure 9.4 2035 Pumping Redundancy Deficits 9-15
Figure 9.5 BPS Improvement Recommendations 9-16
Figure 9.6 Storage Components 9-18
Figure 9.7 Recommended Supply, Pumping, and Storage Improvements 9-27
Figure 9.8 Fire Flow Requirements 9-33
Figure 9.9 2021 PHD Pressure and Fire Flow Deficiencies 9-35
Figure 9.10 2025 PHD Pressure and Fire Flow Deficiencies 9-39
Figure 9.11 2035 PHD Pressure and Fire Flow Deficiencies 9-41
Figure 9.12 2021 PHD Pressure and Fire Flow Results with Recommended Improvements 9-45
Figure 9.13 2025 PHD Pressure and Fire Flow Results with Recommended Improvements 9-47
Figure 9.14 2035 PHD Pressure and Fire Flow Results with Recommended Improvements 9-49

ACRONYMS & ABBREVIATIONS

2010 WSP	City of Camas 2010 Water System Plan
AACE	American Academy of Cost Engineers
ADD	average day demand
AFY	acre-feet per year
AKS	AKS Engineering & Forestry
AL	action level
AMR	advanced meter reading
AWWA	American Water Works Association
BAT	Backflow Assembly Tester
BPS	booster pump station
CARA	Critical Aquifer Recharge Area
CCC	Clark County Code
ccf	hundred cubic feet
CCL	Contaminant Candidate List
CCL3	Third Contaminant Candidate List
CCR	Consumer Confidence Report
CCS	connection control specialist
CEU	continuing education unit
cfs	cubic feet per second
CI	cast iron
CIP	Capital Improvement Program
City	City of Camas
CMC	City of Camas Municipal Code
CMP	Coliform Monitoring Plan
Corps	United States Army Corps of Engineers
CPU	Clark Public Utilities
CT	contact time
CWA	Clean Water Act
CWR	Clean Water Rule
CWSP	Coordinated Water System Plan
CWSP MSS	Coordinated Water System Minimum Standards & Specifications
DBP	disinfection by-product
DBPR	Disinfectants and Disinfection Byproducts Rule

DI	ductile iron
DNS	determination of non-significance
DOE	Washington State Department of Ecology
DOH	Washington State Department of Health
DSL	distribution system leakage
DWSRF	Drinking Water State Revolving Fund
EIS	Environmental Impact Statement
ENR	Engineering New Report
ENR CCI	Engineering New Report Construction Cost Index
ERP	Emergency Response Rule
ERU	equivalent residential unit
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
ESWTR	Enhanced Surface Water Treatment Rule
FBRR	Filter Backwash Recycling Rule
FONSI	Finding of No Significant Impact
ft	feet
FTE	full-time equivalent
gal	gallon
gpd	gallons per day
gpd/ERU	gallons per day per equivalent residential unit
GMA	Growth Management Act
G.O.	general obligation
gpm	gallons per minute
GWI	ground water under the direct influent of surface water
GWR	Groundwater Rule
HAA	Haloacetica Acid
HGL	hydraulic grade line
HPA	hydraulic project approval
HPC	Heterotrophic plate count
hp	horsepower
IDSE	Initial Distribution System Evaluation
IFC	International Fire Code
IGEA	Investment Grade Efficiency Audit

Interim ESWTR	Interim Enhanced Surface Water Treatment Rule
IOC	inorganic chemicals
LCR	lead and copper rule
LFC	local facilities charge
LID	Low Impact Development
LPH	Lower Prune Hill
LRAA	locational running annual average
LT1ESWTR	Long Term 1 Enhanced Surface Water Treatment Rule
LT2ESWTR	Long Term 2 Enhanced Surface Water Treatment Rule
LUD	Local Utility District
M	Million
MCC	motor control center
MCE	meter capacity equivalent
MCL	maximum contaminant level
MCLG	maximum contaminant level goal
MDD	maximum day demand
MFR	multifamily residential
MG	million gallons
mgd	million gallons per day
mg/L	milligrams per liter
mL	milliliter
MPA	microscopic particulate analysis
MRDL	maximum residual disinfectant level
MWS	municipal water suppliers
µg/L	micrograms per Liter
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NS	North Shore Expansion
NTU	nephelometric turbidity unit
O&M	Operations and Maintenance
PAA	Pleistocene Alluvial Aquifer
PCE	tetrachloroethylene
pCi/L	Picocures per liter

PHD	peak hour demand
PHG	public health goal
Plan	Water System Plan Update
PNR	Public Notification Rule
ppb	parts per billion
ppm	parts per million
PRV	pressure reducing valve
psi	pounds per square inch
PVC	polyvinyl chloride
PWS	public water system
PWTF	Public Works Trust Fund
Qa	Annual Water Right
Qi	Instantaneous Water Right
RAA	running annual average
RCW	Revised Code of Washington
R&R	Repair and Replacement
RTCR	Revised Total Coliform Rule
RTP	Regional Transportation Plan
RTU	remote terminal unit
RUL	Remaining Useful Life
RWSA	Retail Water Service Area
SCADA	Supervisory Control and Data Acquisition
SDC	standard development charge
SDWA	Safe Drinking Water Act
SEPA	State Environmental Policy Act
SFR	single-family residential
SMP	Standard Monitoring Program
SOC	synthetic organic chemicals
SRF	State Revolving Fund
SSF Plant	slow sand filtration treatment plant
SSS	System-Specific Study
ST	steel
SWTR	Surface Water Treatment Rule
TAZ	transportation analysis zones

TCE	trichloroethylene
TCR	Total Coliform Rule
THM	Triahalomethanes
μg/L	micrograms per liter
UCMR	Unregulated Contaminant Monitoring Rule
UCMR 1	Unregulated Contaminant Monitoring Rule, First Revision
UCMR 2	Unregulated Contaminant Monitoring Rule, Second Revision
UCMR 3	Unregulated Contaminant Monitoring Rule, Third Revision
UCMR 4	Unregulated Contaminant Monitoring Rule, Fourth Revision
UGA	Urban Growth Area
ULID/LID	Utility Local Improvement District
UPC	Uniform Plumbing Code
UPH	Upper Prune Hill
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Services
VOC	volatile organic compounds
WAC	Washington Administrative Code
WDM	Water Distribution Manager
WETRC	Washington Environmental Training Resources Center
WFI	Water Facility Inventory
WHP	wellhead protection
WHPA	Wellhead Protection Area
WHPP	wellhead protection plans
WQM	water quality monitoring
WRIA	Water Resource Inventory Area
WSP	Water System Plan
WTPO	Water Treatment Plant Operator
WUCC	Water Utility Coordinating Committee
WUE	Water Use Efficiency
WWTP	wastewater treatment plant

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This executive summary presents a brief overview of the City of Camas (City) Water System Plan Update (Plan). The Plan meets state, county, and local requirements. It complies with the requirements of the Washington State Department of Health (DOH) as set forth in the Washington Administrative Code (WAC) 246-290-100, Water System Plan. This Plan is an update of the City's 2010 Plan. The City's DOH water system identification number is 108002.

The purpose of the Plan is to develop a long-term planning strategy for the City's Retail Water Service Area (RWSA), which is shown in Figure ES.1. The Plan evaluates the ability of the water system to meet demand growth over a twenty year planning period. Water system improvements are recommended to meet the expanding water system (primarily in the North Shore), growing demands, and infrastructure repair and replacement. The Plan also identifies planning level costs for capital improvement projects and a financial plan for funding the projects.

A State Environmental Policy Act (SEPA) Checklist has been prepared for this Plan. The City anticipates the Plan does not have probable significant adverse impacts on the environment in accordance with WAC 197-11-340(2). The SEPA Checklist is included in Appendix B. The City will submit this Plan to DOH, the Washington State Department of Ecology (DOE), Clark County, and adjacent Utilities as part of the Agency Review process. See Appendix B for comment letters by these Agencies. The City's Adopting resolution will be included in Appendix A, upon Plan approval by the City Council.

ES.2 PLANNING CONSIDERATIONS

Chapter 2 summarizes the City's water planning considerations that influence the Plan, including background on the study area, policies, criteria, and related documents. The City maintains a Duty to Serve customers within the RWSA:

> *The City will exercise reasonable diligence and care to furnish and deliver a continuous and sufficient supply of pure water to the customer, and to avoid any shortage or interruption of delivery of same.*

The City's Water Service Area is shown in Figure ES.1.

Water system planning is based on a careful analysis of a water utility's responsibility to comply with applicable regulatory requirements while providing service to existing and future customers. These laws are monitored and enforced by a number of federal, state,

and local agencies. The Plan incorporates several regional and local plans of the southwest region of Washington, such as Clark County, that affect the water utility.

The City has adopted many resolutions regarding water system planning that are included in the City Code. The City manages its water utility in accordance with established water system policies. The policies provide a consistent framework for the design, operation, maintenance, and service of the water system for appropriately implementing programs, designing new infrastructure, and serving additional customers. The Plan summarizes many of these policies and provides criteria needed to evaluate the water system.

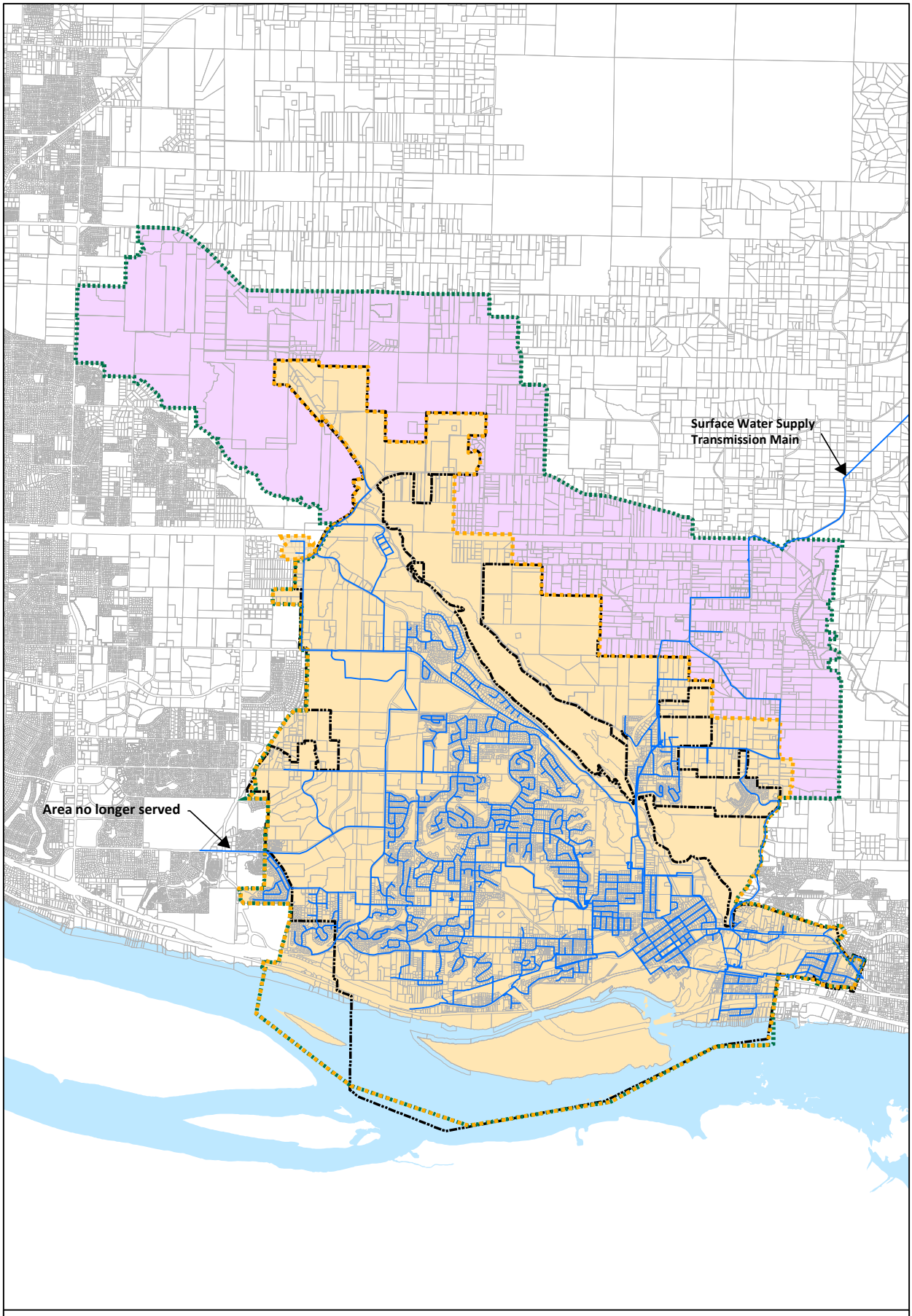
ES.3 EXISTING SYSTEM

The City owns and operates a multi-source municipal water system- summarized in Chapter 3 - which includes supply, treatment, storage, and distribution of potable water to residential and commercial customers. The City currently obtains its water from ten groundwater wells and two surface water sources that are treated to provide high quality water to customers. The City owns over 143 miles of pipelines in its water transmission and distribution system. Service is provided to customers across five major pressure zones and 18 subzones. Eight booster pumping stations are used to move water between pressure zones. Seven storage facilities with a combined total of 8.45 million gallons (MG) provide storage for normal and emergency conditions, such as fire suppression. Additionally, distribution system includes numerous meters, isolation valves, and hydrants. Major elements of the water system are shown in Figure ES.2.

ES.4 OPERATIONS AND MAINTENANCE

The water system is operated and maintained (O&M) by the City staff, with contractor provided services that City staff are not trained or equipped to perform. O&M of the water system requires the combined effort of the Public Works Department, Engineering Department, and Finance Department. The City's water system operators are experienced and well trained, exceeding the minimum state requirements (WAC 246-292-050). The City provides opportunities for its staffs' professional growth and training to maintain up-to-date knowledge.

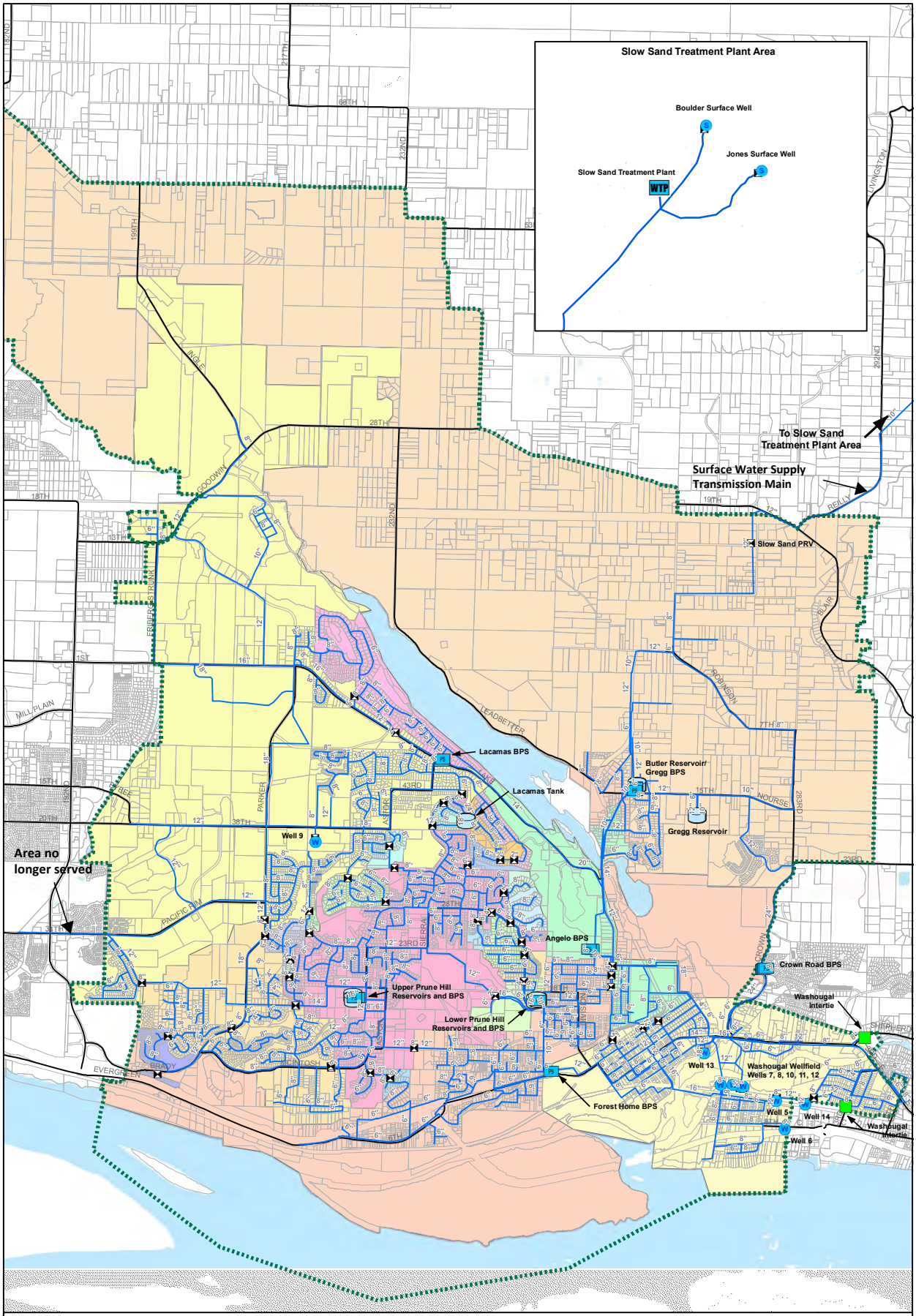
The City has a well operated and maintained system, as documented in Chapter 4. As part of the Plan, a high-level condition assessment identified repair and replacement projects for above ground assets (i.e., pump stations, wells, and reservoirs, etc.). The majority of projects were necessary due to aging electrical equipment and normal replacement of pumps and motors. The City also plans to replace two reservoirs, built prior to 1940, that have reached the end of their usable life.



SERVICE AREA

FIGURE ES.1

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE



SYSTEM FACILITY MAP

FIGURE ES.2

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

ES.5 WATER REQUIREMENTS

Projecting realistic future water demand is necessary for planning infrastructure projects and securing adequate water supply to meet future growth. Chapter 5 projects the water system requirements, i.e., demand, for the next 20 years. Demographic projections were used to predict where and how much growth will occur in the water system based on the City's comprehensive planning. The resulting future accounts were converted to projected demands using the historical water use patterns and parameters.

Demand projections were generated for the planning period of 2015 to 2035 for the City's established RWSA. The projections were divided into three planning scenarios: Short-term, 6-year (2015 - 2021), Medium-term, 10-year (2022 - 2025), and Long-term, 20-year (2026 - 2035).

Demand projections were expressed as average day demand (ADD), and maximum day demand (MDD). The ADD is typically used in operational evaluations. The MDD represents the single largest day water demand during the year and is a key parameter for infrastructure sizing.

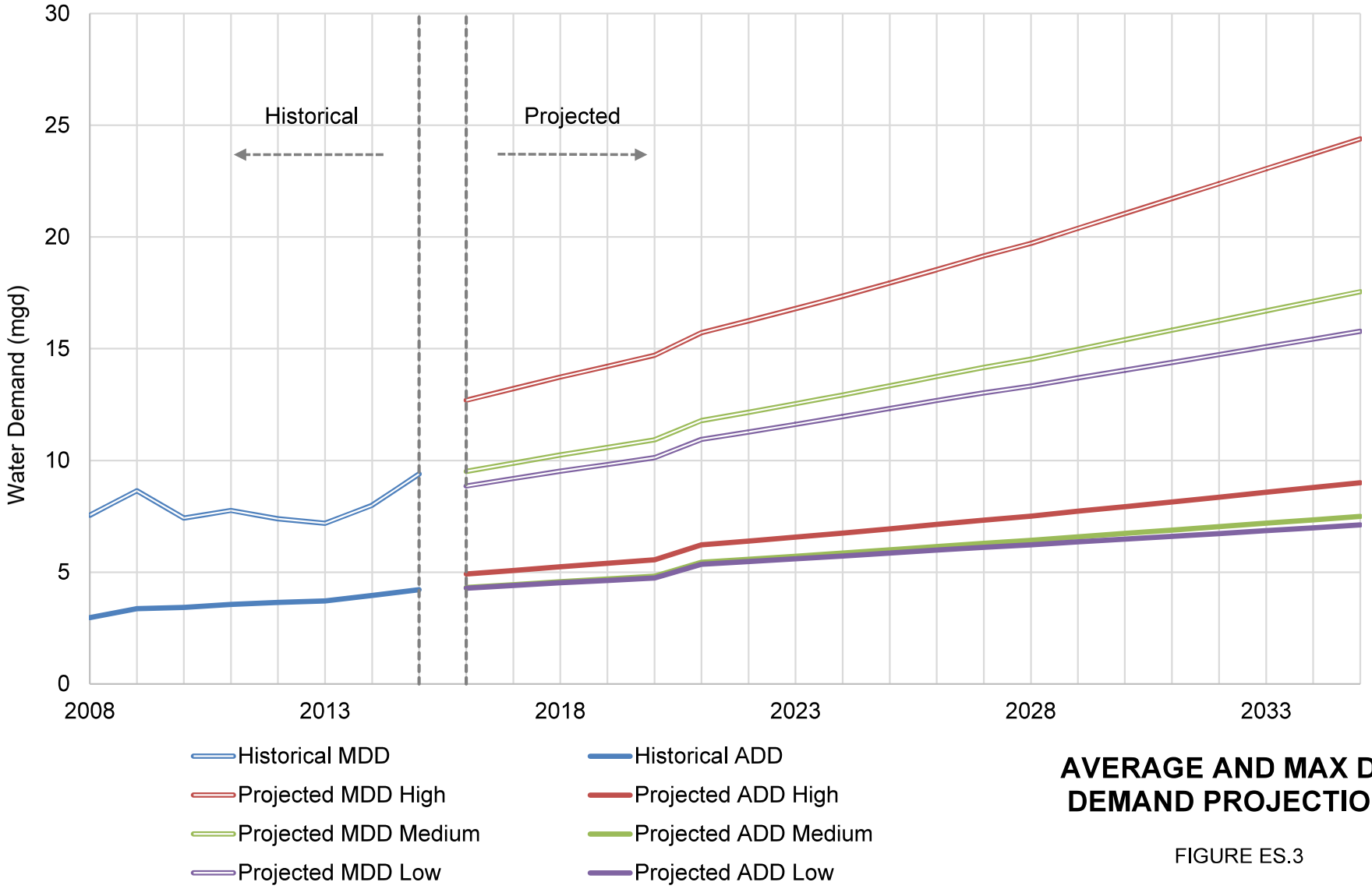
Changes in water use, conservation activities, system growth, and other factors may result in higher or lower than projected water use. Planning for the potential changes allows the City to better manage potential risks from these changes. Therefore, three demand scenarios were developed and shown in Figure ES.3: Low, Medium, and High demand scenarios. The low demand scenario represents future demand with conservation; the medium demand scenario is a conservative projection between the low and high projections; the high demand scenario generally reflects the highest demands in the last eight years.

ES.6 WATER USE EFFICIENCY

The City promotes efficient water use to conserve and protect their existing water supplies for present and future residents. Chapter 6 summarizes the City's Water Use Efficiency (WUE) efforts. The WUE Program goals established in 2013, which have been maintained, are:

- **Demand-Side Goal:** Reduce customer consumption per equivalent residential unit (ERU) by 1 percent or approximately 2 gallons per day (gpd) per year over the next 6 years.
- **Supply-Side Goal:** Continue to reduce distribution loss to at or below 10 percent for the next 5 years.

To meet these goals, the City promotes water conservation and efficient use of water through a variety of activities with the aim of reducing customer water use (conservation) and water loss through leak detection activities. The City's new Advanced Meter Reading (AMR) meters support both WUE aims.



AVERAGE AND MAX DAY DEMAND PROJECTIONS

FIGURE ES.3

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

ES.7 WATER QUALITY

The City is defined as a Group A – Community Water System and must comply with the drinking water standards of the federal Safe Drinking Water Act (SDWA) and its amendments, as regulated by the United States Environmental Protection Agency (USEPA). DOH adopted the updated federal standards under WAC 246-290, of which the most recent version became effective April 8, 2016. The City is in compliance with all requirements, as described in Chapter 7. Alternatively to the Chapter, the City publishes an annual Water Quality Report that keeps consumers informed as to the quality of the City's water supply and water delivery systems.

The City does not anticipate issues with meeting future regulatory requirements based on the limited available information.

ES.8 WATER RESOURCES

To meet future demands, the City will be required to fully use its water resources and develop new sources to continue to provide a high level of service. Chapter 8 presents a water right strategy for future water rights and supply needs.

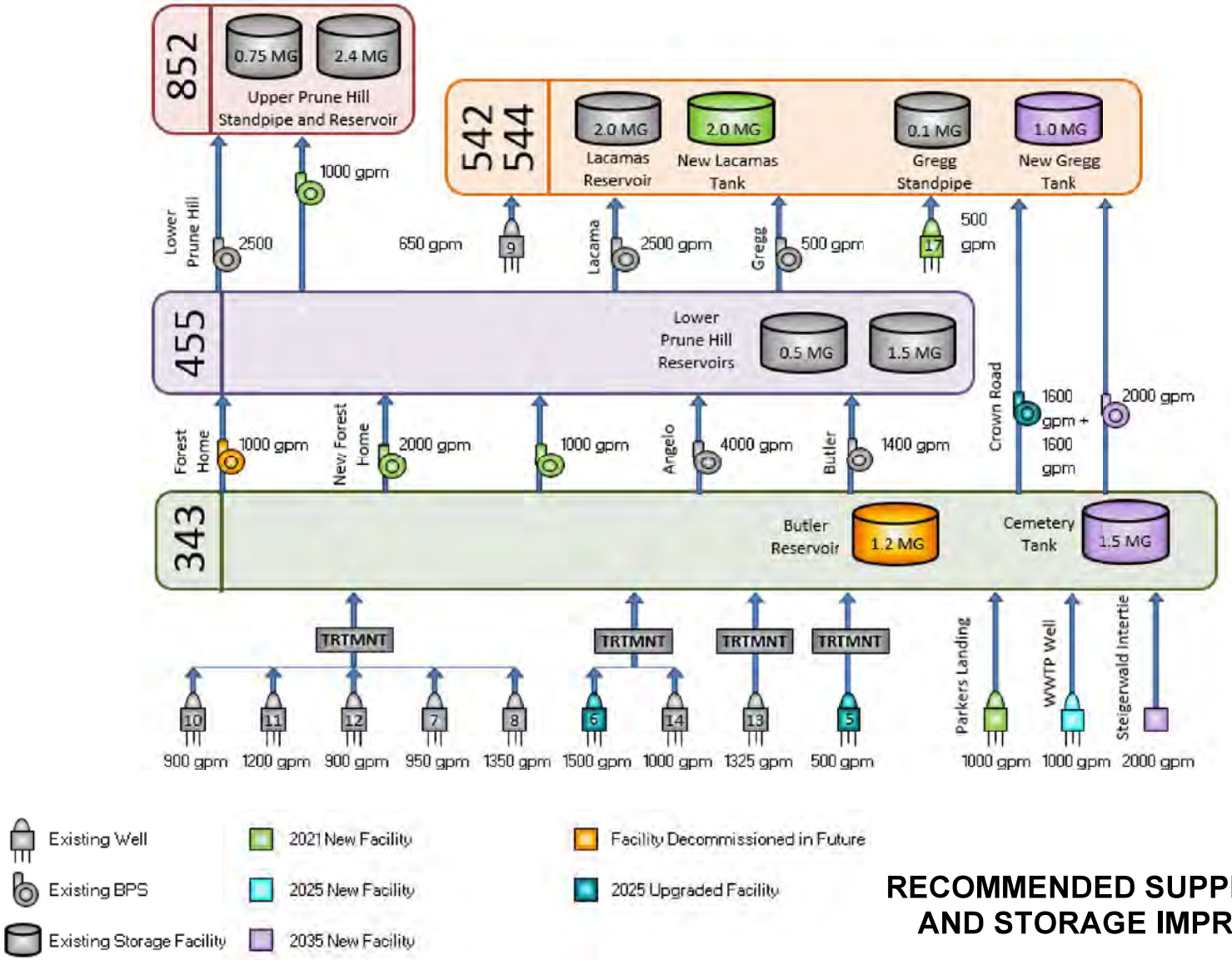
The City water supply strategy largely continues previously planned water supply projects and new water sources. Previously planned projects will be needed to meet growth, including Well 17 and the Parkers Landing Well. In addition to previously planned projects, the City anticipates completing the Washougal Wellfield Renewal Project to increase the ability to pump and reliability of the wellfield. Future supplies beyond the City's existing or planned wells will be from the Steigerweld Regional Supply.

In addition to new supplies, it is recommended that they continue its WUE program efforts to reduce the risk of very high peak demands.

ES.9 SYSTEM ANALYSIS

The City's water distribution system was evaluated for its ability to meet the City's performance criteria under 2021, 2025, and 2035 future conditions. The distribution system was evaluated for its pumping reliability and redundancy and the availability of storage using a desktop system analysis. Service pressures and available fire flows for both MDD and ADD conditions were evaluated using the City's updated hydraulic model.

Chapter 9 presents the results of the system analysis and discusses in detail recommended improvements to meet the City's level of service goals. These recommendations form the basis of the City's capital improvement program (CIP) outlined in Chapter 10. Supply, pumping, and storage project will be necessary during the planning horizon to meet the City's projected substantial growth in water demand, as shown in Figure ES.4.



RECOMMENDED SUPPLY, PUMPING, AND STORAGE IMPROVEMENTS

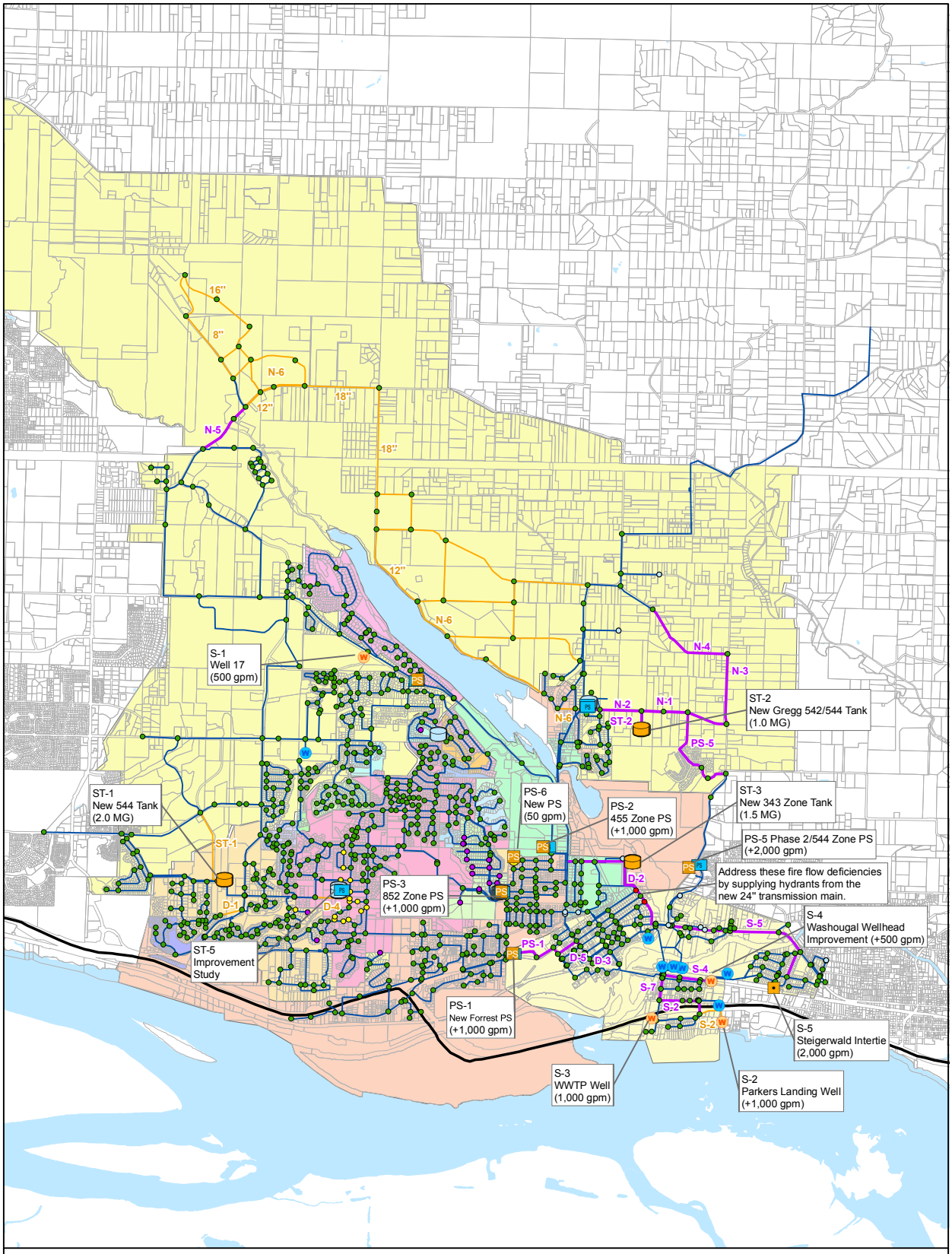
FIGURE ES.4

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

p:\...Carollo/Documents\Client/WA/Camas/10116A00/Deliverables/WSPU/_Executive Summary\Fig_ES_04.docx

The existing distribution system was evaluated for pressure during peak demand use and during fire flow events. Capacity improvements recommended to address pressure and fire flow deficiencies. Overall, the City had relatively few distribution system improvements, which are shown in Figure ES.5. The majority of deficiencies occur on dead-end mains or areas of high elevation. Additional flows can be supplied to these areas through small, local projects likely completed when the parcels redevelop or a nearby project occurs. It is recommended that the City address these as a programmatic manner that provides funds to address one or two of these areas per year. Additional distribution system improvements are recommended in conjunction with supply or pump station projects.

Within the planning period the City expects significant expansion of the water system in the North Shore area. Future pipelines were sized for the North Shore area.



2035 PHD PRESSURE AND FIRE FLOW RESULTS WITH RECOMMENDED IMPROVEMENTS

FIGURE ES.5

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlow_20170414.mxd

ES.10 CAPITAL IMPROVEMENT PLAN

Chapter 10 summarizes the City's comprehensive CIP for the water system that is based on the analyses presented in previous Chapters. The purpose of the CIP is to provide the City with a guideline for planning and budgeting of its water system. The CIP consists of schedule and cost estimates in present dollars for each project, as shown in Table ES.1.

The CIP cost estimates presented in this chapter are American Academy of Cost Engineers (AACE) Class 4 estimates. Class 4 estimates are budget level estimates. Actual costs may vary from these estimates by -30 percent to +50 percent. These costs were determined based on the City's and Consultant’s perception of current conditions at the project locations.

This Plan contains time fames that are the intended framework for future funding decisions. However, these timeframes are estimates and may change depending on factors involved in the growth, project implementation, and availability of funding. The framework does not represent actual commitments by the City.

ES.11 FINANCIAL PLAN

FCS GROUP provided a financial program that allows the City's water utility to remain financially viable during the planning period, which is summarized in Chapter 11. This financial viability analysis considers the historical financial condition, current and identified future financial and policy obligations, O&M needs, and the ability to support the financial impacts related to the completion of the capital projects identified in this Plan. Furthermore, this Chapter provides a review of the water utility’s current rate structure with respect to rate adequacy and customer affordability.

The results of this Financial Plan indicate that rates must increase to provide revenue sufficient to cover all utility financial obligations, including the addition of new debt and partial cash funding of the capital program through 2026. A rate increase of 5.0 percent in 2018, followed by annual rate increases of 2.5 percent through 2026 should provide for continued financial viability while maintaining generally affordable rates.

Table ES.1 CIP Project Summary
Water System Plan Update
City of Camas

Capital Improvement Program Summary

Project No.	SDC Area	Project Name	Developer Share	Total CIP Cost Estimate	CIP Phasing										Project Type		
					2017	2018	2019	2020	2021	2022	2023	Short-term (2017-2022)	Mid-term (2023-2026)	Long-term (2027-2036)	Capacity	Upgrade	R&R
Supply				**$28,937,000**	**$2,852,000**	**$2,296,000**	**$759,000**	**$3,595,000**	**$440,000**	**$723,000**	**$2,813,250**	**$10,665,000**	**$7,684,000**	**$10,588,000**			
S-1	Common	Well 17	0%	$1,815,000	$150,000	$1,665,000	$ -	$ -	$ -	$ -	$ -	$1,815,000	$ -	$ -	100%	0%	0%
S-2	Common	Parkers Landing Well	0%	$4,560,000	$ -	$456,000	$684,000	$3,420,000	$ -	$ -	$ -	$4,560,000	$ -	$ -	100%	0%	0%
S-3	Common	WWTP Well	0%	$3,651,000	$ -	$ -	$ -	$ -	$365,100	$547,650	$2,738,250	$912,750	$2,738,250	$ -	100%	0%	0%
S-4	Common	Washougal Wellfield Improvements	0%	$4,446,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$4,446,000	$ -	100%	0%	0%
S-5	Common	Steigerwald Regional Source	0%	$10,823,000	$60,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$435,000	$300,000	$10,088,000	100%	0%	0%
S-6	Common	Watershed Forest Management	0%	$1,070,000	$70,000	$100,000	$ -	$100,000	$ -	$100,000	$ -	$370,000	$200,000	$500,000	0%	0%	100%
S-7	Common	544 Zone Watershed Source Improvements	0%	$2,572,083	$2,572,083	$ -	$ -	$ -	$ -	$ -	$ -	$2,572,083	$ -	$ -	0%	0%	100%
Distribution System Improvements				**$6,024,000**	**$515,000**	**$55,000**	**$861,000**	**$2,064,000**	**$778,000**	**$55,000**	**$55,000**	**$4,328,000**	**$2,070,000**	**$1,476,000**			
D-1	South	Transmission main from NW 11 Cir to NW Brady Rd	0%	$269,000	$ -	$ -	$ -	$ -	$269,000	$ -	$ -	$269,000	$ -	$ -	0%	0%	100%
D-2	Common	343 Zone Supply Transmission Upsizing	0%	$2,505,000	$ -	$ -	$626,250	$1,878,750	$ -	$ -	$ -	$2,505,000	$ -	$ -	50%	50%	0%
D-3	South	NE Birch St upsized transmission main	0%	$65,000	$ -	$ -	$ -	$ -	$65,000	$ -	$ -	$65,000	$ -	$ -	0%	0%	100%
D-4	South	New transmission main along NW 16th Ave	0%	$519,000	$ -	$ -	$ -	$129,750	$389,250	$ -	$ -	$519,000	$ -	$ -	0%	0%	100%
D-5	South	New Distribution along NW 6th Ave/ NE Adams St	0%	$926,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$926,000	100%	0%	0%
D-6	South	Dead-end Looping Program	0%	$1,045,000	$ -	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000	$275,000	$220,000	$550,000	0%	0%	100%
D-7	Common	PRV Adjustment Study	0%	$180,000	$ -	$ -	$180,000	$ -	$ -	$ -	$ -	$180,000	$ -	$ -	0%	0%	100%
D-8	Common	Well 6/14 Transmission Line	0%	$515,050	$515,050	$ -	$ -	$ -	$ -	$ -	$ -	$515,050	$ -	$ -	0%	0%	100%
D-9	Common	Parallel Boulder Creek Intake	0%	$1,850,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,850,000	$ -	100%	0%	0%
Pump Station				**$11,526,000**	$ -	**$925,000**	**$463,000**	**$28,000**	$ -	$ -	**$544,500**	**$1,416,000**	**$4,141,000**	**$5,969,000**			
PS-1	South	New Forest Home PS	0%	$3,117,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$779,250	$2,337,750	0%	50%	50%
PS-2	Common	New 455 Zone PS Capacity	0%	$1,258,000	$ -	$ -	$ -	$ -	$ -	$ -	$314,500	$ -	$1,258,000	$ -	0%	50%	50%
PS-3	Common	Lower Prune Hill PS Expansion	0%	$1,388,000	$ -	$925,000	$463,000	$ -	$ -	$ -	$ -	$1,388,000	$ -	$ -	0%	50%	50%
PS-4	25% South/75% North Shore	North Shore PS Capacity Phase I	75%	$1,184,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,184,000	$ -	100%	0%	0%
PS-5	25% South/75% North Shore	North Shore PS Capacity Phase II	75%	$3,631,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,631,000	100%	0%	0%

Table ES.1 CIP Project Summary
Water System Plan Update
City of Camas

Capital Improvement Program Summary

Project No.	SDC Area	Project Name	Developer Share	Total CIP Cost Estimate	CIP Phasing										Project Type		
					2017	2018	2019	2020	2021	2022	2023	Short-term (2017-2022)	Mid-term (2023-2026)	Long-term (2027-2036)	Capacity	Upgrade	R&R
Pump Station				**$11,526,000**	**$ -**	**$925,000**	**$463,000**	**$28,000**	**$ -**	**$ -**	**$544,500**	**$1,416,000**	**$4,141,000**	**$5,969,000**			
PS-6	South	NW Couch St PS	0%	$920,000	$ -	$ -	$ -	$ -	$ -	$ -	$230,000	$ -	$920,000	$ -	0%	0%	100%
PS-7	South	NW 10th Ave Study	0%	$28,000	$ -	$ -	$ -	$28,000	$ -	$ -	$ -	$28,000	$ -	$ -	0%	0%	100%
Storage				**$21,087,000**	**$2,947,000**	**$4,289,000**	**$ -**	**$711,000**	**$1,205,000**	**$5,331,000**	**$ -**	**$14,483,000**	**$ -**	**$6,604,000**			
ST-1	Common	New 544 Zone Reservoir	0%	$7,236,000	$2,946,660	$4,289,340	$ -	$ -	$ -	$ -	$ -	$7,236,000	$ -	$ -	100%	0%	0%
ST-2	Common	New Gregg Tank	75%	$3,984,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,984,000	100%	0%	0%
ST-3	South	343 Zone Reservoir	0%	$7,108,000	$ -	$ -	$ -	$710,800	$1,066,200	$5,331,000	$ -	$7,108,000	$ -	$ -	25%	0%	75%
ST-4	Common	Lower Prune Hill Reservoir Rehabilitation	0%	$2,620,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,620,000	0%	25%	75%
ST-5	Common	Upper Prune Hill Pressure Improvements Study	0%	$139,000	$ -	$ -	$ -	$ -	$139,000	$ -	$ -	$139,000	$ -	$ -	0%	50%	50%
General				**$550,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$275,000**	**$275,000**			
G-1	Common	Water System Plan Update	0%	$550,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$275,000	$275,000	0%	0%	100%
Repair and Replacement				**$44,327,000**	**$320,000**	**$470,000**	**$470,000**	**$470,000**	**$1,164,000**	**$390,000**	**$1,951,750**	**$3,284,000**	**$7,807,000**	**$33,236,000**			
R-1	South	Supply R&R Projects	0%	$1,256,000	$120,000	$ -	$ -	$ -	$148,000	$ -	$93,500	$268,000	$374,000	$614,000	0%	0%	100%
R-2	South	Pump R&R Projects	0%	$1,505,000	$ -	$ -	$ -	$ -	$546,000	$ -	$145,750	$546,000	$583,000	$376,000	0%	0%	100%
R-3	South	Pipeline R&R Projects	0%	$40,266,000	$ -	$195,000	$195,000	$195,000	$195,000	$390,000	$1,712,500	$1,170,000	$6,850,000	$32,246,000	0%	0%	100%
R-4	South	Meter Replacement Program	0%	$1,300,000	$200,000	$275,000	$275,000	$275,000	$275,000			$1,300,000	$ -	$ -			
North Shore Expansion				**$25,353,000**	**$3,100,000**	**$ -**	**$2,225,000**	**$2,225,000**	**$2,225,000**	**$2,225,000**		**$12,000,000**	**$4,450,000**	**$8,903,000**			
NS-1	North Shore	Annual North Shore Distribution Program	75%	$22,253,000	$ -	$ -	$2,225,000	$2,225,000	$2,225,000	$2,225,000		$8,900,000	$4,450,000	$8,903,000	100%	0%	0%
NS-2	North Shore	Leadbetter Road Transmission Main	75%	$3,100,000	$3,100,000	$ -	$ -	$ -	$ -	$ -	$ -	$3,100,000	$ -	$ -			
CIP Total				**$139,654,067**	**$9,733,897**	**$8,035,170**	**$4,778,125**	**$9,092,650**	**$5,812,275**	**$8,723,825**	**$5,364,500**	**$46,175,942**	**$26,427,250**	**$67,050,875**	**$69,050,875**	**$4,858,500**	**$61,007,133**
Annual Cost				$6,983,000	$9,734,000	$8,035,200	$4,778,100	$9,092,700	$5,812,300	$8,723,800	$5,364,500	$7,696,000	$6,606,800	$6,705,100			

Chapter 1

INTRODUCTION

1.1 PURPOSE

The City of Camas (City) prepared this Water System Plan (Plan) Update to document the water system, its programs, and analyze the future needs of the water system. The Plan is an update to the City's 2010 Plan. The purpose of this Plan is to document changes to the City's water system, to identify required system modifications, and to appropriately outline capital improvement projects to meet system growth and address aging infrastructure. Maintaining a current Plan is required to meet the regulations of the Washington State Department of Health (DOH) and the requirements of the Washington State Growth Management Act. This Plan complies with the requirements of DOH as set forth in the Washington Administrative Code (WAC) 246-290-100, Water System Plan.

1.2 LOCATION

The City is located in Clark County, WA and is considered part of the greater Portland, OR metropolitan area. The City is bordered to the south by the Columbia River, the west by the City of Vancouver, WA water system, the City of Washougal, WA water system to the east, and unincorporated Clark County to the north.

1.3 OWNERSHIP AND MANAGEMENT

The City owns and operates their water system (DOH ID 108002) and serves the City and portions of its Urban Growth Area (UGA) as defined by tis water service area. The water service boundaries are further discussed in Chapter 2. The City provides internal staffing for the management, operations, and maintenance of the water system.

1.4 ENVIRONMENTAL ASSESSMENT

A State Environmental Policy Act (SEPA) Checklist and determination of non-significance (DNS) has been prepared for this Plan. The City anticipates the Plan does not have probable significant adverse impacts on the environment in accordance with the DNS under WAC 197-11-340(2). Many of the projects proposed within the Plan will require subsequent project specific environmental review and SEPA checklists as part of their design process. The SEPA Checklist and DNS are included in Appendix B.

1.5 APPROVAL PROCESS

This Plan is required to meet state, county, and local requirement. The City will submit the Plan to DOH, Clark County, and adjacent Utilities as part of the Agency Review process.

See Appendix B for Agency comment letters, responses, and approvals. As required by WAC 246-290-108, a local government consistency review checklist has been prepared and is included in Appendix B. The Adopting Resolution by City Council documenting the final approval of the Plan will also be included in Appendix A.

1.6 DOH WATER SYSTEM PLAN CHECKLIST

To assist review of the Plan, the DOH Water System Plan checklist is provided in Table 1.1 with references to the required information.

Table 1.1 DOH Water System Plan Checklist
Water System Plan Update
City of Camas

Required	*Content Description*	*WSP Page #*
	Description of Water System	
(✓)	Updated Water Facility Inventory (WFI), signed and dated	8.1.1/ App. F
(✓)	Ownership and management	1.3
(✓)	System history and background	2.2.2
(✓)	Inventory of existing facilities	Chapter 3
(✓)	Description of and discussion about related plans: CWSP, groundwater management plan, WRIA and City/County land use plans & zoning.	Chapter 3/5
(✓)	Service Area Maps: clearly identifying existing, retail and future service areas.	Figure 2.1
(✓)	Policies: Service area, SMA, conditions of service, annexation	2.7
(✓)	Duty to serve requirement: procedures, conditions, appeals	2.7
(✓)	Consistency from local planning agency (LGC checklist)	2.7
	Planning Data	
(✓)	Demand analysis based on water use: • Include analysis of population, service connections & ERUs • Source and service meter data (preferably three or more, typically 6 years). Provide monthly and annual production and consumption totals. • Provide usage by customer class. Analyze industrial and commercial demands separate from the residential demand and multifamily structures separate from the single family residences. • Define ERU • Provide data and assumptions (including DSL) for calculation MDD, PHD, and ADD • Demand analysis per pressure zone and the whole system • Consider water supplied to other systems • If >1000, include seasonal variations in consumption by customer class	Chapter 5

Table 1.1	DOH Water System Plan Checklist Water System Plan Update City of Camas	
(✓)	Provide 6 & 20 year projections: • Provide 6 & 20 year projections for demand forecasts with and without expected efficiency savings (conservation)	5.6
(✓)	Interties – discussion of all existing and proposed interties and copies of agreements	8.3
(✓)	Provide 6 & 20 year projections for land use and zoning	3.8
(✓)	Distribution System Leakage percentage and volume	5.4
	System Analysis	
(✓)	Provide assumptions and basis of analysis: • System design standards • Policies on operations and expected level of service (such as standby storage, pumping restrictions and emergency back-up power) • Fire flow requirements and if nesting is allowed. May need a confirmation from local fire authority.	Chapter 9
(✓)	System inventory and description	Chapter 3
(✓)	Capacity analysis (legal and physical capacity): • Limiting factor analysis (WSDM worksheet 6-1) • Include the results of the limiting factor analysis in a table • Analysis per pressure zone and the whole system • Water rights analysis – include water right self-assessment forms for existing, 6 & 20-year projections, including copies of water right certificate(s) • Consider source, pumping, treatment, storage, and distribution	
(✓)	Hydraulic analysis of distribution system: • Describe the model used • Evaluate the system based on PHD and MDD + Fire flow • Evaluate the current conditions, and 6- and 20-year planning periods • Check minimum pressures and maximum velocities • Include assumptions of model, pressure zone boundary conditions, and a summary of model in/out information. Storage assumptions should be based on minimum reservoir levels. • Include verification and calibration methods and results • Summary of system deficiencies	Chapter 9
(✓)	Analysis of possible improvement projects	9.6

Table 1.1	DOH Water System Plan Checklist Water System Plan Update City of Camas	
	Water Use Efficiency Program	
(✓)	Water Use Efficiency (WUE) Program per WAC 246-290-810:	Chapter 6
	• Describe the current WUE program	
	• Describe WUE goal & document public adoption process	
	• Describe measures that will be implemented to achieve the goal & include schedule & costs in the budget	
	• Describe process used to evaluate the WUE measures you did not implement	
	• Describe yearly consumer education	
	• Estimated projected water savings from selected measures	
	• Describe process that will be used to determine effectiveness of the program	
	>= 1000 Connections	
	• Estimate water saved from efficiency measures over the past 6 years	
	• Quantitative evaluation of measures to determine if they are cost-effective, include marginal costs of water production	
	• Evaluate measures for cost-effectiveness if shared with other systems	
	• Quantitative of qualitative evaluation of measures to determine if they are cost-effective from the societal perspective	
(✓)	Source & Service Meters - or schedule w/ activities to minimize leakage	6.1.1.1
(✓)	Water Loss Action Plan WAC 246-290-820	Not Required
(✓)	Water supply characteristics, description & discussion on effect of water use	Chapter 8
(✓)	Source of supply analysis and evaluation of supply alternatives	Chapter 8
(✓)	>= 1000 connections explore reclaimed water opportunities	6.2.1.2
	Source Water Protection	
(✓)	Wellhead protection program	8.5
	2 year update (contaminant inventory, letters and map)	
(✓)	Analysis and discussion of Water Quality	Chapter 7
(✓)	Watershed control program	2.6.2.9
	Operation and Maintenance Program	
(✓)	Water system management and personnel	Figure 4.1
(✓)	Operator certification	Figure 4.1
(✓)	Routine operating procedures and preventative maintenance:	4.2
	• Standard Operating Procedures (SOP Manual-Surface Water Treatment Plant)	
(✓)	Water quality sampling procedures & program	Chapter 7

Table 1.1	DOH Water System Plan Checklist Water System Plan Update City of Camas	
(✓)	Coliform monitoring plan, including maps (and triggered source monitoring plan)	Provided Separately
(✓)	Emergency response plan:	4.4
	• Water system contacts	
	• Vendor contacts (Equipment replacement, water haulers, etc.)	
	• Example notices (water outages, BWA, coliform MCL, emergency conservation)	
	• Emergency government officials contact info (ODW, County Health Dept., State and County Emergency Operations Centers)	
	• List of emergency sources ad interties	
	• Emergency response planning activates to ensure preparedness	
(✓)	Water shortage plan and service reliability	6.3
(✓)	Cross-connection control program	4.5
(✓)	Recordkeeping, reporting, and customer complaint program	4.7
(✓)	Summary of O&M deficiencies	4.9
	Distribution Facilities Design and Construction Standards	
(✓)	Standard construction specification for distribution mains	Appendix K
	Improvement Program	
(✓)	Capital improvement schedule for 6 and 20 years	Chapter 10
	• Include inventory and assessment of existing system components	
	Financial Program	
(✓)	Summary of past Income and Expenses (at least 2 years)	11.1/11.2
(✓)	>= 1000 connections – Balanced 1-year budget	11.1/11.2
(✓)	Show revenue and cash flow stability to fund capital and emergency improvements	11.4
(✓)	Affordable rate structure that covers the full cost of producing, treating, storing and distributing water to customers now and into the future	11.15
	Miscellaneous Documents	
(✓)	Meeting of the consumers (may be combined with WUE public meeting)	At later date
(✓)	Date, agenda, meeting minutes	At later date
	• County/Adjacent Utility Correspondence	
(✓)	>= 1000 connections – State Environmental Policy Act (SEPA) Determination	At later date
(✓)	Agreements: franchise, wheeling, financial aid, inter-local and other agreements (if any exist)	At later date
(✓)	Satellite Management Program	At later date

Chapter 2

PLANNING CONSIDERATIONS

2.1 INTRODUCTION

The objective of this chapter is to document the City of Camas (City) water system planning considerations that influence the plan including background on the study area, policies, criteria, and related documents.

2.2 STUDY AREA

2.2.1 Water System History

The first known settler, David Parker, came to the City of Camas in 1845. In 1883 the La Camas Colony Company of Portland purchased 2,600 acres encompassing Lacamas, Round, and Dead Lakes, the stream connecting them to the Columbia River, and constructed dams for water power for new flour and paper mills, a sawmill, and a furniture factory in the area. The City was incorporated in 1906. In 1913, the City's first water system was storing Jones Creek supply in Butler Reservoir. The system has continued to expand and adapt to new challenges and regulations, as described in Table 2.1. This Plan provides a roadmap to continue to provide high quality water into the future.

Table 2.1 Water System Historical Timeline
Water System Plan Update
City of Camas

1845	Camas first settled
1913	Jones Creek Intake constructed
1913	0.6 MG(1) Butler Reservoir, South Half
1923	0.6 MG Butler Reservoir, North Half (1.2 MG total)
1931	Boulder Creek Intake constructed
1935	0.5 MG Lower Prune Hill Reservoir
1936	Wells 1 and 2 constructed
1945	Well 3 constructed
1948	Butler Booster Station - 800 gpm(1)
1949	Forest Home Booster Station - 450 gpm
1952	Chlorination Plant - injects chlorine into water from Jones Creek and Boulder Creek before it goes to the Filter Plant
1959	Well 4 constructed
1965	Filter Plant - 1,200 gpm - filters water from Jones Creek and Boulder Creek intakes
1965	10th Street Booster Station

Table 2.1 Water System Historical Timeline Water System Plan Update City of Camas	
1968	Well 5 constructed
1969	Well 6 constructed
1971	Well 7 constructed
1971	1.5 MG Lower Prune Hill Reservoir
1971	0.75 MG Upper Prune Hill Reservoir
1971	Lower Prune Hill Booster Station - 500 gpm, 500 gpm, 750 gpm
1977	Well 8 constructed 1,350 gpm
1978	0.1 MG Gregg Reservoir
1978	Old Gregg Booster Station - 500 gpm
1988	SCADA(1) System installed
1993	2.0 MG La Camas Reservoir
1993	La Camas Booster Station - 500 gpm, 500 gpm, 1,500 gpm
1998	Forest Home Booster Station Upgrade - 1,000 gpm
1999	Butler Booster Station Upgrade
2000	Well No. 9 constructed - 650 gpm
2001	Angelo Booster Station constructed - 3,000 gpm capacity
2001	Lower Prune Hill Booster Station Upgrade - 1,000 gpm replacement pump
2002	Upper Prune Hill Reservoir (2.4 MG) and Booster Station (2,900 gpm capacity) construction
2002	New Gregg Zone Booster Station Constructed, 1,500 gpm
2002	Lower Prune Hill Upgrade, 2,000 gpm
2002	Jones and Boulder Creek intake metering
2002	Chlorine and CT(1) improvements
2002	Well 1 & 2 abandoned
2003	Well 3 decommissioned
2003	Well 11 (1,200 gpm) & Well 12 (900 gpm) constructed, Washougal Wellfield Chemical Feed Facility installed
2003	New Gregg Booster Pump Station - 1,500 gpm
2004	Well 10 constructed - 900 gpm
2007	Well 4 decommissioned
2008	Well 13 constructed, 1,325 gpm
2008	Washougal River 24-inch pipe crossing installed
2008	Ostenson Canyon Pipeline installed

Table 2.1 Water System Historical Timeline Water System Plan Update City of Camas	
2008	City and Department of Ecology sign agreement regarding use of service water sources and increased water rights associated with groundwater
2009	Well 14 constructed - 1,000 gpm
2009	Sodium hypochlorite disinfection system installed at Well 5 and 9
2011	Crown Road Booster Pump installed - 1,600 gpm

Note:
(1) CT - contact time; gpm - gallons per minute; MG - million gallons; SCADA - Supervisory Control and Data Acquisition.

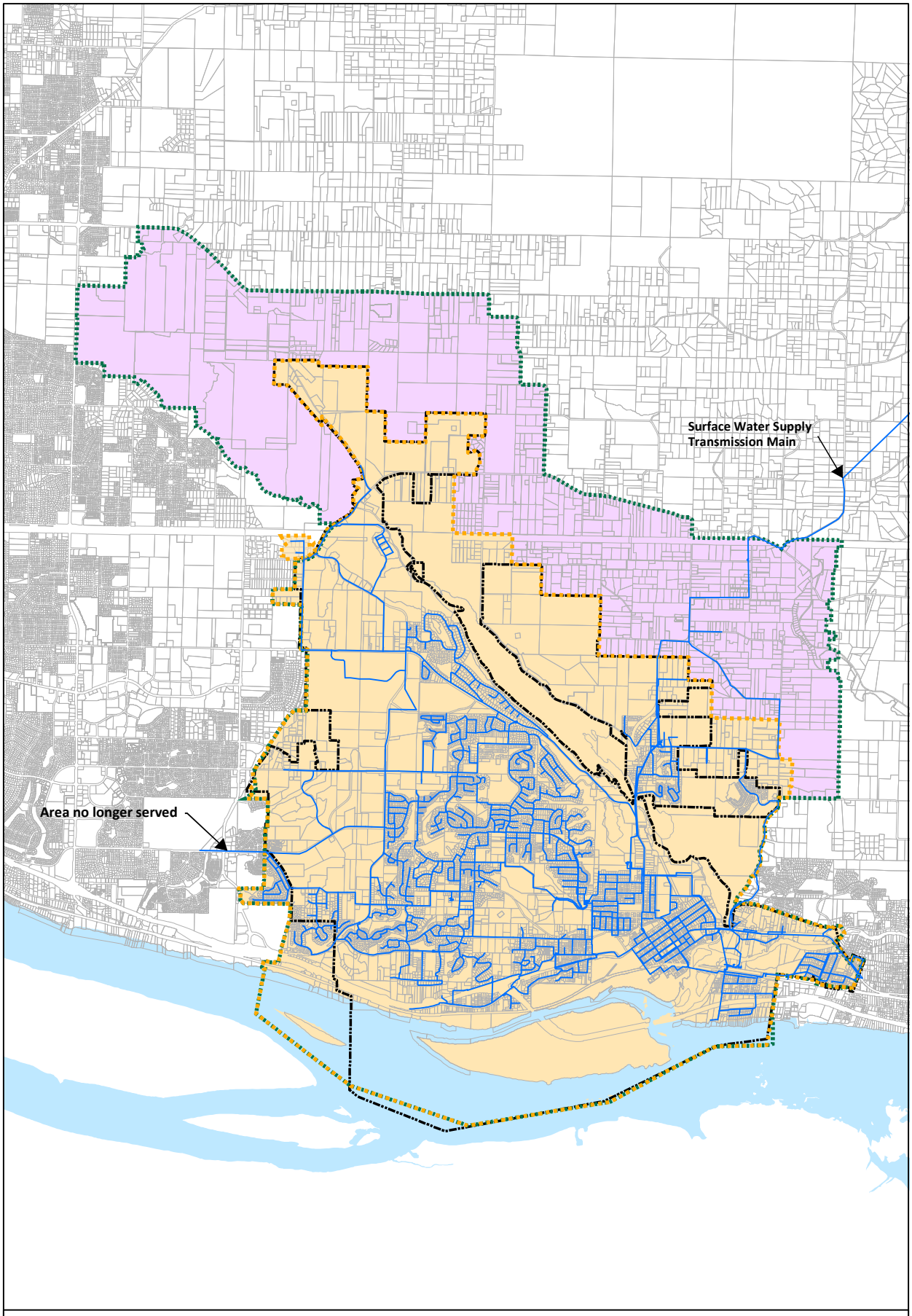
2.2.2 Ownership and Management

The City's water system is owned and operated by the City of Camas. The City is governed by a mayor and seven council members, all of which are elected officials. The Public Works Director is appointed by the council and, as one of his or her duties, heads the City's water department. The water department is divided into two branches: engineering and operations.

The City has both surface water and groundwater sources. The surface water sources, Boulder and Jones Creeks, are located on the south side of Larch Mountain, northeast of Camas. The ground water sources include nine wells near the Washougal River, and one well in Grass Valley. The City treats all of its water with chlorine for disinfection, fluoride, and sodium. Water pressure and fire flows are maintained throughout the service area with seven distribution reservoirs, nine pump stations, and over 143 miles of piping to serve their 23,000, and growing, customers.

2.2.3 Service Area

In accordance with the Municipal Water Law, the City is required to designate a retail service area within that it has a duty to serve all customers meeting the City's stated conditions of service – the City's service policies are summarized in Table 2.3 - and also designate a future service area. The City's retail water service area, future service areas, and service area are shown in Figure 2.1. The retail water service area is largely defined by the City's urban growth boundary. The City's service area, defined by the Clark County Coordinated Water System Plan, expands the retail service area to the urban growth boundary. The Regional planning does not anticipate the entire future service area to develop during the planning period (next 20-years); however, the City reserves the first right of refusal for providing water service to developments in its Service Area. Note, the map shows pipelines outside of the service area are associated with the surface water supply transmission (to the northeast) or that reflect historical retail water sales that no longer occur (to the west).



Legend

- Existing Water Main
- Retail Water Service Boundary
- Future Water Service Boundary
- City Limits
- Retail Water Service Area
- Coordinated Water System Boundary/Future Water Service Area/Service Area
- Parcels
- Waterbody

0 0.5 1 Miles

SERVICE AREA

FIGURE 2.1

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

2.2.4 Regional Environment

2.2.4.1 Climate

The climate in the City and the surrounding greater Clark County area is influenced by the Coast Mountain Range to the west and the Cascade Mountain Range to the east. The Coast Mountain Range provides some limited protection from the direct influence of the Pacific Ocean. Moist heavy air from the Pacific is cooled as it rises over the Coast Mountain Range and releases moisture as rainfall. The air is further cooled as it approaches the Cascade Mountain Range, resulting in moderate rainfall for lower lying area, and heavier precipitation along the west slopes of the Cascades. This results in a large variation of rainfall across the county. The Cascade Mountains also provide a barrier against continental air masses originating over the Columbia Basin to the east.

Clark County has wet, mild winters and warm, dry summers. Average annual precipitation in the City of Camas is 45 inches, while the northeastern end of the County receives 144 inches. Approximately 80 to 85 percent of the precipitation occurs between the months of October and May and the City receives 143 days of sunshine per year.

Temperatures across Clark County average 33.6 degrees Fahrenheit in January, increasing to an 82-degree high in July. Winter storms come generally from the southwest, with infrequent snowstorms originating from the Gulf of Alaska. Fall and winter storms can be accompanied by high winds, resulting in power outages.

2.2.4.2 Topography

Clark County is located in the Willamette-Puget Trough, a geographic basin formed by the Cascade and Coast Mountain Ranges. The county is bounded on the south and west by the Columbia River, on the north by the Lewis River, and on the east by the foothills of the Cascades. The City of Camas itself resides in the Southeast side of the county, with Vancouver to its west and Washougal to its east.

The ground slope and natural drainage features within the City play a significant role in the planning and design of the water distribution storage facilities. The elevation within the City ranges from about 20 feet above sea level along the shores of the Columbia and Washougal Rivers, to approximately 752 feet (NGVD 29) at the Upper Prune Hill Standpipe located at the top of Prune Hill. The terrain in the City includes a flat plateau in the Downtown area and generally increasing elevations to the North, as shown in Figure 2.2.

2.2.4.3 Surface Water

The surface water features within the City urban growth area (UGA) boundary include Lacamas Lake, the Columbia River, the Washougal River, Lacamas Creek, Fallen Leaf Lake, and Round Lake. The City also owns the majority of the watershed for the Jones and Boulder Creeks north of the City's intakes for these sources. Jones and Boulder Creek are

tributaries of the Little Washougal River, which is a tributary of the Washougal River. The basin characteristics for the creeks, streams, and rivers discussed below were obtained from stream gauging published by the U.S. Geological Survey.

The Columbia River begins in Canada, enters the United States in northeastern Washington, continues traveling southwest through eastern Washington, where it travels over a series of dams until it empties into the Pacific Ocean. The Columbia River forms the border between the states of Washington and Oregon from the point where it crosses the 46th Parallel until it empties into the Pacific Ocean. The Columbia River drainage area is approximately 241,000 square miles, with an average flow of 603,000 cubic feet per second (cfs).

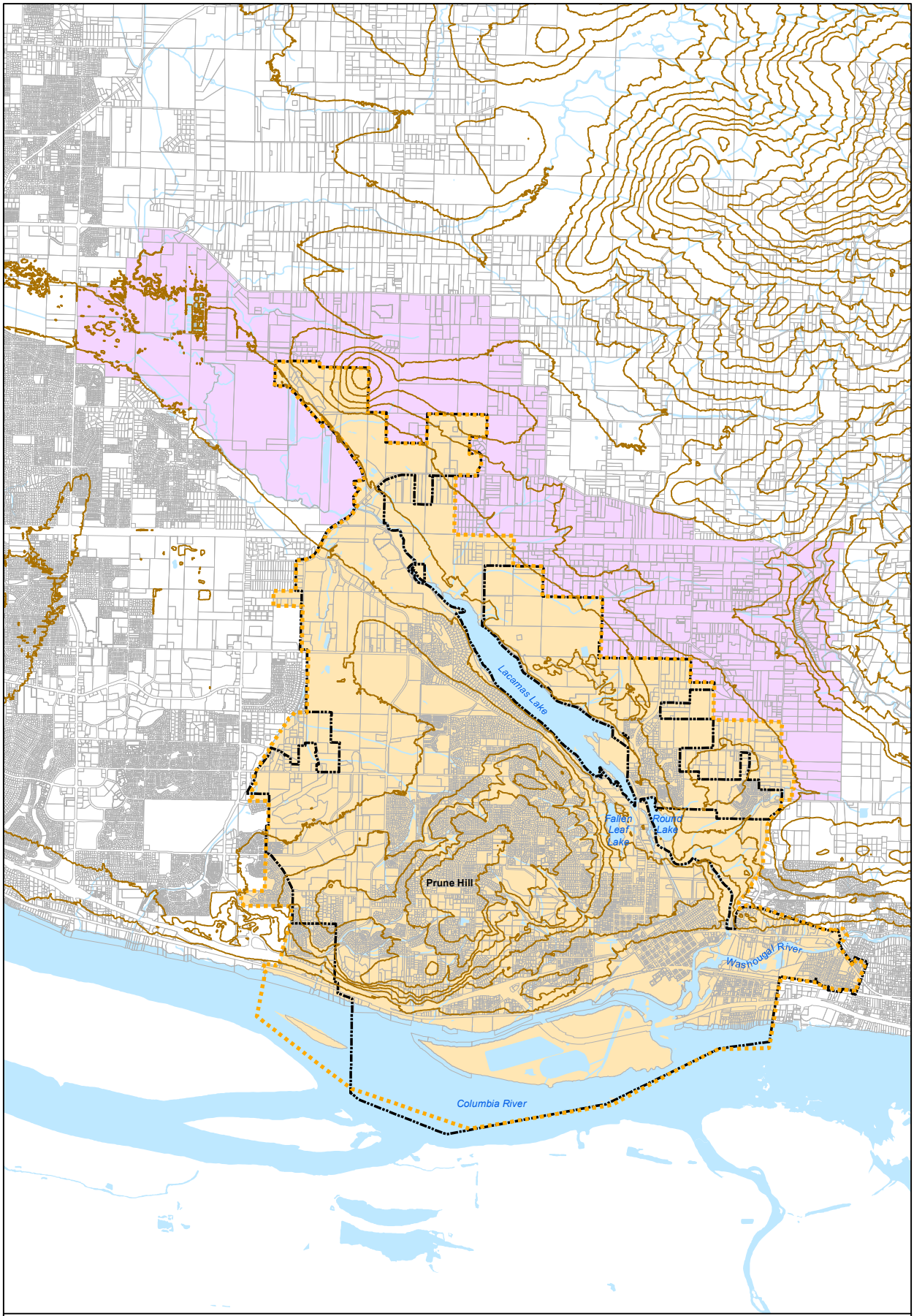
Lacamas Lake is over 60 feet deep in places. It receives flow from Lacamas Creek and Dwyer Creek. The Lake then discharges into Lacamas Creek, which flows into the Washougal River. The water level is controlled by dam located at the south end of the lake. Fallen Leaf Lake and Round Lake are man-made lakes and are smaller parts of Lacamas Lake, separated from Lacamas Lake by Everett Street.

The Washougal River flows southwest from the Cascade Mountains to the City of Camas, where it empties into the Columbia River. The Washougal River drainage basin is approximately 108 square miles in size and historical records report average flows at approximately 9,000 cfs.

The Little Washougal River, of which Jones and Boulder Creeks are tributaries, flows to the southwest out of the Cascade Mountains. The Little Washougal turns to the southeast before it crosses into the City of Camas UGA and empties into the greater Washougal River. The Little Washougal drainage basin covers approximately 23 square miles with historical average daily peak flows of approximately 1,317 cfs.

2.2.4.4 Critical Areas

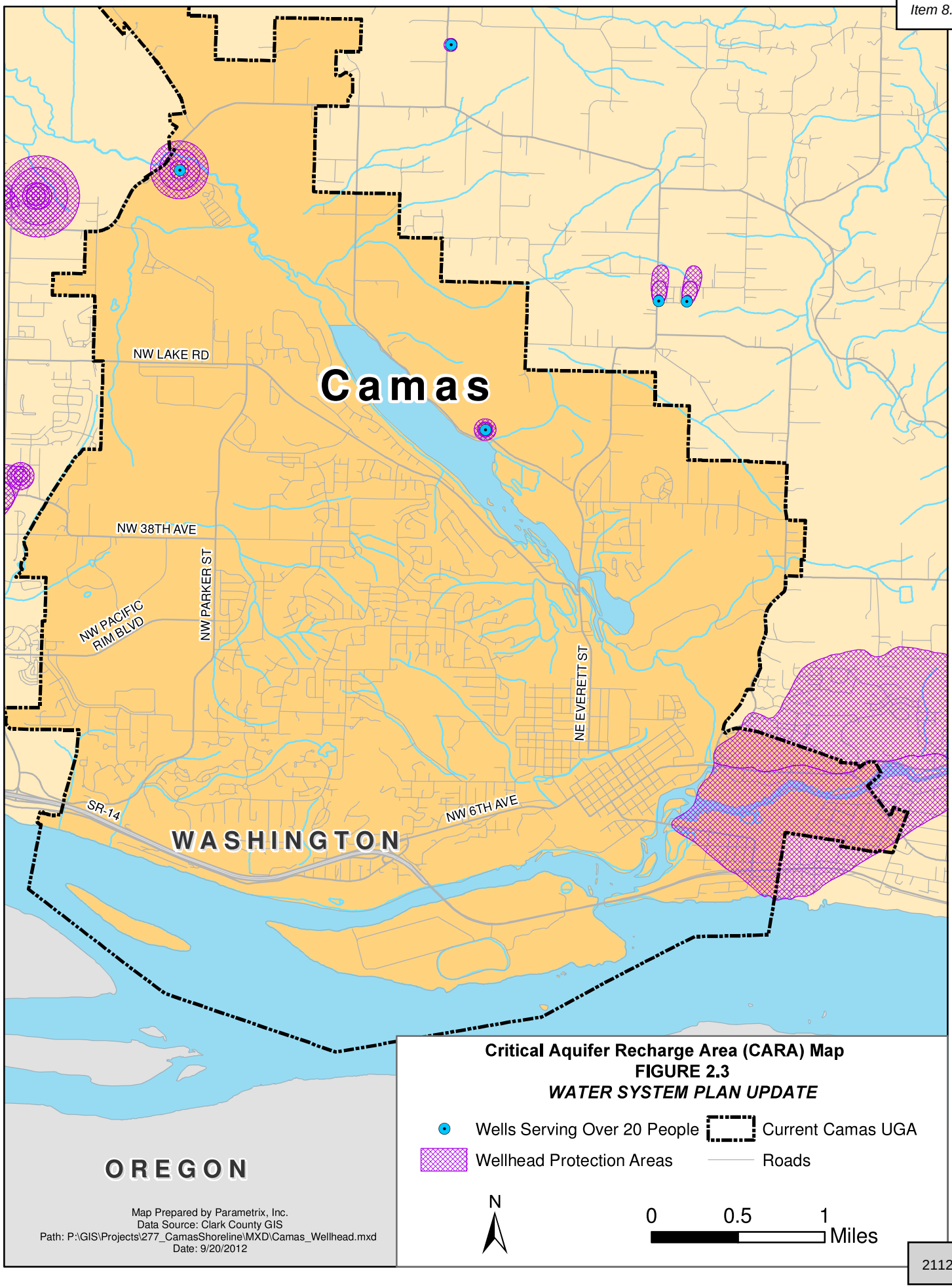
Critical areas within the City include those classified as Critical Aquifer Recharge Areas, Fish and Wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas and wetlands. Given its importance to the water system, the City's Critical Aquifer Recharge area map is included as Figure 2.3. Please refer to the City's website for the up-to-date description and mapping of its Critical Areas.



PHYSICAL ENVIRONMENT

FIGURE 2.2

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE


Camas
NW LAKE RD
NW 38TH AVE
NW PARKER ST
NW PACIFIC RIM BLVD
NE EVERETT ST
NW 6TH AVE
SR-14
WASHINGTON
OREGON
Critical Aquifer Recharge Area (CARA) Map
FIGURE 2.3
WATER SYSTEM PLAN UPDATE
Wells Serving Over 20 People
Current Camas UGA
Wellhead Protection Areas
Roads
N
0
0.5
1
Miles
Map Prepared by Parametrix, Inc.
Data Source: Clark County GIS
Path: P:\GIS\Projects\277_CamasShoreline\MXD\Camas_Wellhead.mxd
Date: 9/20/2012

2.2.4.5 Geology

The Clark County area exhibits traces of its geologic history, including repeated inundation by fluctuating sea levels during glacial epochs, the sedimentary processes of repeated flooding of the Columbia River, volcanic activity, periodic earthquakes, and other tectonic activity. The geologic units in Clark County reflect this varied history and can be placed into two general categories: older consolidated rocks and volcanic rocks. These include Columbia River Basalts and Skamania and Goble volcanic series, and sedimentary rocks incorporating unconsolidated gravels, silts, sands, and clays created by glacial and alluvial processes.

The main geological feature of Camas is Prune Hill, which is an extinct volcanic vent that much of the residential area resides on. Prune Hill is at the Northwest end of Camas and the City elevation drops off to the west and the Columbia River Gorge to the south. Lady Island, in the Columbia River Gorge, is separated from the mainland by the Camas Slough, and is mostly used for industrial purposes.

2.3 LEGISLATION, REGULATIONS, AND PERMITS

Water system planning is based on a careful analysis of a water utility's responsibility to comply with applicable regulatory requirements while providing service to existing and future customers. These regulatory requirements are the result of a number of state and federal laws. These laws are monitored and enforced by a number of federal, state, and local agencies.

In this section, the various state and federal legislation that may affect City operations are discussed, as well as other relevant permits, programs, and regulations

2.3.1 Federal Clean Water Act

The Federal Water Pollution Control Act is the principal law regulating the water quality of the nation's waterways. Although originally enacted in 1948, it was significantly revised in 1972 and 1977, when it was given the common title of the "Clean Water Act." The Clean Water Act (CWA) has been amended several times since 1977. The 1987 amendments replaced the Construction Grants program with the State Revolving Fund (SRF) which provides low-cost financing for a range of water quality infrastructure projects.

A CWA Section 401 Water Quality Certification is required for any activity that may result in discharge to surface waters including excavation activities that occur in streams, wetlands, or other Waters of the United States. In Washington State, CWA Section 401 responsibility has been assumed by the Washington State Department of Ecology (DOE), and is required for projects with CWA Section 404 Permits.

Section 404 of the CWA regulates discharges of fill or dredged materials in wetlands, including any related draining, flooding, and excavation. Pipeline and pump station projects

in wetlands will require a Section 404 Permits, in addition to any related local permits. CWA Section 404 Permits require Endangered Species Act (ESA), Section 7 consultation with the United States Fish and Wildlife Services (USFWS) and the National Marine Fisheries Service (NMFS) as a result of recent listings of salmonids. Biological Assessments, Biological Opinions, and their review have significantly lengthened the time required for issuance of CWA Section 404 Permits.

The Clean Water Rule (CWR), implemented by the United State Environmental Protection Agency (USEPA) in 2015, is an extension to the CWA whose purpose is to better define which waterways must be protected and to what extent. The CWR does not regulate groundwater but should be used to confirm the definition of all other waterways during City projects.

2.3.2 Safe Drinking Water Act

The Federal Safe Drinking Water Act (SDWA) was passed in 1974 and amended in 1986 and 1996. The Washington State Department of Health (DOH) adopted the federal standards under WAC 246-290, which became effective April 27, 2003. All public water systems as defined by the USEPA are affected by the SDWA. A public water system is defined as one that serves piped water to at least 25 people, or 15 connections for at least 60 days per year. The SDWA contains regulations regarding water quality, sampling, treatment, and public notification requirements that are applicable to the City.

2.3.3 Endangered Species Act

The purpose of the 1972 ESA is to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved…" In pursuit of this goal, the ESA authorizes USFWS and NMFS to list species as endangered or threatened, and to identify and protect the critical habitat of listed species. USFWS has jurisdiction over terrestrial and freshwater plants and animals such as bull trout and cutthroat trout, while NMFS is responsible for protection of marine species including anadromous salmon. Under the ESA, endangered status is conferred upon "any species within the foreseeable future throughout all or a significant portion of its range." The ESA defined critical habitat as the "geographical area containing physical and biological features essential to the conservation of species."

The Table 2.2 lists the Evolutionarily Significant Units (ESUs) of salmonid species present in the Camas area listed, or proposed for listing, under the authority of the ESA.

Table 2.2 Evolutionarily Significant of Listed Salmonid Species Water System Plan Update City of Camas		
Species	**Listing Status**	**Date Listed**
Columbia River Bull Trout	Threatened	June 1998
Lower Columbia River Chinook	Threatened	March 1999
Lower Columbia River Chum	Threatened	March 1999
Lower Columbia River Coho	Threatened	June 2005
Lower Columbia River Steelhead	Threatened	March 1998

Once a species is listed as endangered or threatened, the ESA makes it illegal for the government or individuals to "take" a listed species. "Take" has been interpreted by the federal courts to include "significant modification or degradation of critical habitat" that impairs essential behavior patterns. For species listed as endangered, the blanket prohibitions against "take" are immediate. However, threatened species may be protected through a more flexible Section 4(d) rule describing specific activities that are likely to result in a "take."

Since 2007, The City of Camas has updated its ordinance on critical areas and has adopted the Shoreline Master Program. These updates helped to clarify the specific activities in Section 4(d) and to increase the focus on migratory species.

2.3.4 Reclaimed Water Standards

The standards for the use of reclaimed water are outlined in the Revised Code of Washington (RCW) Section 90.46 and in a separate document published by DOE and DOH entitled "Water Reclamation and Reuse Standards." Reclaimed water is "the effluent derived in any part from sewage from a wastewater treatment system that has been adequately and reliably treated, such that it is no longer considered wastewater and is suitable for a beneficial use or a controlled use that would not otherwise occur" (Water Reclamation and Reuse Standards). The legislature has declared that "the utilization of reclaimed water by local communities for domestic, agricultural, industrial, recreational, and fish and wildlife habitat creation and enhancement purposes (including wetland enhancement) will contribute to the peace, health, safety, and welfare of the people of the State of Washington."

2.3.5 National Environmental Policy Act

The National Environmental Policy Act (NEPA) was established in 1969 and requires federal agencies to conduct environmental review or assessments of projects to determine impacts on all projects requiring federal permits or funding. If the project is determined to be environmentally insignificant, a Finding of No Significant Impact (FONSI) is issued,

otherwise an Environmental Impact Statement (EIS) is required. City activities requiring CWA Section 404 permits fall under the jurisdiction of NEPA.

The National Historic Preservation Act (NHPA) regulates federal activities with the potential to impact materials of historic, cultural, or archaeological significance under Section 106, which requires consultation with affected Native American Tribes and the Washington State Department of Archaeology and Historic Preservation. Documentation of this consultation is included in NEPA Environmental Reports and Assessments. Recent decisions by the United States Army Corps of Engineers (Corps) require an independent NHPA Section 106 consultation process for projects permitted by the Corps, which can result in significant delays to project implementation.

The State of Washington regulates state funded projects with the potential to impact material of historic, cultural, or archaeological significance under Governor's Executive Order 05-05, which requires consultation with the Department of Archaeology and Historic Preservation and affected Tribes similar to the NHPA Section 106 process.

2.3.6 State Environmental Policy Act

The State Environmental Policy Act (SEPA) that environmental issues are taken into consideration during the planning and process for Non-Federal projects. An EIS is required if a project will have a significant adverse environmental impact. The EIS looks at potential environmental problems that would be cause by the project; ways the project could be changed to minimize the impact; and mitigation options. The City is currently pursuing alternate source of supply, which may require an EIS depending on the type of projects that are involved. Most projects including water right applications and transfers, typically do not require an EIS. A SEPA checklist is prepared and a Determination of Non-significance is issued instead. This Plan will fall under the SEPA Checklist Non-Project Action requirement. The water system projects listed in the capital improvement plan will each be completed under a separate SEPA checklist. A SEPA checklist and determination of Non-significance for the Plan is indicated in the Appendix B.

2.3.7 Growth Management Act

The Washington State Growth Management Act (GMA) was enacted in 1990 and requires certain local governments to plan for the population growth that will occur over the next twenty years within an established UGA. The GMA also requires cities to classify critical areas (wetlands, aquifer, recharge areas, fish and wildlife habitat areas, geologically hazardous areas, and frequently flooded areas) and to establish development regulations to protect these areas. Clark County is updating its current plan, which was adopted in 2007, to extend through 2035. The update will include changes regarding population and employment growth for the next 20 years.

2.3.8 Shoreline Management Act Permit

A Shoreline Permit is required on all projects of $2,500 or more that are located on the water or shoreline area. Shorelines are lakes of reservoirs of 20 acres or greater, streams with a mean annual flow of 20 cubic feet per second or greater, marine waters, and an area within 200 feet of the ordinary high water mark. Areas within the City that are classified as shoreline are those areas along Lake Lacamas, Washougal River, Little Washougal River, and Columbia River.

2.3.9 Floodplain Development Permit

Local governments that are participating in the National Flood Insurance Program are required to review projects (including water system facilities) in a mapped flood plain and impose conditions to reduce potential damage from flood water. A Floodplain Development Permit is required prior to construction.

2.3.10 Hydraulic Project Approval

Under Washington Administrative Code (WAC) 220-110, the Washington State Department of Fish and Wildlife requires a hydraulic project approval (HPA) for activities that will "use, divert, obstruct, or change the natural flow or bed" of any waters of the state. For City activities such as pipeline crossings of streams or outfall and intake improvements, an HPA will be required, and must include provisions necessary to minimize project specific and cumulative impacts to fish.

Because of ESA listings throughout Washington, the Washington State Department of Fish and Wildlife and the NMFS revised the Hydraulic Code to protect species listed as threatened or endangered. The revisions to the code specifically aimed to, "incorporate up-to-date fish science technology, simplify the permitting of certain types of projects, improve procedural and administrative requirements to better align with statutory changes and, establish a structure for adaptive management that responds to changing science and technology and/or the results of effectiveness monitoring".

If NMFS determines that the revisions are sufficient to protect listed species, the State hopes the revised Code will constitute an accepted Habitat Conservation Plan under Section 10 of the ESA. If the Habitat Conservation Plan is approved, NMFS may issue an Incidental Take Permit allowing incidental take of a listed species if the permittee has complied with the Habitat Conservation Plan. This Incidental Take Permit expires after an agreed upon period of time, and may then be revised by NMFS.

2.3.11 Local Permits

The City has agreements with Clark County for the construction and maintenance of facilities in their respective rights-of-way. Under these agreements, an Encroachment Permit is issued that specifies construction standards such as traffic control, work hours, and safety issues, as well as design and restoration standards.

2.4 WATER RIGHTS

A water right is the legal authorization to use a specified amount of public water for a certain beneficial purpose. Washington State law requires that permission in the form of a water right permit or certificate be granted for most appropriations of public water. Water rights are issued by DOE and are required to ensure proper allocation and management of water resources. The following sections provide definitions of key terms with regards to water rights.

2.4.1 Water Right Claim

A water right claim is a statement of claim to water use that began before the State Water Codes were adopted and is not covered by a permit or certificate. A claim may represent a valid water right if it describes the use of a surface water source that began before 1917 or the use of groundwater source that began before 1945. It can also represent a water right claim that was filed with the State during an open filing period designated under RCW 90.14, or is covered by the groundwater exemption.

2.4.2 Water Right Permit

A water right permit is issued by the State for water right applicants to begin developing their water right. A water right is developed when the applicant follows the provisions outlined in their permit such as using the water for the purposes and limits stated in the permit. A water right permit will remain in effect until the water right certificate is issued, if all terms of the permit are met, or the permit is canceled.

2.4.3 Water Right Certificate

A water right certificate is issued by DOE to certify that the water user has the authority to withdraw a specific amount of water under certain conditions. The conditions are based on the beneficial use of the water under the water right permit. The water right certificate is a legal document recorded at the county auditor's office. Issuance of the water right certificate is the final step in obtaining a water right.

2.5 REGULATORY AGENCIES

The above regulations, permits, and programs, are administered by various local, state, and federal agencies. The history, purpose, and authority of these agencies are discussed below.

2.5.1 United States Environmental Protection Agency

The stated mission of the USEPA is to protect human health and to safeguard the natural environment upon which life depends. The USEPA's purpose includes protecting all Americans from significant human health risks, ensuring that national environmental efforts are based on the best available scientific information, ensuring that federal laws are

enforced fairly, and that the environmental protection contributes to making our communities and ecosystems diverse, sustainable, and economically productive. DOE currently administers the SRF loans for the USEPA.

2.5.2 United States Fish and Wildlife Service

Under the ESA, USFWS is responsible for the protection of all non-marine life including birds, mammals, and non-anadomous fish, including bull trout and sea-run cutthroat. Although USFWS may choose to invoke the blanket prohibitions of Section 9, the "threatened" status of Bull Trout allows more flexibility to establish regulations designed to protect these species. These regulations, known collectively as Section 4(d) rule, online activities likely to result in a "take" of a threatened species, as well as exempted activities.

2.5.3 The National Marine Fisheries Service

Under the ESA, the NMFS is responsible for the protection of marine life, including anadromous salmon such as the Columbia River Chinook, Chum, and Steelhead. When a species is listed as "endangered" the prohibitions against "take" of the species are immediate under Section 9 of the ESA of the Act. Although NMFS may choose to invoke the blanket prohibitions of Section 9, the "threatened" status of the Columbia River Chinook, Coho, Chum, and Steelhead allows more flexibility to establish regulations designed to protect these species. These regulations, known collectively as a Section 4(d) rule, outline activities likely to result in a "take" of a threatened species, as well as exempted activities. The final 4(d) Rule was adopted on June 20, 2000.

2.5.4 United States Army Corps of Engineers

Under Section 404 of the CWA, the Corps is authorized to regulate discharge of fill and dredged material to waters of the United States, including wetlands. A similar review process is employed for projects with the potential to impact navigable waters, including the Columbia River, under Section 10 of the Rivers and Harbors Act of 1899. This process applies to any work on outfalls to the Columbia River. The Corps employs a system of General or Nationwide Permits for blanket authorization of activities such as utility lines that have minimal adverse impact on the environment. In situations where projects are large and complex, or adverse impact is probable, the Corps may issue an Individual Permit after reviewing an alternatives analysis. Enforcement actions may be brought by the Corps or the USEPA. Activities subject to Corps jurisdiction require NEPA and ESA review and consultation.

2.5.5 Washington State Department of Health

DOH has three primary functions: to regularly assess the State's health needs and resources; to develop and implement sound public policy; and to ensure the capacity of public health agencies to manage daily operations and respond to public health emergencies. The DOH was granted full authority and responsibility for the regulation and

enforcement of the SDWA by the federal government in 1976. DOH also publishes guidelines for the preparation of water system plans, water conservation programs, design and drinking water quality standards, and watershed control programs. Water system comprehensive plans must be reviewed and approved by DOH. Construction plans and specifications must also be reviewed by DOH unless they are the transmission or distribution improvements included in the Water System Comprehensive Plan, Capital Improvement Program.

2.5.6 Washington State Department of Ecology

The mission of the DOE Water Quality Program is to protect, preserve, and enhance the State's surface and ground water quality and to promote the wise management of water for the benefit of current and future generations. DOE performs various functions under State and federal authority and has both local and regional offices. DOE oversees the allocation of water rights.

2.5.7 Washington State Department of Fish and Wildlife

Under the updated Hydraulic Code Rules WAC 220-660, and RCW 75.20, any form of work that uses, diverts, obstructs, or changes the natural flow or bed of any fresh water of the State requires hydraulic project approval from the Department of Fish and Wildlife. Approval would be required for all City construction projects that cross or otherwise take place in streams or shorelines.

2.5.8 Watershed Resource Inventory Area

Under WAC 173-500-040, Washington State was divided into 62 geographic areas, defined on the basis of surface water resource. These 62 geographic areas are defined as Water Resource Inventory Areas (WRIAs). The purpose of WRIA is to implement effective planning involving all jurisdictions that fall within WRIA, including county, city, and other local, state, and national agencies.

The City of Camas and the Jones and Boulder Creek watersheds reside within WRIA 28. The City owns and controls a majority of the Jones and Boulder Creek watersheds, Figure 1.2, which are both tributaries of the Washougal River. The City is an active participant in regional watershed planning efforts.

2.5.9 Local Health Departments

The Clark County Department of Health is the local health department governing the City. In general, local health departments may adopt and enforce local regulations when they are consistent with and more stringent than state regulations.

2.5.10 County Planning Policies

City planning policies should be consistent with those of Clark County. Accordingly, this Plan will require approval by Clark County.

2.6 CITY POLICIES

Planning policies are important in guiding the development of a water system. The City has adopted many resolutions regarding water system planning that are included in the City Code.

2.6.1 Related Documents

The City of Camas recognizes that planning activities of governmental entities can affect the water utility. These include several regional and local plans of the southwest region of Washington, such as Clark County. Some related plans affect how Camas operates its water system and how it plans to meet future growth. The following section summarizes these related plans.

2.6.2 Regional Planning Documents

2.6.2.1 Clark County Coordinated Water System Plan

Amended and adopted in 2012, the Coordinated Water System Plan (CWSP) serves as a primary planning document for water purveyors within Clark County. The CWSP was developed to fulfill the requirements of the 1977 Public Water System Coordination Act (RCW 70.116) and the 1971 Water Resource Act (RCW 90.54). The plan is in accordance with the Lewis and Salmon-Washougal Water Resources Management Program rules (WAC 173-527 and WAC 173-528). These acts work together to create a framework for water utilities, which allows for coordinated planning and construction programs among adjacent water utilities. Also, these acts allow utilities in a specified geographical area to reserve water rights required to meet projected municipal and industrial needs for a 50 year period. In order for reservation of water rights and coordination of water system planning to occur, a CWSP is required to be developed.

A Clark County Water Utility Coordinating Committee (WUCC) was created in 1977 and requested that the DOH assess the need for a designation of a Critical Water Supply Service Area. Such designation represents the first step toward the development of a CWSP. The assessment, which was completed in 1980, addressed problems within the county related to inadequate water quality, unreliable service, and the lack of coordinated planning by the water utilities. Based on the findings of the assessment, the County Commissioners declared Clark County a Critical Water Supply Service Area. Following that determination, development of the 1983 CWSP was initiated.

The Coordination Act requires that the CWSP be reviewed and updated by the water utility coordinating committee, if the water utility coordinating committee feels it necessary; the

last update occurring in 2012. The update serves as the regional supplement to local water system plans that have been or will be approved by DOH.

The 2012 CWSP:

- Addresses local legislative and CWSP policies.
- Updates water utility service area boundaries.
- Requires consistent water utility design standards.
- Adopts a utility service review procedure.
- Establishes a satellite system management agency.
- Assesses water resources.
- Reviews water supplies.

The 2012 CWSP addressed recent changes to Washington State's satellite system management agency regulations and the Lewis and Salmon-Washougal Water Resources Management Program rules.

2.6.2.2 Clark County Comprehensive Plan (2015 - 2035)

In response to rapid growth and growth-related pressures in the late 1980s, the State Legislature enacted the Washington State GMA to establish a framework for comprehensive planning efforts by local governments to accommodate anticipated growth and development. Under the GMA, each county is required to adopt a comprehensive plan and to do so in consultation with its cities.

The intent of the comprehensive plan is to build on the Community Framework Plan and the 20 Year Plan revised in 1997, 2004, 2007, and 2016 to present a clear vision for Clark County's future through 2035. The plan includes comprehensive planning elements addressing issues of land use, housing, rural and natural resources, environmental goals, transportation, capital facilities and utilities, parks and open space, historic preservation, economic development, school policies and goals, community design, annexation, Shoreline Master Program goals and policies, and procedures for planning for a twenty year planning horizon. For each element included there is an introduction, a discussion of that element's relationship to other elements, a description of existing conditions, estimates and projections of future needs, and goals and policies. Additionally, the plan contains strategies for implementation of these goals and policies.

2.6.2.3 Clark County Public Utilities Water System Plan

Clark Public Utilities 2011 Water System Plan (CH2M Hill) evaluates the long-term water supply needs and resources available for Clark Public Utilities (CPU). The following studies and investigations are included in the CPU Plan: an inventory of existing wells, water supply systems, and interties in the County; an analysis of the population, history, and water

requirements to the year 2029; and supplies to serve future water needs. Future supplies are expected to come from CPU's South Lake Wellfield.

2.6.2.4 Metropolitan Transportation Plan for Clark County

The Southwest Washington Regional Transportation Council is the region's principal transportation planning organization. As a means to link transportation and land use, the Council periodically produces a regional transportation plan for the metropolitan area of Clark County. The plan is developed through a coordinated process between local jurisdictions in order to develop regional solutions to transportation needs for the next 20 years and to direct the metropolitan transportation planning process.

The demographic analysis and water demand projections, documented in Chapter 5, were developed based on the best available information at the time, 2013, which was the Regional Transportation Plan (RTP) for Clark County, 2011. In order to establish transportation needs over the 20-year planning period, the Council used a regional travel forecasting model. The model is based on historic and future demographic data allocated by Clark County to 665 individual transportation analysis zones (TAZs) within Clark County. Each TAZ was populated with 2010 and future (2035) population, household, and employment demographic data. Historic demographic data was obtained from Census 2010 and future data was based on the results of forecasts performed by the Washington State Office of Financial Management.

2.6.2.5 City of Vancouver Comprehensive Water System Plan

The City of Vancouver's Comprehensive Water System Plan is updated every six years; most recently in 2015. The purpose of the plan is to develop a planning strategy for the city's retail water service area by evaluating the existing system and its ability to meet the anticipated requirements for water source, quality, transmission, storage, and distribution over a twenty-year planning period. Water system improvements were identified to meet changes in regulatory impacts, and population growth, as well as infrastructure repair and replacement. The plan also identified planning level costs of the improvement projects and provided a financial plan for funding the projects. The plan was prepared in accordance with DOH WAC 246-290 requirements

2.6.2.6 City of Washougal Water System Plan Update

The City of Washougal's Water System Plan Update was completed in 2015. The Plan states its purpose "is to document the City of Washougal's water system infrastructure and evaluate the system's physical and financial adequacy to provide water to existing customers and projected growth within the water service area. This plan includes an inventory of existing facilities, establishing criteria for water system analysis and analyzing the hydraulic capacity of the system, developing a capital improvement program (CIP) based on the hydraulic analysis and developing a financial plan to fund the proposed CIP and assess existing revenue and expenses. This plan also includes an assessment of the

City of Washougal's groundwater resources, water rights and water use efficiency program." The plan was prepared in accordance with DOH WAC 246-290 requirements.

2.6.2.7 Salmon-Washougal and Lewis Watershed Management Plan (Lower Columbia Fish Recovery Board, July 21, 2006)

The Watershed Management Act (RCW Chapter 90.82) provides a framework to address and resolve water resource issues in each of the state's 62 WRIAs. Planning units created for each WRIA are responsible for developing a watershed plan. The planning units consist of citizens, tribes, interest groups, and government agencies where appropriate. Camas's water system boundaries and the boundaries of surrounding water providers are within the Salmon-Washougal and Lewis watersheds (WRIAs 27 and 28). The Salmon-Washougal and Lewis Watershed Management Plan (WRIA Plan) was adopted in 2006. The WRIA Plan addresses a range of issues related to water resources, including water supply, stream flow management, water quality, and fish habitat. It reviews alternative approaches for managing water resources in the area and recommends select strategies for implementation.

The Salmon-Washougal and Lewis Water Resources Management Program rules were adopted in 2008 (WAC 173-527 and WAC 173-528). These rules were based on the WRIA Plan and had five key elements:

- Setting Instream Flows,
- Closing sub-basins to future withdrawals,
- Designating "regional supply areas" for future water supply,
- Establishing reservations for water for future use, and
- Specifying conditions of use for access to the water reserves.

2.6.2.8 City of Camas 2010 Water System Comprehensive Plan (Gray & Osborne, Inc.)

Camas' Water System Comprehensive Plan was developed to meet the City of Camas' water system needs for a 20-year planning period. The plan was prepared in accordance with DOH WAC 246-290 requirements and includes:

- A water system description.
- Historical and future water use.
- Service area population and water demand projections.
- Water quality and Safe Drinking Water Act impacts.
- A water system analysis, including a computer simulation model.
- CIP.

The base 6-year CIP includes pipeline, pumping, control, storage, and source improvements. These improvements include the development of multiple well sites and

future sources, developing or replacing storage reservoirs throughout the system, transmission and distribution improvements, and booster station improvements. New wells will provide 4,350 gpm of supplies within the 20-year planning period. The elements and the direction of Camas' plan were consistent with activities and plans of this WSP.

2.6.2.9 Jones and Boulder Creek Watershed Forest Management Plan

The City of Camas Boulder Creek and Jones Creek watershed consists of roughly 1,700 acres of forest where the City collects its water. There has been minimal amount of work done in the area to keep it managed. The largest work was in 2011 when AKS Engineering & Forestry (AKS) performed a timber inventory. This document summarizes the work that was done so that the City could periodically receive timber income while still protecting and maintaining water quality. The contents consists of an assessment of existing resources, a timber harvesting plan, an access and road plan, and implementation methods, guidelines and management recommendations.

2.7 DRAFT POLICIES AND CRITERIA

The City manages its water utility in accordance with established water system policies. The policies provide a consistent framework for the design, operation, maintenance, and service of the water system for appropriately implementing programs, designing new infrastructure, and serving additional customers. The policies and planning considerations set forth herein pertain solely to the water system; the City has additional land use, development, and finance policies that may specify additional requirements for development or extension of a water service. Table 2.3 summarized the City of Camas Service and Extension Policies.

The following documents were reviewed for this update of the City's water policies:

- City of Camas Municipal Code (CMC).
- City of Camas 2010 Water System Plan (2010 WSP).
- City of Camas Design Standards (City Design Standards).
- City of Camas Comprehensive Plan 2004 (2004 Comp Plan).
- Clark County Coordinated Water System Plan (CWSP).
- Clark County Coordinated Water System Minimum Standards & Specifications (CWSP MSS) (Appendix V-A to the CWSP).
- Clark County Code (CCC).
- Revised Code of Washington (RCW).
- Uniform Plumbing Code (UPC).
- International Fire Code (IFC).

Table 2.3 Service and Extension Policies
Water System Plan Update
City of Camas

Policy Name	City of Camas Policy and Criteria	Reference	Action Items
Duty to Serve	The City will exercise reasonable diligence and care to furnish and deliver a continuous and sufficient supply of pure water to the customer, and to avoid any shortage or interruption of delivery of same The City will meet all regulatory requirements for management of its water system and provision of water to its customers, including water quality, system pressure, and adequate supply.	CMC 13.16.010, 2016 WSP	
Government Consistency	The City's Water System Comprehensive Plan will be consistent with local, county, and state land use authorities and plans and will comply with the Washington State Growth Management Act.	2019 WSP	
Retail Water Service Area	The City will provide water service to all customers within its Retail Water Service Area meeting the City's requirements.		City to update text to be consistent with Comp Plan.
Future Water Service Area	The City's future water service area shall be determined through the Coordinated Water System Plan and adopted through the "Interlocal Agreement for Adjusting or Confirming Future Water Service Area Boundaries Between The Cities of Battle Ground, Camas, Ridgefield, Vancouver, and Washougal, and Clark Public Utilities".	2019 WSP	
Condition of Service	It is unlawful for any person, except duly authorized city employees, to make connections with any water main or water pipe belonging to the municipal water supply system, without first obtaining written permission to do so from the public works director or his designated representative.	CMC 13.32.030	
Annexation	Annexation to the City is required as a condition of the City's provision of water service for City and UGA Customers.		City to review and update language
Service to customers outside of UGA boundary	The City will continue to provide water service to [existing] customers outside of the City's Urban Growth Area (UGA) Boundary but within the established Water Service Area. The City is not required to provide fire flow to such customers. The City reserves the right to deny service to new customers outside the UGA that do not meet City requirements.	2010 WSP	City to review highlighted text.
Water Main Extensions	A. Extensions to water mains will be made only upon proper petitions to the City. The City shall have the right to reject such petitions or enter into contract with the petitioners under such conditions as the City may elect. B. All water main extensions installed, whether within or without the corporate limits of the City, shall be ~~six~~ [eight] inches in diameter or larger. C. All extensions of mains required to serve new customers shall be constructed at the expense of such customers. All extensions shall extend to and across the full width of the property served with water. No property shall be served with City water unless the water main is extended to the extreme boundary limit of the property line extending the full length of the front footage of the property.	CMC 13.48.010, 2016 WSP recommended change	City to review and update "to and through" language

Table 2.4 Service and Extension Policies
Water System Plan Update
City of Camas

Policy Name	City of Camas Policy and Criteria	Reference	Action Items
Oversizing	The City Council may enter into a development agreement pursuant to RCW 36.70(b).170 whereby it agrees to set aside and reserve capacity in the municipal water system for a prospective development. Such development agreement shall be permitted only if the city council makes a specific finding that the public good and general welfare will be benefited by such agreement.	CMC 13.12.085 (A)	
	If in the judgment of the water department of the city, it is in the best interest of the City and of the general area where a new main is contemplated to install a larger main than that required by the immediate development, the city may install such larger main and shall pay the increased difference in cost between installation of the smaller and of the larger main. The City may participate to the extent permitted by law, through SDC credits, Local Improvement District (LIDs), or other payback agreements to assist in the financing of such improvements. • Water system extensions needed to serve new development shall be built prior to or simultaneous with such development, according to the size and configuration identified by the Comprehensive Water Plan as necessary to serve future planned development. • The location and design of these facilities shall give full consideration to the ease of operation and maintenance of these facilities by the City. • Wherever any form of City finance is involved in a water line extension, lines that promote a compact development pattern will be favored over lines traversing large undeveloped areas where future development plans are uncertain.	CMC 13.48.010 (C), 2016 WSP	City to review and update to be consistent with current practices.
Latecomer Agreements	The City may choose to allow reimbursement contracts in exchange for permission to develop and allow for reimbursement to the initial developer by future users in the area who will benefit from the system expansion. The developer must be willing to front the initial expense of system expansion.		
Satellite Management Area	The City may assume the operation of a water district or private water system within the City limit, at the water system's request, if the following conditions are met and subject to approval of the City Council: 1. The district or private system is adjacent to or within the City's current or future RWSA as identified in the City's comprehensive plan. 2. The assumption of the district or private system is permitted by State law. 3. The district's or private system's facilities meet the City's performance criteria and engineering standards, or a plan is in place to assure that they will be brought up to City standards without adversely impacting City's existing customers financially or with regard to level of service. 4. Any extension of the City's system to connect the newly accepted system will be paid by the district or private system. 5. The City shall require the district or private system to transfer the ownership of its water supply sources and associated water rights to the City. Water rights must be successfully transferred to the City and approved for municipal water use by the DOE prior to commitment from the City for water service.	2019 WSP	City to review and update to be consistent with current practices

Table 2.5 Service and Extension Policies
Water System Plan Update
City of Camas

Policy Name	City of Camas Policy and Criteria	Reference	Action Items
Developer Extensions outside of City UGA Boundary	The City will provide water service to developer extensions outside the City's existing UGA but within the established Retail Water Service Area whenever reasonably possible. Developer extensions shall adhere to the established SDC.	2010 WSP	
New Customers with Existing Wells	Developer extensions shall adhere to the established SDC and shall abandon all private wells and relinquish associated water rights to the City as a provision of the SDC. Water rights procured in this manner will be used to accommodate growth in the Retail Water Service Area.	2010 WSP	
Metering	All services to the water system shall be metered.	CMC 13.40.010 (A)	
Source Metering	All supply sources will be metered either at individual wells or at a common flow meter.	2019 WSP	

Chapter 3

EXISTING SYSTEM

3.1 INTRODUCTION

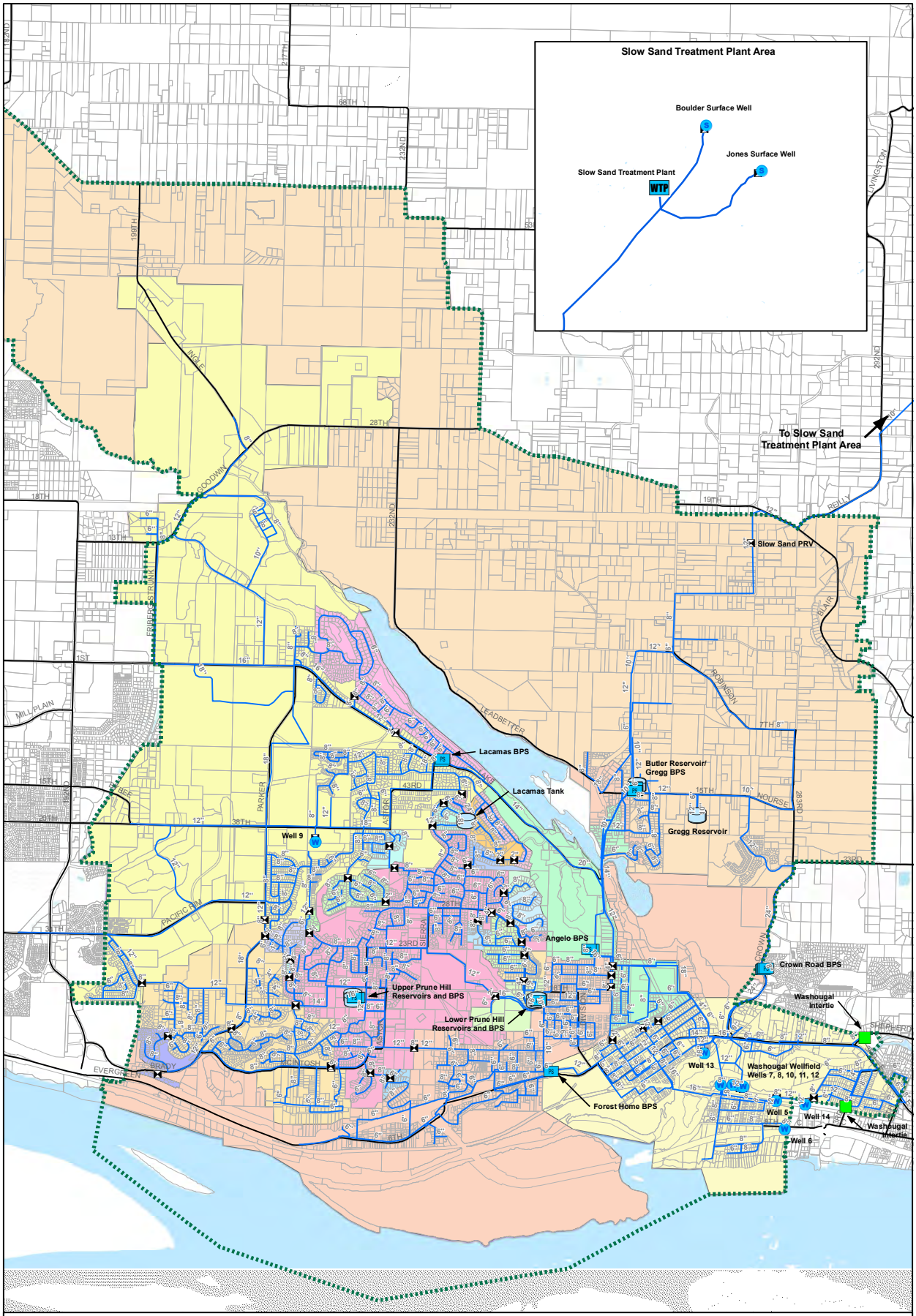
The City of Camas, WA (City) owns and operates a multi-source municipal water system (Washington State Department of Health (DOH) System Number 108002), which includes supply, treatment, storage, and distribution of potable water to residential and commercial customers. Service is provided to customers across 5 major pressure zones and 18 subzones. The locations of pressure zones and key elements of the water system are shown in Figure 3.1. The hydraulic profile of the City's water system is shown in Figure 3.2A and 3.2B. This chapter reviews all of the system components incorporated in the water supply system and provides a brief summary of each facility as shown below:

- Pressure Zones.
- Sources of Supply.
- Water Treatment.
- Storage Facilities.
- Transmission and Distribution Facilities.
- Booster Pumping Stations.
- Interties.
- Supervisory Control and Data Acquisition (SCADA).

3.2 PRESSURE ZONES

The City has five main areas that serve as pressure zones in the system, these are the 343 Zone - Butler, the 455 Zone - Lower Prune Hill (LPH), the 852 Zone - Upper Prune Hill (UPH), the 544 Zone - Lacamas, and the 542 Zone - Gregg, named for the reservoir that serves the area. Subzones are supplied through pressure reducing valves (PRVs) and are typically associated with a specific development. The 852 Zone serves 17 subzones while the 544 Zone serves the only other subzone. The maximum and minimum elevation served within each zone is shown Table 3.1.

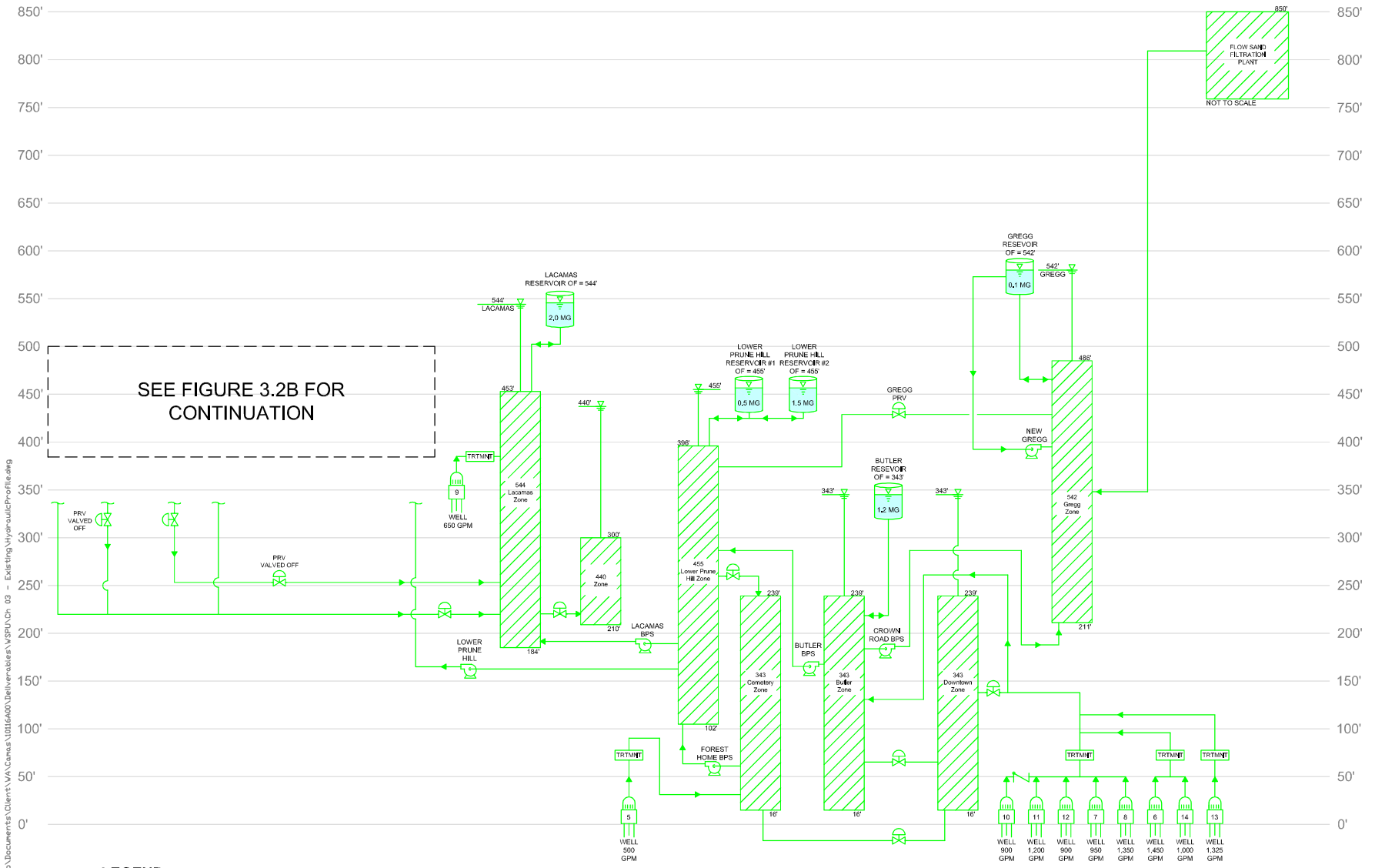
The 343 Zone – Butler is unique in that customers are not served directly from the Zone. Customers are served from the subzones: 343 Zone - Downtown via the 343 Zone – Butler and 343 Zone - Cemetery (also known as the Upper Zone), which is supplied mainly from the 455 Zone – LPH.



SYSTEM FACILITY MAP

FIGURE 3.1

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE



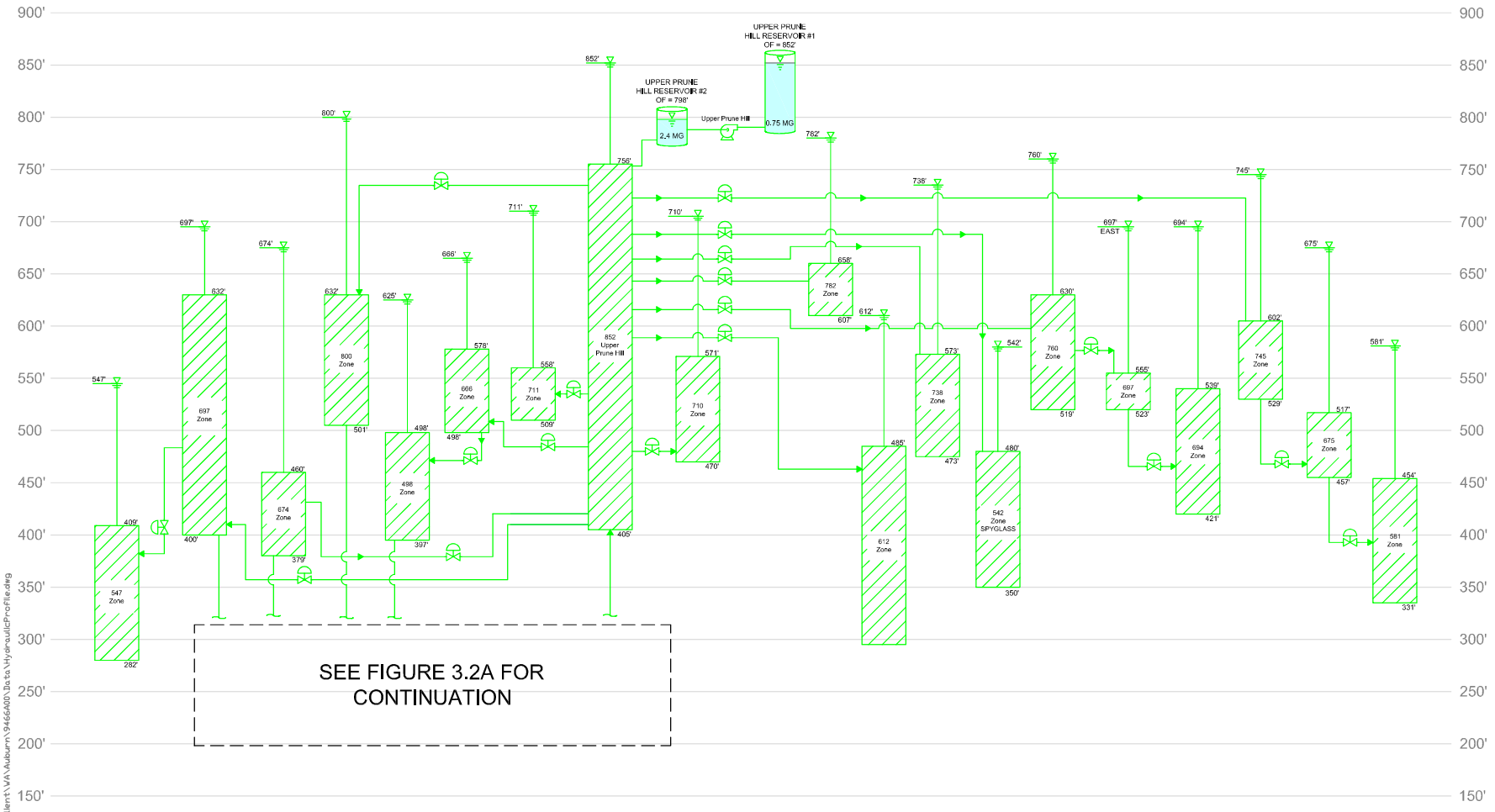
pw:\\ID-PV-INT.Carollo.local\Carollo\Documents\Client\VA\Camas\10116400\Deliverables\WSPUCh 03 - Existing\HydraulicProfile.dwg

2136

Figure 3.2A
Hydraulic Profile Schematic
Water System Plan Update
City of Camas

Carollo

Item 8.



LEGEND

- RESERVOIR — VOLUME INSIDE TANK, OVERFLOW (OF) ABOVE TANK
- GROUNDWATER WELL
- BOOSTER PUMPING STATION
- INTERTIE
- PRESSURE REDUCING VALVE
- SWING CHECK VALVE
- PRESSURE ZONE
  - HIGH: HIGHEST ELEVATION SERVED IN ZONE
  - LOW: LOWEST ELEVATION SERVED IN ZONE
  - HGL: HYDRAULIC GRADE LINE FOR ZONE

Figure 3.2B
Hydraulic Profile Schematic
Water System Plan Update
City of Camas

carollo

pw:\\PHX-PDP-PW.Carollo.local\Carollo\Documents\Client\WA\Auburn\9466A00\Data\HydraulicProfile.dwg

Table 3.1 Pressure Zones
Water System Plan Update
City of Camas

Zone ID[1] (ft)	Name	Minimum Elevation (ft)[2,3]	Maximum Elevation (ft)[2,3]
343 - Butler		16	239
455 - LPH		102	396
542 - Gregg		211	486
544 - Lacamas		184	453
440 - Lacamas Shores		209	300
852 - UPH		405	756
542 - Spyglass		350	480
547		282	409
581		331	454
612		399	485
625		397	498
666		498	578
674		379	460
675		457	517
694		421	539
697		400	632
697 - East		523	555
710		470	571
711		509	558
738		473	573
745		529	602
760		519	630
782		607	658
800		501	632

Notes:
(1) Zone ID is based on hydraulic grade line (HGL).
(2) Elevation data based on interpolation of 2-ft contours.
(3) Location of service connections based on model node location.

3.3 SOURCES OF SUPPLY

The City currently obtains its water from ten groundwater wells and two surface water sources. Nine of the ten groundwater sources are located in the downtown area, in the Butler 343 Zone, and Well 9 is located in the Lacamas 544 Zone. The City's seasonal surface water sources are from Jones and Boulder Creeks to the north of the City as shown in Figure 3.1.

3.3.1 Surface Water Sources

Jones Creek has been providing the City of Camas with water since 1913. The Boulder Creek source was added in 1931. The intakes at Boulder and Jones Creeks consist of small settling basins and screens. Surface water sources may be operated between November 1st and May 15th. Seasonal raw water from the Boulder and Jones Creek intakes is conveyed to the recently constructed slow sand filtration treatment plant (SSF Plant) where the water is filtered prior to chemical treatment and discharge to the distribution system.

The SSF Plant has the capacity to treat the entire permitted flow of 1,570 gallons per minute (gpm) from the City's surface water sources. The surface water sources have lower operating expenses because they can provide flow toward two pressure zones without pumping, and have low silica content, which makes these sources more desirable to light industrial customers and their water quality sensitive industrial processes. However, these surface water sources are not available during peak water demand months. The City calls its groundwater sources only after demands cannot be met by production from the SSF Plant.

3.3.2 Groundwater Sources

The City currently operates ten groundwater wells. All of these wells are located in the 343 Zone with the exception of Well 9. Wells 7, 8, 10, 11, and 12 are located on SE 6th Avenue, in the eastern downtown area, and are referred to as the Washougal Wellfield. Wells 6 and 14 are located farther east along SE 6th Avenue near the Camas/Washougal border. The wellfield supply is conveyed across the Washougal River via a 14-inch steel line under the river and a 24-inch ductile iron pipe on a bridge over the river. The two pipes join and an 18-inch transmission line carries water from the Washougal Wellfield up toward the Angelo Booster Station. Well 5 is located south of Well 6 on SE 8th Street. Well 13 is located in the downtown 343 Zone on SE Cramer Lane. Well 9 is located in the 544 Zone on NW 38th Avenue near Parker Street. Table 3.2 lists the City's groundwater sources and their capacities. The City is currently investigating additional groundwater sources within its service area in anticipation of future demands.

Several of the City's groundwater sources must be operated with a booster pumping station in service to prevent over pressurization:

- When Well 5 is called into service, the Forest Home Booster Station must also be called on to prevent over pressurization of the downtown zone.
- Washougal Wellfield operations are matched by pumping at the Angelo Booster Station. For each well that is called on at the wellfield, for up to four total wells, a corresponding pump must be called on at the Angelo Booster Station.
- In addition, there are piping restrictions that prevent the City from operating Well 6 and Well 14 at the same time.

The J.D Currie Youth Camp (Camp Currie) Well was small shallow well with a hand pump that served the camp. The City has taken over Camp Currie and upgraded the well with a new pumping system, with electricity, concrete landing and a new yard hydrant. The City maintains the well and monitors it per DOH schedule. The City also previously operated a well at Camp Lacamas Retreat and Conference Center. The City has extended water service to Camp Lacamas and the well has been abandoned.

Table 3.2 Groundwater Sources
Water System Plan Update
City of Camas

	Depth (feet)	Rated Capacity (gpm)	Motor (hp)(1)	Casing (inch)	Control Valve	Auxiliary Power
Well 5	71	500	75	8	3-inch waste valve	No
Well 6	85	1,000	150	16	4-inch waste valve	No
Well 7	84	950	100	14	3-inch waste valve	No
Well 8	87	1,350	150	14	4-inch waste valve	Yes
Well 9	253	650	100	16	4-inch waste valve	No
Well 10	92	900	200	16	8-inch	No
Well 11	105	1,200	200	16	8-inch	Yes
Well 12	106	900	200	16	8-inch	Yes
Well 13	102	1,325	200	20	8-inch	Yes
Well 14	85	1,000	200	20	8-inch	Yes
Total Groundwater Source Capacity				**10,255 gpm**		

Note:
(1) hp - horsepower.

3.4 WATER TREATMENT

The City currently has approximately 15.5 million gallons per day (mgd) of total source water treatment capacity. A discussion of the treatment facilities is provided in the following sections. A summary of treatment facilities is provided in Table 3.3 and facility locations are shown in Figure 3.1.

3.4.1 Surface Water

The City's surface water is chlorinated and filtered. Chlorination of the surface water occurs at the City's slow sand facility with .840 sodium hypochlorite. The distance between the slow sand plant and the first customer provides 2.5 hours of contact time.

In 2013 the City began construction of the SSF Plant. This plant has a design capacity of 1,570 gpm and filter beds are comprised entirely of sand. The City also treats with sodium fluoride for dental benefits.

3.4.2 Groundwater

Treatment of the City's groundwater sources includes on-site chlorination, fluoridation, and caustic soda addition. A single chemical feed facility provides treatment for Wells 7, 8, 10, 11, and 12 due to their close proximity to one another. Water from Wells 6 and 14 are treated at the Well 14 site. The remaining wells each have individual treatment facilities at the well locations. Fluoridation always occurs downstream of the well pump and sodium fluoride is used at all facilities. Sodium hydroxide, also known as caustic soda, is added for corrosion control at each of the treatment facilities with the exception of Well 9 due to natural pH. The existing treatment facilities for the City's sources are shown in Table 3.3. The residual chlorine target for all facilities is 0.8 milligrams per liter (mg/L) with alarms if the concentration is above 2 mg/L or below 0.2 mg/L. The fluoridation target for all facilities is 0.7 mg/L for all facilities with alarms if the concentration is above 2.5 mg/L or below 0.25 mg/L.

Table 3.3 Treatment Facilities
Water System Plan Update
City of Camas

Treatment Facility	Sources Treated	Filtration	Chemical Addition
Slow Sand Filtration Treatment Plant	Boulder Creek, Jones Creek	Yes	Sodium Hypochlorite Sodium Fluoride Hydroxide
Washougal Wellfield Site 519	Well 7, Well 8, Well 10, Well 11, and Well 12	No	Sodium Hypochlorite Sodium Hydroxide Sodium Fluoride
Well 14 Site 518	Well 6 and Well 14	No	Sodium Hypochlorite Sodium Hydroxide Sodium Fluoride

Table 3.3 Treatment Facilities
Water System Plan Update
City of Camas

Treatment Facility	Sources Treated	Filtration	Chemical Addition
Well 13 Site	Well 13	No	Sodium Hypochlorite Sodium Hydroxide Sodium Fluoride
Well 9 Site	Well 9(1)	No	Sodium Hypochlorite Sodium Fluoride
Well 5 Site	Well 5	No	Sodium Hypochlorite Sodium Hydroxide Sodium Fluoride

Note:
(1) Well 9 pH is above the treatment limit.

3.4.3 Groundwater Under the Direct Influence of Surface Water

The federal definition of ground water under the direct influence of surface water (GWI) is a groundwater source located near a surface water such that it has significant occurrence of contamination from pathogens such as Giardia lamblia which is not normally found in groundwater. A GWI receives direct surface water recharge and is subject to rapid changes in water characteristics that correlate to surface water conditions. Sources determined as GWI are required to achieve 99.9 percent removal of Giardia lamblia and viruses by filtration and disinfection.

A hydraulic connection to nearby surface water is a potential GWI source. In order to determine if a hydraulic connection exists, a water system may conduct a hyrdogeologic investigation or use the water quality monitoring (WQM) method. The WQM method requires monitoring the groundwater and surface water source for 1 year for temperature and conductivity. If a significant correlation is determined from statistical analysis of the data, then the source is determined to be hydraulically connected to surface water. Less demanding requirements are required for hydraulically connected sources. These include eliminating the surface water influence, developing an alternate source, meet criteria to remain unfiltered, or install filtration.

A microscopic particulate analysis (MPA) is conducted in order to determine if a groundwater source is a GWI source. The City has completed MPA testing on Wells 6, 7, 8, 10, 11, 12, and 14 which indicate that these sources are hydraulically connected to surface water. Therefore, these sources are required by DOH to achieve a contact time (CT) of 6. An evaluation by Pacific Groundwater Group in 2006 states that Well 13 is not under the direct influence of surface water, but is hydraulically connected to surface water. Wells 5 and 9 are not hydraulically connected to surface water, so no CT is required.

3.5 STORAGE FACILITIES

The City currently operates seven storage facilities with a combined total of 8.45 million gallons (MG). A discussion of each storage facility is provided in the following sections. A summary of the storage facilities is provided in Table 3.4. A map showing the location of the key elements of the City's water system is provided as Figure 3.1.

3.5.1 Butler Reservoir

The Butler Reservoir consists of two adjacent, partially buried concrete reservoirs. The two reservoirs share a common wall, with the north half being constructed in 1913, and the south half being completed in 1923. The reservoirs are covered and have a total storage capacity of 1.2 MG. The base elevation of the reservoir is approximately 328 feet and the overflow elevation is 343 feet. The entire capacity of the Butler Reservoir is usable storage. The Butler Reservoir is shown in Figure 3.3.



BUTLER RESERVOIR

FIGURE 3.3

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

Under normal operating conditions, the Butler Reservoir is supplied through 6,420 lineal feet of 12-inch cast iron transmission main. This transmission main connects with the 18-inch main from Wells 6, 7, 8, 10, 11, 12, 13, and 14 at NE 22nd Avenue and NE Everett Street.

3.5.2 Gregg Reservoir

The Gregg Reservoir, a 100,000 gallon capacity steel standpipe, was constructed in 1978. It has a base elevation of approximately 472 feet, an overflow elevation of 542 feet, and is the only storage facility for the 542 Zone. The reservoir provides equalization and operational storage for the 542 Zone, but does not provide fire suppression storage. The Gregg Reservoir is supplied by the Gregg Booster Station and the Crown Road Booster Station. The Gregg Reservoir is shown in Figure 3.4.

3.5.3 Lacamas Reservoir

The Lacamas Reservoir, constructed in 1993, has a total capacity of 2.0 MG. It has a base elevation of approximately 504 feet, and an overflow elevation of 544 feet. The Lacamas Reservoir is a ground level reservoir. The Lacamas Reservoir is primarily supplied from the LPH Zone via the Lacamas Booster Station or from the newly constructed Well 9. PRV stations from the Upper Prune Hill zone can also provide fire flow to the Lacamas Zone. The Lacamas Reservoir is shown in Figure 3.5.

3.5.4 Lower Prune Hill Reservoirs

Storage in the LPH Zone is provided by two concrete ground level reservoirs with overflow elevations of 455 feet. The first reservoir was constructed in 1935 and has a total capacity of 0.5 MG. A second, 1.5 MG reservoir was added to the same site in 1971. The reservoirs are plumbed together to act as one reservoir, and both have a base elevation of approximately 432 feet. The Low Prune Hill Reservoirs are shown in Figure 3.6.

Storage in the LPH Reservoirs is accessible via gravity to the 455 Zone, or is pumped to the UPH Zone through the LPH Booster Station. Under normal system operation, water from the SSF Plant supplies the 455 Zone and the reservoirs. The 455 Zone can also be supplied through pumping from the 343 Zone via the Forest Home, Butler, and Angelo Booster Stations. The LPH Reservoirs can also supply the 544 Zone through the Lacamas Booster Station. When SSF is running the surface water can supply the 544 Zone through Lacamas Booster Station.

3.5.5 Upper Prune Hill Standpipe and Reservoir

The UPH Reservoir 1 and Reservoir 2 were constructed in 1971 and 2001, respectively. Reservoir 1 has an overflow elevation of 852 feet, stands 100-feet tall, and has a total capacity of 0.75 MG. This reservoir sets the HGL for the 852 Zone. The Upper Prune Hill Reservoirs are shown in Figure 3.7.



GREGG RESERVOIR

FIGURE 3.4

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

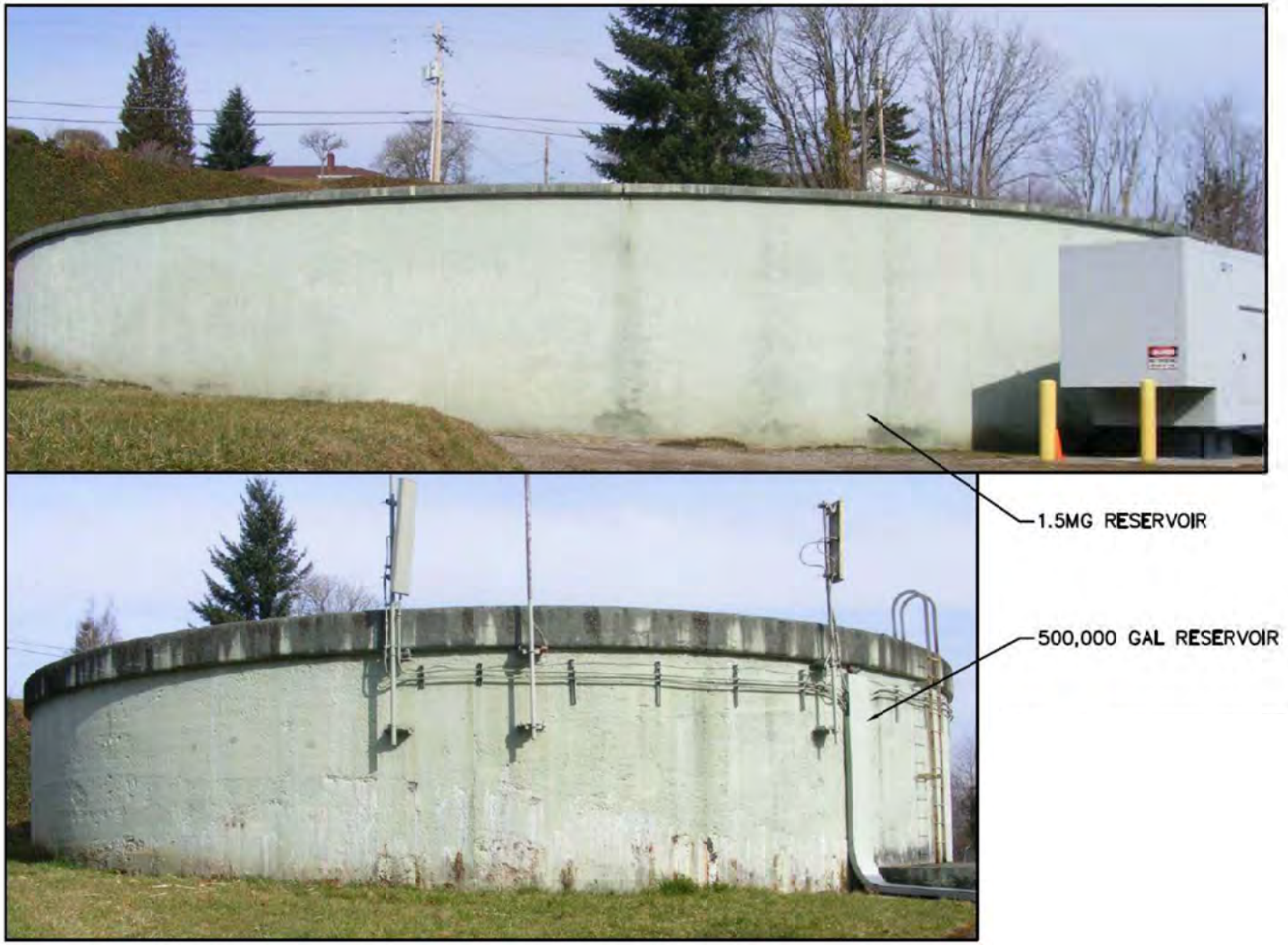


LACAMAS RESERVOIR

FIGURE 3.5

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

pw:\Carollo/Documents\Client/WA/Camas/10116A00/Deliverables/Rpt1/Graphics\Fig 3_5



LOWER PRUNE HILL RESERVOIRS

FIGURE 3.6

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE



UPH Standpipe



UPH Reservoir

UPPER PRUNE HILL RESERVOIRS

FIGURE 3.7

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

The UPH Reservoir 2 is below the HGL of the 852 Zone and serves the zone by pumping through the UPH booster pump station (BPS) to the UPH Reservoir 1. It has an overflow elevation of 816 feet, stands 64-feet tall, and has a total capacity of 2.4 MG. The booster station has a total pumping capacity of 2,900 gpm. Including the standpipe and reservoir, the 852 Zone is supplied by the LPH BPS, 12-inch transmission line, and 16-inch Ostenson Canyon transmission line.

Table 3.4 Existing Storage Facilities
Water System Plan Update
City of Camas

Reservoir	Capacity (MG)	Diameter (ft)	Base Elevation (ft)	Overflow Elevation (ft)	Year Constructed and Type
Butler	1.2	100x100	328	343	1913, Concrete
Lower Prune Hill No. 1	0.5	61	432	455	1935, Concrete
Lower Prune Hill No. 2	1.5	105	432	455	1971, Concrete
Upper Prune Hill No. 1	0.75	36	752	852	1971, Steel
Upper Prune Hill No. 2	2.4	90	748	798	2002, Steel
Gregg	0.10	16	472	542	1978, Steel
Lacamas	2.0	84	496	544	1993, Steel

3.6 TRANSMISSION AND DISTRIBUTION FACILITIES

Transmission and distribution facilities allow the water supply to reach the City's customers. These facilities include water pipelines, BPS, and pressure reducing stations that allow water to flow between pressure zones, from one hydraulic grade to another. BPS are discussed separately in Section 3.7.

3.6.1 Piping System

The City owns over 143 miles of pipelines in its water transmission and distribution system. An inventory of existing pipelines in the system, as reported from the City's hydraulic model, is summarized in Table 3.5. The system is predominately looped and located within public rights-of-way, giving the City access for repairs and maintenance. The City replaces aging and undersized pipes to serve the City's growing demands on an ongoing basis. Pipe materials within the City currently include the following:

- Cast Iron (CI) Pipe

- Polyvinyl chloride (PVC) Pipe
- Ductile Iron (DI) Pipe
- Steel (ST) Pipe

Table 3.5 Pipe Diameter and Material
Water System Plan Update
City of Camas

Diameter	DI (feet)	CI (feet)	ST (feet)	PVC (feet)	Unknown	Total (feet)	Percent
6-inch	75,515	68,503	21,669	0	19,732	185,418	25%
8-inch	147,780	19,424	8,355	0	94,704	270,263	36%
10-inch	6,025	0	4,447	0	28,384	38,855	5%
12-inch	69,169	24,030	2,501	0	69,046	164,746	22%
14-inch	5,278	0	7,658	5,037	2,685	20,658	3%
16-inch	9,315	556	0	0	1,234	11,105	1%
18-inch	40,745	77	181	0	1,485	42,488	6%
20-inch	0	0	0	1,859	0	1,859	< 1%
24-inch	494	0	21,669	0	20,733	21,227	3%
Total	**354,321**	**112,589**	**44,810**	**6,895**	**238,004**	**756,619**	**100%**
Percent	47%	15%	6%	1%	31%	100%	

3.6.2 Pressure Reducing Stations

In order to operate on the sixteen pressure zones, the City maintains numerous pressure reducing stations as shown in Table 3.6 and Figure 3.1. In most cases, there are two PRVs at each station. The smaller valve operates to provide the average daily demand to the zone that it serves. The larger valve, which is generally set five pounds per square inch (psi) lower than the small valve, is primarily used for fire protection or large demand situations. The City's PRVs have pressure sustaining features, which are set to ensure that upstream pressures are maintained. The City has a contract with GC Systems to service the 68 PRVs located within the water system. This contract allows GC Systems to perform general maintenance and ensure that the valves are operating correctly, both on an individual and system-wide level.

Table 3.6 Pressure Reducing Valves
Water System Plan Update
City of Camas

PRV Station	PRV Model ID	Size (in)	Downstream Zone	Downstream Setting (psi)	Upstream Pressure (psi)
NW McIntosh	PRV-1	6	697	45	120
	PRV-2	2	697	50	120
NW Payne Rd. and 18th	PRV-3	8	544	Closed	Closed
	PRV-4	4	544	Closed	Closed
NW 16th Ave. and Klickitat	PRV-5	10	697	30	105
	PRV-6	4	697	40	105
NW Ivy and Fargo	PRV-7	4	623	50	90
NW 22nd and Fargo	PRV-8	4	697	65	130
NW 19th Ave. and Fargo St.	PRV-9	4	694	75	157
NE 21st and Everett	PRV-10	8	343	45	110
NE 19th and Everett	PRV-11	6	343	40	110
NW 32nd Circle	PRV-12	8	680	25	120
	PRV-13	2	680	30	120
NW Brady Rd. Deer Creek	PRV-14	8	547	25	105
	PRV-15	3	547	30	105
NW Parker St. and Linear	PRV-16	8	544	Closed	Closed
NW Astor and 36th	PRV-17	8	612	55	90
	PRV-18	2	612	60	90

Table 3.6 Pressure Reducing Valves
Water System Plan Update
City of Camas

PRV Station	PRV Model ID	Size (in)	Downstream Zone	Downstream Setting (psi)	Upstream Pressure (psi)
NW 43rd and Sierra	PRV-19	8	544	30	190
NW 23rd Ave. and Fargo St.	PRV-20	4	760	40	130
NW Logan St. off NW 28th	PRV-21	6	782	50	90
	PRV-22	2	782	55	90
NW 31st and NW Dahlia Dr.	PRV-23	6	544	Closed	Closed
	PRV-24	2	544	Closed	Closed
NW 29th Ave. and NW Astor St.	PRV-25	2	800	58	90
	PRV-26	6	800	53	90
NW Sierra Dr. and NW 38th Ave.	PRV-27	6	711	35	115
	PRV-28	2	711	40	115
Currawong Ct. and NW 40th Ave.	PRV-29	6	694	75	145
	PRV-30	2	694	80	145
NW 23rd Ave. and Iris	PRV-31	8	685	58	130
	PRV-32	2	685	63	130
NW Julia St.	PRV-33	8	544	30	150
	PRV-34	2	544	Closed	Closed
SE Fern Ridge Dr.	PRV-35	2	547	40	110
	PRV-36	8	547	35	110

Table 3.6 Pressure Reducing Valves
Water System Plan Update
City of Camas

PRV Station	PRV Model ID	Size (in)	Downstream Zone	Downstream Setting (psi)	Upstream Pressure (psi)
NE 6th and NE Hayes St	PRV-37	4	343	80	94
	PRV-38	12	343	70	94
East End Walden	PRV-41	2	440	32	84
	PRV-42	6	440	22	84
West End Walden	PRV-43	1.5	440	72	118
	PRV-44	6	440	65	118
NE 6th and Joy Goot Park	PRV-45	6	343	65	92
	PRV-46	3	343	123	138 opens at 115
NE 6th and Joy	PRV-47	10	343	123	138 opens at 110 (for Fire Flow)
Lake Ridge Lower	PRV-48	2	581	55	98
	PRV-49	6	581	50	98
Lake Ridge Middle	PRV-50	2	675	63	91
	PRV-51	6	675	58	91
Lake Ridge Upper	PRV-52	2	745	68	123
	PRV-53	6	745	63	123
Spyglass (Upper PRV in View Ridge)	PRV-54	2	686	30	100
	PRV-55	6	686	25	100

Table 3.6 Pressure Reducing Valves
Water System Plan Update
City of Camas

PRV Station	PRV Model ID	Size (in)	Downstream Zone	Downstream Setting (psi)	Upstream Pressure (psi)
Spyglass (Lower PRV in View Ridge)	PRV-56	2	505	35	110
	PRV-57	6	505	40	110
Drewf's Farm Upper	PRV-58	2	738	50	63
	PRV-59	6	738	45	63
Drewf's Farm Lower	PRV-60	2	710	60	130
	PRV-61	6	710	55	130
NW Ivy and Ostenson Canyon	PRV-62	2	677	65	140
	PRV-63	6	677	60	140
NW 24th Ave and NW Brady Rd	PRV-64	6	625	70	124
	PRV-65	2	625	75	124
NW Larkspur St	PRV-66	6	625	45	132
	PRV-67	2	625	50	132
Larkspur Summit	PRV-68	6	666	40	141
Well Field East		4	343	Closed	Closed
Larkspur Summit		12	343	Closed	Closed

Table 3.6 Pressure Reducing Valves
Water System Plan Update
City of Camas

PRV Station	PRV Model ID	Size (in)	Downstream Zone	Downstream Setting (psi)	Upstream Pressure (psi)
NE Shepherd Road – Washougal Intertie		8	Washougal Water System	124	150
		1.5	Washougal Water System	115	150
SE 3rd and Whitney – Washougal Intertie		8	Washougal Water System	Closed	Closed
		1.5	Washougal Water System	Closed	Closed

3.7 BOOSTER PUMPING STATIONS

The City currently operates eight booster pumping stations to move water between pressure zones.

3.7.1 Butler Booster Station

The Butler Booster Station is located at the Butler Reservoir site and pumps from the 343 Zone to the 455 Zone. The Butler Booster Station has one end suction centrifugal 50-hp pump and one end suction centrifugal 40-hp pump that are capable of supplying 800 and 600 gpm, respectively. When the New Gregg Booster Station is called on one of the Butler pumps is also turned on to feed the 14-inch suction line of the New Gregg Booster Station. This station does not have capacity for an additional pump. Figure 3.8 shows the interior of the Butler Booster Station and capacity details are summarized in Table 3.7.

3.7.2 New Gregg Booster Station

The New Gregg Booster Station is also located at the Butler Reservoir site and pumps water from the 455 Zone to the 542 Zone. The New Gregg Booster Station is equipped with two 100-hp double end suction split case pumps, each with a capacity of 1,500 gpm. In 2013 a third 500 gpm pump was added for domestic service and to maintain the level in the Gregg Reservoir. The two larger pumps are typically only called on when fire flow demands occur. The New Gregg Booster Station has suction side flow limitations due to insufficient head provided by the Butler Reservoir. When the New Gregg Booster Station is called on a pump in the Butler Booster Station must also be called on to supply adequate pressure for the Station's 14-inch suction line. Figure 3.9 shows the interior of the New Gregg Booster Station and capacity details are summarized in Table 3.7.

3.7.3 Forest Home Booster Station

The Forest Home Booster Station, located at 418 NW 10th Avenue, pumps from downtown in the Downtown 343 Zone to the 455 Zone. This station contains one pump at a rated capacity of 1,000 gpm. When Well 5 is called into service, this booster station is also called on to prevent over-pressurization of the Downtown 343 Zone. Figure 3.10 shows the Forest Home Booster Station and capacity details are summarized in Table 3.7.



BUTLER BOOSTER PUMP STATION

FIGURE 3.8





NEW GREGG BOOSTER PUMP STATION

FIGURE 3.9

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE



FOREST HOME BOOSTER PUMP STATION

FIGURE 3.10

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

3.7.4 Lower Prune Hill Booster Station

The Lower Prune Hill Booster Station is located at the Lower Prune Hill Reservoir site and pumps water from the 455 Zone to the 852 Zone. This pump station contains three pumps at a total rated capacity of 2,500 gpm. This station has does not have capacity for an additional pumping unit. The Lower Prune Hill Booster Station is shown in Figure 3.11 and capacity details are summarized in Table 3.7.

3.7.5 Lacamas Booster Station

The Lacamas Booster Station, located at 4620 NW Sierra Street, pumps water from the 455 Zone to the 544 Zone. This station has two 25-hp turbine pumps that are capable of supplying 500 gpm each and one 100-hp turbine pump equipped with a VFD capable of supplying up to 1,500 gpm. The VFD is required for the largest pump due to suction side limitations. A fourth pump pedestal is provided in the booster station for future expansion. The Lacamas Booster Station is shown in Figure 3.12 and capacity details are summarized in Table 3.7.

3.7.6 Angelo Booster Station

The Angelo Booster Station is located at Fallen Leaf Park and is the primary booster station supplying the 455 Zone. It pumps from the 18-inch transmission main in the 343 Zone to serve the 455 Zone and feeds the suction side of the Lacamas Booster Station. This station has four 75-hp split case double end suction pumps capable of pumping 1,000 gpm each. A selected well is called on with the first pump of the Angelo Booster station to provide adequate suction side supply. If additional wells are called on to meet demand a corresponding pump is also called on at the station to prevent over pressurization of the 343 Zone. The Angelo Booster Station is shown in Figure 3.13 and capacity details are summarized in Table 3.7.

3.7.7 Upper Prune Hill Booster Station

The Upper Prune Hill Booster Station is located at 2822 NW 18th Avenue and is used to maintain level in the Upper Prune Hill Standpipe, which sets the HGL for the 852 Zone. This station has four pumps with two 20-hp split case double end suction pumps capable of providing 750 gpm each and two 40-hp split case double end suction pumps capable of providing 1,400 gpm each. The Upper Prune Hill Booster Station suction line is fed from the 2.4 MG reservoir. The 2.4-MG reservoir is fed from the Lower Prune Hill BPS. The Upper Prune Hill Booster Station is shown in Figure 3.14 and capacity details are summarized in Table 3.7.



LOWER PRUNE HILL BOOSTER PUMP STATION

FIGURE 3.11

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE



LACAMAS BOOSTER PUMP STATION

FIGURE 3.12

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE



ANGELO BOOSTER PUMP STATION

FIGURE 3.13

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE



UPPER PRUNE HILL BOOSTER PUMP STATION

FIGURE 3.14

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

3.7.8 Crown Road Booster Station

The Crown Road Booster Station is the City's newest booster station and is located at 3700 SE Crown Road and pumps from the 343 Zone to the 542 Zone. This station has two pumps capable of providing 800 gpm each for a total station capacity of 1,600 gpm. Pedestals are provided for two additional pumping units within the station. When the station is called into service a selected well is called on simultaneously to provide sufficient suction side supply. The Crown Road Booster Station is shown in Figure 3.15 and capacity details are summarized in Table 3.7.

Table 3.7 Booster Pump Station Summary
Water System Plan Update
City of Camas

	No. of Pumps	Rated Capacity (gpm)	Year Constructed
Butler	2	1,400	1948(1)
Forest Home	1	1,000	1949(2)
Gregg	3	3,500	2003
Lower Prune Hill	3	2,500	1971(3)
Lacamas	3	2,500	1993
Angelo	4	4,000	2001
Upper Prune Hill	4	2,900	2002
Crown Road	2	1,600	2011

Notes:
(1) Pumps were replaced in 1998.
(2) Pump was replaced in 1999.
(3) Pumps were replaced in 2002 and 2004.

3.8 INTERTIES

The City currently has an emergency intertie agreement with the City of Washougal. The City has two one-way PRV interties with Washougal, located on SE Shepherd Road and at the intersection of SE 3rd Street and Whitney Street. These interties provide water from the City of Camas to the City of Washougal under low pressure conditions. A physical intertie does not exist with Vancouver, but the City has an agreement for emergency use of two fire hydrants located at SE 1st and Friberg for firefighting purposes. Intertie agreements are provided in Appendix C.



CROWN ROAD
BOOSTER PUMP STATION

FIGURE 3.15

3.9 SCADA

The City has a SCADA system with master control located at the City Operations Center. The system uses programmable control software, which can be controlled by a personal computer at the operations center, or from remote by a modem connected to a remote computer. The system monitors reservoir levels, well status, well flow rate, booster pump flow rates, pump status, run time, power usage, and alarm conditions. The system is able to record and display trending data for everything the City monitors. The City continually rotates well and booster pump calls to exercise the pumps and to evenly distribute wear on the pumps.

Chapter 4

OPERATION AND MAINTENANCE

4.1 WATER SYSTEM MANAGEMENT AND PERSONNEL

The water system is operated and maintained by the City of Camas (City) staff, with contractors provided services that City staff are not trained or equipped to perform. The organization of the City's water utility is shown in Figure 4.1. The City is governed by a mayor and seven council members, all of which are elected officials. The Public Works Director reports to the mayor and council and directs the City's utilities, including water. The City's organization combines water and sewer operation to furnish domestic water and sanitary sewage disposal service to industrial, commercial, and residential areas within the City and surrounding areas. The Utility Manager directs the water system operations, supervising a Water Supply Operator, Lead Maintenance Worker, and maintenance crews. The Engineering Department is responsible for engineering services, including capital planning, project implementation, development review, and operational support. The Finance Department is responsible for all utility billing and accounting.

4.1.1 Operator Certification

The City's operators are experienced and well trained, exceeding the minimum state requirements (Washington Administrative Code [WAC] 246-292-050). As a Class 3 system (population between 15,000 and 50,000 people) the City is required to have at a minimum, a Water Treatment Plant Operator (WTPO) Level 3, a Water Distribution Manager (WDM) Level 3, and a cross-connection control specialist (CCS). The City certified operators are shown in Table 4.1. As staff change, the Water Works Certification Board is notified of any changes to the mandatory or supporting certificated personnel.

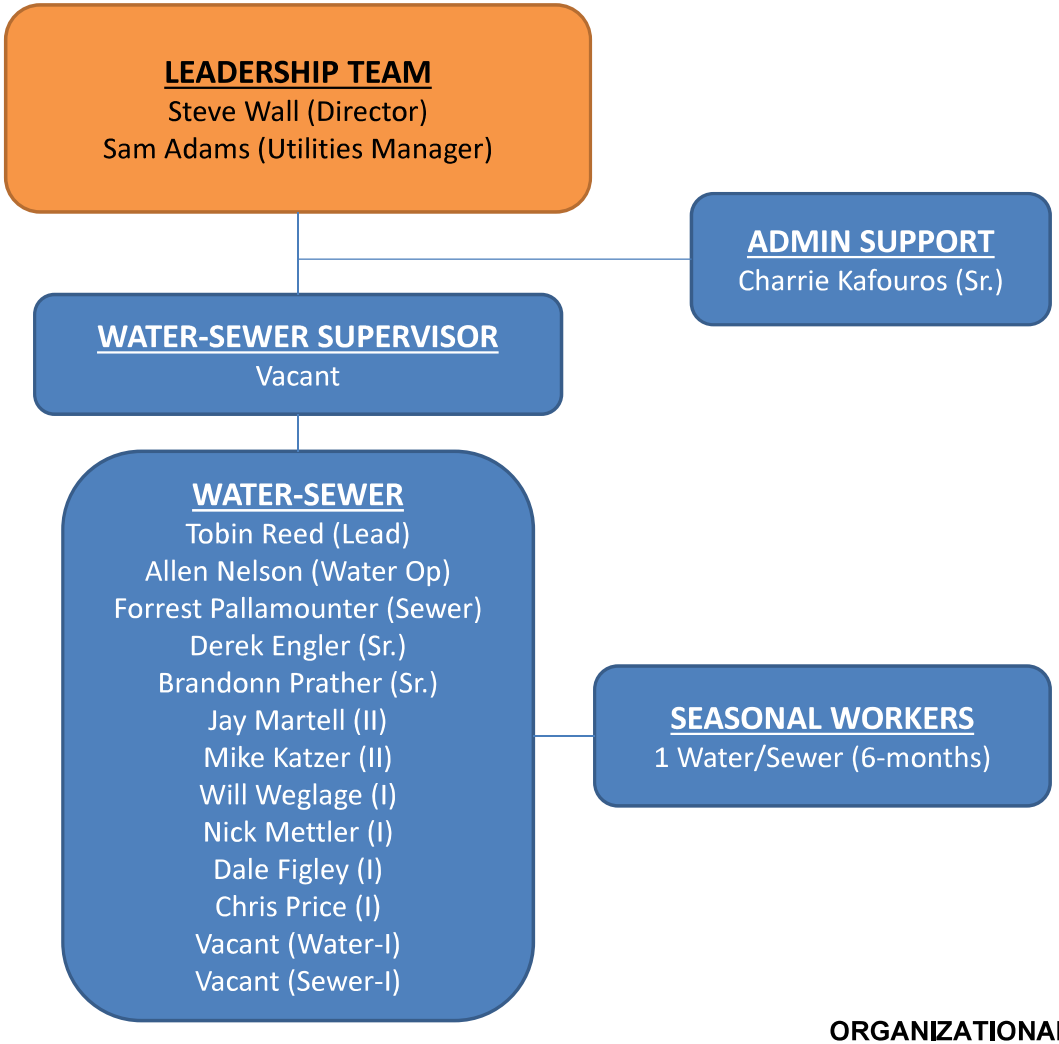
4.1.2 Professional Growth and Training

The City provides opportunities for its staffs' professional growth and training; planning for approximately 25 hours per year of professional growth and training for each employee. Through these activities, City staff are able to obtain the required continuing education unit (CEU) requirements for their operators' certifications. City staff are regular attendees of training programs sponsored by both Washington Environmental Training Resources Center (WETRC) and the Pacific Northwest Section of the American Water Works Association (AWWA). The professional growth requirement may also be met by advancement by examination or certification by examination to a different classification.

Table 4.1 Certified Operators
Water System Plan Update
City of Camas

		Certification			
Name	**Title**	**WDM**	**WTPO**	**Cert. Number**	**CCCS**
Tobin Reed	Lead	2	2	10297	Yes
Brandon Prather	Senior	2	2	11124	
Derek Engler	Senior	2		11703	
Allen Nelson	Water Operator	3	3	8187	Yes
Will Weglege	MW1	1		12451	
Jay Martell	MW2	2		14246	
Charrie Kafouros	Backflow Coordinator			14147	

WATER-SEWER DEPARTMENT - 2019 ORGANIZATIONAL CHART



ORGANIZATIONAL CHART
FIGURE 4.2
CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

4.2 ROUTINE SYSTEM OPERATING PROCEDURES AND PREVENTATIVE MAINTENANCE

Basic system operation is described in Chapter 3 – Existing System and Chapter 9 - System Analysis. Detailed documentation of the system operation procedures and preventive maintenance can be found in the City's Operations and Maintenance (O&M) Manual. The manual provides detailed information on operator certification and training, water quality monitoring, operation and control, cross-connection control, and emergency planning/response. Routine operating procedures and preventative maintenance aspects of the O&M Manual are summarized below.

4.2.1 Routine Operating Procedures

The City updated its O&M Manual in 2016 to reflect recent changes in the system and capture the institutional knowledge of retiring operators. The O&M Manual provides the following kinds of operation and control information for wells, reservoirs, pump stations, and pipelines:

- Facility/process components, such as booster pumps, Supervisory Control and Data Acquisition (SCADA) telemetry, valves, chemical metering pumps, storage tanks, etc.;
- Description of facilities/processes, including area served and relationship to other facilities/processes;
- Operation and control, including set points and chemical usage guidelines;
- Guidance on performing maintenance activities such as cleaning, pump isolation, and meter/pump calibration;
- Alarm responses;
- Emergency operation, including use of safety equipment (i.e., emergency showers and eyewash, etc.) and facility operations on auxiliary power.

To aid in accessing the detailed information, the O&M Manual provides annotated pictures identifying all facility equipment.

A hard copy of the O&M Manual is kept at the City's operations center and is available electronically on the City's network. The slow sand filtration plant operations and control are documented in a separate O&M manual that is kept onsite at the plant and available electronically on the City's network.

4.2.2 Preventive Maintenance

The City staff are responsible for daily operation of the City's surface water sources, wells, treatment facilities, booster stations, pressure reducing valves (PRVs), storage facilities, and distribution system. In addition to daily operation, they also perform preventative

maintenance on the system based on City goals. These preventative maintenance goals help the City maintain its assets at an acceptable level of risk, while meeting the City's desired level of service goals. An activity's complexity and level of effort is generally greater the less frequently it is performed. Daily and weekly activities can likely be completed in an hour or less. In general, activities are intended to be grouped (i.e., weekly, semi-weekly, monthly, and quarterly during a single visit) to reduce inefficiencies in travel and site setup (i.e., traffic control at PRVs, etc.). Some activities may take several days and require specialized contractors.

Daily preventative maintenance focuses on inspections of the general condition and function of the facilities and maintaining and recording chemical levels. Frequency of inspections is based on industry practices and professional judgement. Weekly and monthly maintenance activities include more detailed inspections and cleaning of assets, as well as maintenance of the surface water sources. Annual preventative activities includes basic maintenance of equipment (i.e., oil and filter changes, exercising infrequently used valves and pumps, cleaning cooling systems on generators, etc.). All activities are completed to the extent possible based on available staff and resources.

4.3 CONDITION ASSESSMENT

4.3.1 Booster Pump Stations and Supply Wells

A high-level condition assessment was prepared for the City's water system facilities. The assessment included review of information for the existing facilities and inspection of the facilities on January 5 and 6, 2016. The assessment included each supply well and booster pump station (BPS). The City's storage reservoir, PRV stations, and piping were not included in the assessment.

Overall, the City's booster pump stations and supply wells were found to be in generally good condition. The facilities have been well-maintained with regularly scheduled maintenance and Capital Improvement Program (CIP) work being performed. Electrical equipment condition was the most common deficiency observed, primarily due to equipment age.

The conditions assessment recommended improvement projects based on the existing condition and are shown in Table 4.2. Improvement projects have been separated into booster pump station improvements, which are denoted "RP-" and supply projects, which are denoted "RS-". Each project has been scheduled based on the results of the condition and Remaining Useful Life (RUL) assessments. Projects with similar timing are ordered based on the criticality or consequence of failure. As seen in the table, the total condition assessment CIP estimate is anticipated to cost $1,369,000. It is anticipated that future project designs will further revise the cost estimates and prioritization of projects for the longer-term CIP items

The cost estimates presented in this section are opinions developed from bid tabulations, cost curves, information obtained from previous studies, City estimates, and Carollo Engineers' experience on other projects. The cost estimates have been prepared for general planning purposes and for guidance in project evaluation and implementation. Final costs of a project will depend on actual labor and material costs, competitive market conditions, final project scope, implementation schedule, and other variable factors.

All costs are in 2016 dollars, and are based on an Engineering News Record Construction Cost Index (ENR CCI) 20-City Average of 10379 (July, 2016). Cost estimates were developed using a Class 4 budget estimate, as established by the American Association of Cost Estimators. This level of estimate is used for budgeting and feasibility studies and assumes a 1 percent to 15 percent level of project definition. The expected accuracy range is -30 percent to +50 percent, meaning the actual cost should fall in the range of 30 percent below the estimate to 50 percent above the estimate.

4.3.2 Reservoirs

The City has previously assessed the condition of its reservoirs. The City's reservoirs are generally in good condition. The following projects were planned as part of the 2010 Water System Plan:

- The Butler Reservoir, the City's oldest reservoir, has reached the end of its usable life. The City intends to abandon the Butler Reservoir as soon as a replacement is constructed in the 343 Zone.
- The City's second oldest reservoir, the 0.5 million gallons (MG) reservoir at the Lower Prune Hill reservoir site is also reaching the end of its usable life. Replacement of the reservoir was recommended in the 2010 Water System Plan, which will include significant site and foundation work.

Table 4.2 Condition and Strategic Replacement CIP Summary
Water System Plan Update
City of Camas

Project Name	Project ID	Project Type	Estimated Cost	Short-term (2016-2021)	Medium-Term (2022 - 2025)	Long-Term (2026-2036)	Project Description
Replace or Refurbish Lacamas BPS Pumps and Motors	RP - 1	Strategic Replacement	$80,000	$80,000			Replace or refurbish pumps 1, 2, and 3
Replace or Refurbish Butler BPS Pumps and Motors	RP - 2	Strategic Replacement	$60,000	$60,000			Replace or refurbish pumps 1 and 2
Replace or Refurbish Angelo BPS Pumps and Motors	RP - 4	Strategic Replacement	$140,000	$140,000			Replace or refurbish pumps 1, 2, 3, and 4
Lower Prune Hill BPS Discharge Header Improvements	RP - 5	Condition	$5,000	$5,000			Add lateral support to the pump discharge header
Crown Road BPS Standby Generator Modifications	RP - 6	Condition	$5,000	$5,000			Remove vent caps and install new vent piping for the emergency generator's diesel tank as part of routine maintenance
Upper Prune Hill BPS Discharge Header Improvements	RP - 7	Condition	$5,000	$5,000			Add lateral support to the pump discharge header
Replace or Refurbish Upper Prune Hill BPS Pumps and Motors	RP - 8	Strategic Replacement	$110,000		$110,000		Replace or refurbish pumps 1, 2, 3, and 4
Replace or Refurbish Gregg BPS Pumps and Motors	RP - 9	Strategic Replacement	$80,000		$80,000		Replace or refurbish pumps 1 and 2
Replace or Refurbish Lower Prune Hill BPS Pumps and Motors	RP - 10	Strategic Replacement	$125,000		$125,000		Replace or refurbish pumps 1, 2, and 3
Replace or Refurbish Crown Road BPS Pumps and Motors	RP - 11	Strategic Replacement	$75,000			$75,000	Replace or refurbish pumps 1 and 2
Replace or Refurbish Gregg BPS Pump 3 and Motor	RP - 12	Strategic Replacement	$30,000			$30,000	Replace or refurbish pump 3
Lower Prune Hill BPS Electrical Equipment Replacement	RP - 13	Condition	$42,000			$42,000	Replace remote terminal unit (RTU) and general maintenance for motor control center (MCC)
Lacamas BPS Generator Maintenance	RP - 14	Condition	$3,000			$3,000	The generator at the Lacamas BPS requires general maintenance. Rust on the enclosure and exhaust pipe were observed during the condition assessment
Lacamas BPS Electrical Maintenance & Testing	RP - 15	Condition	$5,000			$5,000	
Upper Prune Hill BPS Electrical Equipment Replacement	RP - 16	Condition	$43,000			$43,000	MCC and RTU require general maintenance
Butler BPS Motor Starter Replacement	RP - 17	Condition	$3,000			$3,000	The motor starter(s) at the Butler BPS were recommended for replacement during the condition assessment

Table 4.2 Condition and Strategic Replacement CIP Summary
Water System Plan Update
City of Camas

Project Name	Project ID	Project Type	Estimated Cost	Short-term (2016-2021)	Medium-Term (2022 - 2025)	Long-Term (2026-2036)	Project Description
Butler BPS Check Valve Replacement	RP - 19	Condition	$2,000				The check valve(s) at the Butler BPS were recommended for replacement during the condition assessment
Booster Pump Station Projects (RP) Total			**$813,000**	**$295,000**	**$315,000**	**$203,000**	
Well 8 Pump Rehabilitation	RS - 01	Strategic Replacement	$29,000	$29,000			Well casing, motor, and pump rebuild
Well No. 9 Rehabilitation	RS - 02	Strategic Replacement	$29,000	$29,000			Well casing, motor, and pump rebuild
Well 9 Analyzers	RS - 03	Condition	$13,000	$13,000			pH, Chlorine, Fluoride
Well 6 Electrical Improvements	RS - 05	Condition	$4,000	$4,000			Replace Starter cabinet
Well 7 General Improvements	RS - 06	Condition	$5,000	$5,000			Replace motor pedestal grout and install two additional anchor bolts
Well No. 10 Rehabilitation	RS - 07	Strategic Replacement	$29,000		$29,000		Well casing, motor, and pump rebuild
Well No. 11 Rehabilitation	RS - 08	Strategic Replacement	$29,000		$29,000		Well casing, motor, and pump rebuild
Well No. 12 Rehabilitation	RS - 09	Strategic Replacement	$29,000		$29,000		Well casing, motor, and pump rebuild
Well 6 Telemetry Improvements	RS - 10	Condition	$40,000		$40,000		Replace RTU
Washougal Wellfield Salt Storage Building Improvements	RS - 11	Condition	$75,000		$75,000		Replace existing storage building and provide anchorage for the two NaOH storage tanks
Well No. 13 Rehabilitation	RS - 12	Strategic Replacement	$29,000			$29,000	Well casing, motor, and pump rebuild
Well No. 14 Rehabilitation	RS - 13	Strategic Replacement	$29,000			$29,000	Well casing, motor, and pump rebuild
Well 7 Electrical Improvements	RS - 14	Condition	$11,000			$11,000	Replace Panelboard and Starter Cabinet
Well 8 Electrical improvements	RS - 15	Condition	$4,000			$4,000	Replace Starter cabinet

Table 4.2 Condition and Strategic Replacement CIP Summary
Water System Plan Update
City of Camas

Project Name	Project ID	Project Type	Estimated Cost	Short-term (2016-2021)	Medium-Term (2022 - 2025)	Long-Term (2026-2036)	Project Description
Washougal Wellfield Disinfection Improvements	RS - 16	Condition	$150,000			$150,000	Replace the chlorine system for the Washougal Wellfield treatment facility
Well 11 and 12 Mechanical Improvements	RS - 17	Condition	$3,000			$3,000	Tie rods across flexible coupling at pump discharge to prevent flexing. Air release is locating on discharge header for wells 11/12 rather than for each well.
Well 11 and 12 Electrical Maintenance	RS - 18	Condition	$3,000			$3,000	MCC requires general maintenance
Well No. 6 Rehabilitation	RS - 19	Strategic Replacement	$29,000			$29,000	Well casing, motor, and pump rebuild
Well No. 7 Rehabilitation	RS - 20	Strategic Replacement	$29,000			$29,000	Well casing, motor, and pump rebuild
Well 9 Electrical Improvements	RS - 21	Condition	$45,000			45,000	Replace Starter cabinet and RTU
Supply Projects (RS) Total			**$556,000**	**$22,000**	**$202,000**	**$332,000**	
Total All Projects			**$1,369,000**	**$317,000**	**$404,000**	**$535,000**	

4.4 EMERGENCY RESPONSE PROGRAM

The City has a Disaster Manual, which identifies the emergency response functions within the City using an “all hazards” approach. Within the City’s emergency response framework, the City has developed a Water System Emergency Response Plan that is documented in Chapter 5 of its O&M Manual. It defines risks, water system roles and responsibilities during an emergency, communication procedures, personal safety, alternative water sources, equipment replacement procedures, property protection procedures, and water sampling and monitoring procedures. The Emergency Response Plan also describes alternative system operations for the interruption of each major water supply facility (i.e., loss of a well, reservoir, or booster pump station). Further, it documents an incident specific response plan for major risks, such as drought, earthquake, flood, etc. The Emergency Response Plan is provided in Appendix E.

4.5 CROSS-CONNECTION CONTROL PROGRAM

As required by WAC 246-290-490, cross-connection control, utilities have the responsibility to protect customers from water contamination due to cross-connections. A cross-connection is any actual or potential physical connection between a public water system or the consumer's water system and any source of non-potable liquid, solid, or gas that could contaminate the potable water supply by backflow. City Ordinance 10504 addresses cross-connections and their prevention, which can be found as part of the Camas Municipal Code under Water Use Regulations 13.32.

This ordinance and corresponding Municipal Code provide the City’s water department the ability to protect the water supply from contamination by prohibiting cross-connections, requiring backflow prevention devices, establishing fees for the inspection of cross-connection assemblies, and adopting State standards for cross-connection regulations. The ordinance and corresponding Municipal Code provides procedures for the abatement of cross-connections and the installation of backflow prevention devices.

The City has two employees certified as cross-connection control specialists. The City’s cross-connection control program and records are continually updated and information of each cross-connection device are on file with the City. The Public Works Department and the Building Department coordinate notification to customers who have devices that need to be tested. The City’s backflow program management software will be upgraded from Backflow Prevention Management Software to XC2 in 2019, which will allow for higher efficiency when entering test report data and sending notifications to water customers regarding their backflow devices.

The City maintains the following information on file for its cross-connection control program:

- Date of last inspection.
- Results of inspection.
- Recommended protection.
- List of approved assemblies.
- Test and maintenance reports.
- List of certified testers.
- Customer account number, billing address, service address, phone numbers, device history and maintenance records.

The City's Cross-Connection Control Program requires the inspection of backflow prevention devices at the time of installation. These devices are also scheduled to be inspected annually after installation, after the device is repaired, after the device is relocated or reinstated, and as necessary if tests indicate repeated failure.

Owners of backflow prevention devices are notified by mail that their devices are due for inspection. An example of the backflow prevention postcard that is sent out to owners is shown in Figure 4.2. However, it is the responsibility of the customer to see that their device is tested. Failure to provide the City with a backflow prevention device inspection report from a certified cross-connection control specialist will result in the customer's water service being terminated. This termination is then reported to the Washington State Department of Health (DOH).

The cross-connection control specialist and assistant host an informational backflow booth at the City's annual Camas Days event to educate consumers. They answer questions regarding backflow and provide general knowledge to the public on the issues. Updated informational brochures with current contact information are distributed at the event, online, and at various City facilities.

1620 SE 8th Ave. Camas, WA 98607

Current Water Customer
«MAIL_ADDR1»
«MAIL_ADDR2»
«CITY_STATE» «POSTAL_ZIP»

ANNUAL BACKFLOW PROTECTION DEVICE TESTING

Our records indicate that the backflow prevention device(s) at your address is (are) due for testing. It is imperative that each assembly is working properly to safeguard your health and the health of others. Washington State Law (WAC 246-290-490) requires annual testing of backflow prevention assemblies. The testing is to be performed by a Washington State Certified Tester. Please have your assembly tested within 30 (thirty) days. A list of State Certified Backflow Testers has been included on the back of this postcard. Backflow Testers are private contractors and their fees are not regulated by the City of Camas.

Thank you for helping us to preserve our water quality. If you have questions or need information on assemblies at your location, please call the Backflow Hotline at (360) 817-1569 and leave a message. You will receive a return call as soon as possible.

Tobin Reed,
Lead Utility Maintenance Worker

ANNUAL BACKFLOW PROTECTION DEVICE TESTING NOTIFICATION

FIGURE 4.2
CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

4.6 CUSTOMER COMPLAINT RESPONSE REPORTING

Customers interact with the City through a variety of methods. Customer service representatives are available by phone and through an online Utility Service Request system on the City's website. Customer service agents are trained to answer typical questions and route service requests (complaints) to the appropriate department (Operations, Finance, Engineering, etc.). Calls are tracked by customer service agents and the resulting activities are documented in the maintenance management system if a work order is issued. The finance department also tracks billing related requests.

City operators also routinely interact with customers during maintenance activities. Often, these interactions are directly related to ongoing system maintenance such as hydrant flushing, and customer inquiries or concerns are resolved on the spot. Operators direct additional requests to customer service representatives, as needed.

4.7 RECORD KEEPING AND REPORTING

The City maintains detailed records of the water system. Substantial record keeping activities are required to record and report customer water usage, water production, water quality information, and maintenance activities. All recordkeeping and reporting follows DOH regulations as specified in WAC 426-290-480.

The City's finance department is responsible for billing customers for water use. The billing records include customer account data for classes of customers, water use, billing, service, and comments. Water production for the City's surface water sources and wells are tracked in real time via SCADA, which maintains approximately a year of historical data. Operators record production daily and report the production monthly to DOH. Based on these records and water consumption records, the City develops and submits an annual Water Use Efficiency Report to DOH.

The City conducts substantial water quality testing, as summarized in Chapter 7. Hard copies of the water quality laboratory reports from the testing are kept at the City. In addition, analytical laboratories also submit reports directly to DOH. This data is summarized annually in the City's consumer confidence report that is available on its website.

The City maintains a maintenance management system to manage work order requests and document maintenance activities. Historically, the City has recorded work efforts on hard copy maintenance cards that are available for reference to City staff.

The City submits all required construction completion reports to DOH. Construction completion reports for distribution main projects are maintained on file at the City and are available upon request by DOH.

4.8 PIPELINE REPAIR AND REPLACEMENT

The City currently has a modest water main repair and replacement (R&R) program to address O&M and capacity concerns as opportunities arise, such as during redevelopment or in conjunction with other utility projects. While much of the City's distribution system was constructed after 1990, the distribution near downtown was constructed in the 1950s and early 1960s and is expected to begin reaching the end of its useful life during the next 20 years.

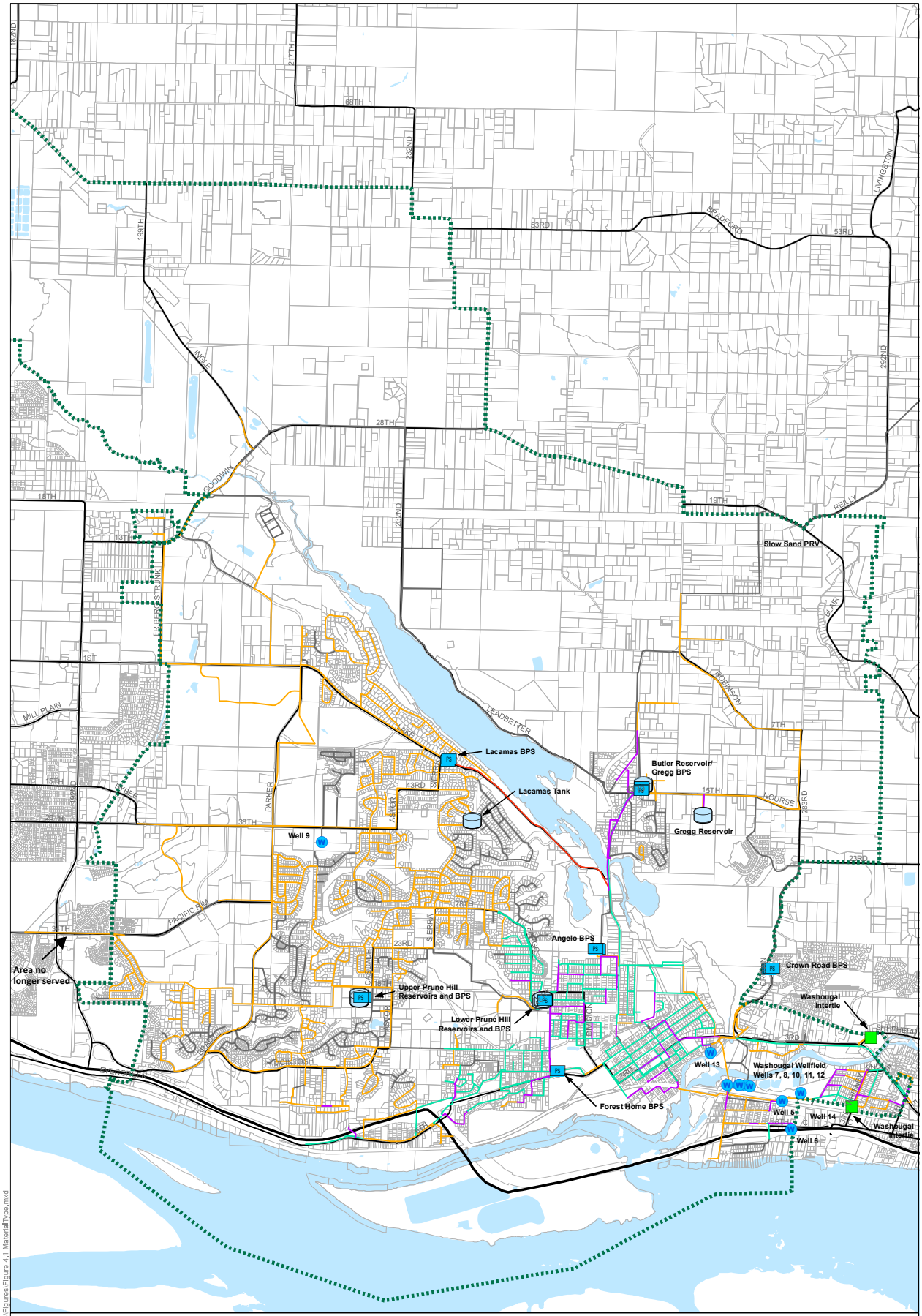
Useful life is the length of time that a pipe is anticipated to remain in service. Useful life depends largely on the pipe material, but can also depend on soil conditions, water constituents, and installation. When a pipe is in service beyond its useful life, the increasing costs of maintenance associated with a failing pipe typically exceed the cost of replacement. Useful life analyses do not predict exactly when and where failures will occur, rather it is a method to identify the pipes for inclusion in an ongoing (R&R) program.

RUL is simply the period of time remaining before the end of useful life is reached. A pipeline replacement schedule can be developed by looking at the remaining useful life of all the pipes in the distribution system. This replacement schedule is often reported in terms of average annual feet of pipe replacement over a ten-year replacement period due to limitations in historical installation records and difficulties in assessing the impact of environmental conditions and other factors limiting useful life. Within a given replacement period, pipes near or exceeding their useful life should be prioritized based on the criticality of the pipe to the system. For example, a large diameter transmission main or pipes that can be included in redevelopment or transportation projects may be a higher priority. By incorporating criticality, the City will be able to address existing priorities and adapt to changing priorities while maintaining an annual replacement program.

4.8.1 Pipe Material and Age

Pipe material and age are key data needed for an RUL analysis. Pipe material was available from the City's records. The information was reviewed by City staff and recent replacement projects were incorporated into the data. As a rule of thumb, pipes installed before or during the 1970s were classified as cast iron (CI) pipe, and pipes installed after the 1970s were classified as ductile iron (DI) pipe. Pipe material is shown graphically in Figure 4.3. Table 4.3 presents the total length of pipe in the City according to the decade installed and material type.

Pipe age was provided by City staff using the best available information. Generally, older pipes installed before the 1980s were assigned an installation decade (i.e., 1950s, 1960s, 1970s, etc.), as the exact year of installation was unknown. The resulting pipe age is shown graphically in Figure 4.4. The City has an ongoing major GIS update that is revising its asset inventory.



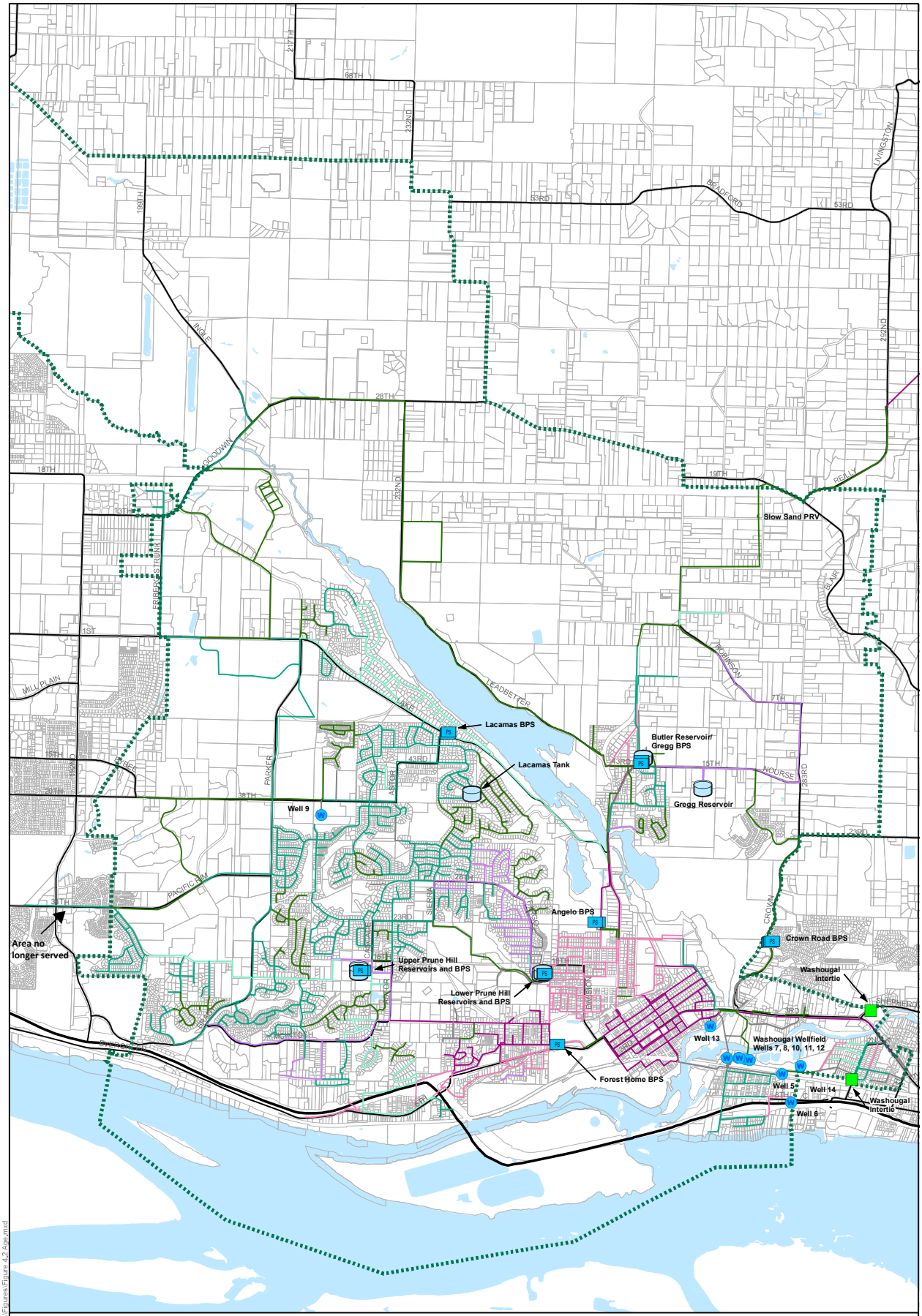
WATER MAINS BY MATERIAL

FIGURE 4.3

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

Document Path: E:\KRC D DRIVE\CAMAS\Figures\Figure 4.1 MaterialType.mxd

carollo



WATER MAINS BY AGE

FIGURE 4.4

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

Document Path: E:\KRC D DRIVE\CAMAS\Figures\Figure 4.2 Age.mxd

**Table 4.3 Pipe Length by Decade Installed and Material Type
Water System Plan Update
City of Camas**

Decade Installed	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2010	2011-2014	Total by Material
CI	126,000	47,800	12,200	0	0	0	0	186,000
DI	0	0	63,900	50,500	232,000	99,500	73,700	519,600
PVC	0	0	0	6,900	0	0	0	6,900
Steel	11,600	19,800	1,700	800	3,200	4,600	800	42,500
Total by Decade	137,600	67,600	77,800	58,200	235,200	104,100	74,500	755,000

4.8.2 Useful Life

Useful life in combination with pipe age provides the basis for the RUL calculations. The estimated useful life of each pipe material based on industry standards and City staff knowledge, as presented in Table 4.4. The City chose a 75 year useful life for CI pipes, polyvinyl chloride (PVC) and steel pipes. Cast iron and steel useful life were conservatively selected at the lower end of the typical range. The PVC useful life is within industry ranges; however, it has little overall impact given less than 1 percent of the system is PVC. DI pipes were considered to have an 85 year useful life, which was the median of the industry range. It is important to note that the actual useful life of an individual pipe can vary widely due to soil, groundwater, and installation conditions. It is recommended that the condition of pipes being replaced be noted for consideration in future analyses, which will increase the accuracy of the useful life estimates.

**Table 4.4 Useful Life of Pipes
Water System Plan Update
City of Camas**

Pipe Material	Useful Life (yrs)
CI	75
DI	85
PVC	75
Steel	75

4.8.3 Remaining Useful Life Analysis

RUL is defined as the length of time left before a pipe's maintenance costs will likely exceed its cost of replacement. Pipe age, material type, and chosen useful life for each pipe material were used to determine the RUL of the City's pipes. The useful life of each pipe was calculated based on the installation year and the material specific useful life. The period of time between the end of the useful life and today is the RUL. For example, a DI pipe installed in 2000 has a useful life of 85 years, where it will reach the end of its useful life by 2085. From the current year, 2016, this DI pipe's RUL would be 69 years. RUL were combined by decade, which was considered appropriate level of detail given the analyses assumptions. This level of detail is sufficient for use in an R&R program.

Where pipe age was unknown, the age was conservatively assumed to be constructed in the 1950s for CI pipe and 1970s for DI pipe. Where pipe material was unknown, pipes installed before or during the 1970s were assumed to be CI pipe, and pipes installed after the 1970s were assumed to be DI pipe. Where neither pipe age nor material were known, the pipes was assumed to be a 1950s CI pipe.

The replacement decade for each category of pipe is presented in Table 4.5. The City's oldest piping, which are anticipated to reach the end of its usable life by the 2020s, are raw water lines from the surface water sources and the transmission main to Butler reservoir. The City is currently repairing/lining the raw water line from the slow sand filtration plant to the system that is in poor condition. Therefore, it is anticipated that the remainder of the raw water line will likely need some level of repair or replacement in the short to medium-term. Butler Reservoir and its transmission main (12,500 feet of 12-inch piping) should be abandoned if the proposed 343 Cemetery Reservoir is constructed. However, if the Butler Reservoir remains in service, the City should consider R&R of this piping in the mid- to long-term.

Much of the City's CI piping is anticipated to reach the end of its useful life by end of the planning period (2035). The majority of the City's CI pipe was installed in two periods: before 1955 and 1959 to 1960. It is recommended that the pipes installed on or before 1955, about 50,000 linear feet, be replaced in the 2020s. Replacement of those installed between 1959 and 1960, approximately 123,000 linear feet, are recommended to be replaced in the 2030s. Additionally, replacement of the majority of steel pipe, approximately 30,000 linear feet, is recommended in the 2030s. City's DI pipe along with some of the newer CI, PVC, and Steel pipe is not anticipated to reach the end of its useful life until after the planning period.

Table 4.5 Remaining Useful Life Water System Plan Update City of Camas				
Replacement Decade	**2020-2030**	**2030-2040**	**2040 or Later**	**Total by Material**
CI	50,000	122,900	13,100	**186,000**
DI	0	0	519,500	**519,500**
PVC	0	0	6,900	**6,900**
Steel	0	30,500	12,000	**42,500**
Total by Decade	**50,000**	**153,400**	**551,500**	**754,900**

Figure 4.5 presents the total length of pipe reaching the end of its assumed useful life by decade. The location of these pipes is shown in the map in Figure 4.6. The pipe recommended for replacement represents the majority of the City's downtown and surrounding areas. Pipes reaching their RUL serve all types of customers, including commercial, industrial, and residential customers. Pipes that exceed their useful life will continue to provide service, but are at a greater risk for pipe breaks and may have increased leakage. Therefore, replacement should be prioritized to base on criticality to the system to best manage the aging distribution infrastructure within the City's available budget.

4.8.4 Pipeline R&R Program

During the short and medium-term, it is recommended that the City maintain an annual R&R program to address localized issues or to participate in joint projects that cost-effectively replace aging piping. A programmatic approach is not recommended for the 50,000 feet of pipe to be replaced in the 2020s, but is recommended in the future. Due to its 37,500 feet length, a one-time CIP project is recommended to address the remaining raw water piping. As previously mentioned, the 12,500 feet of 2020s piping associated with the Butler Reservoir will likely be abandoned, rather than repaired and replaced.

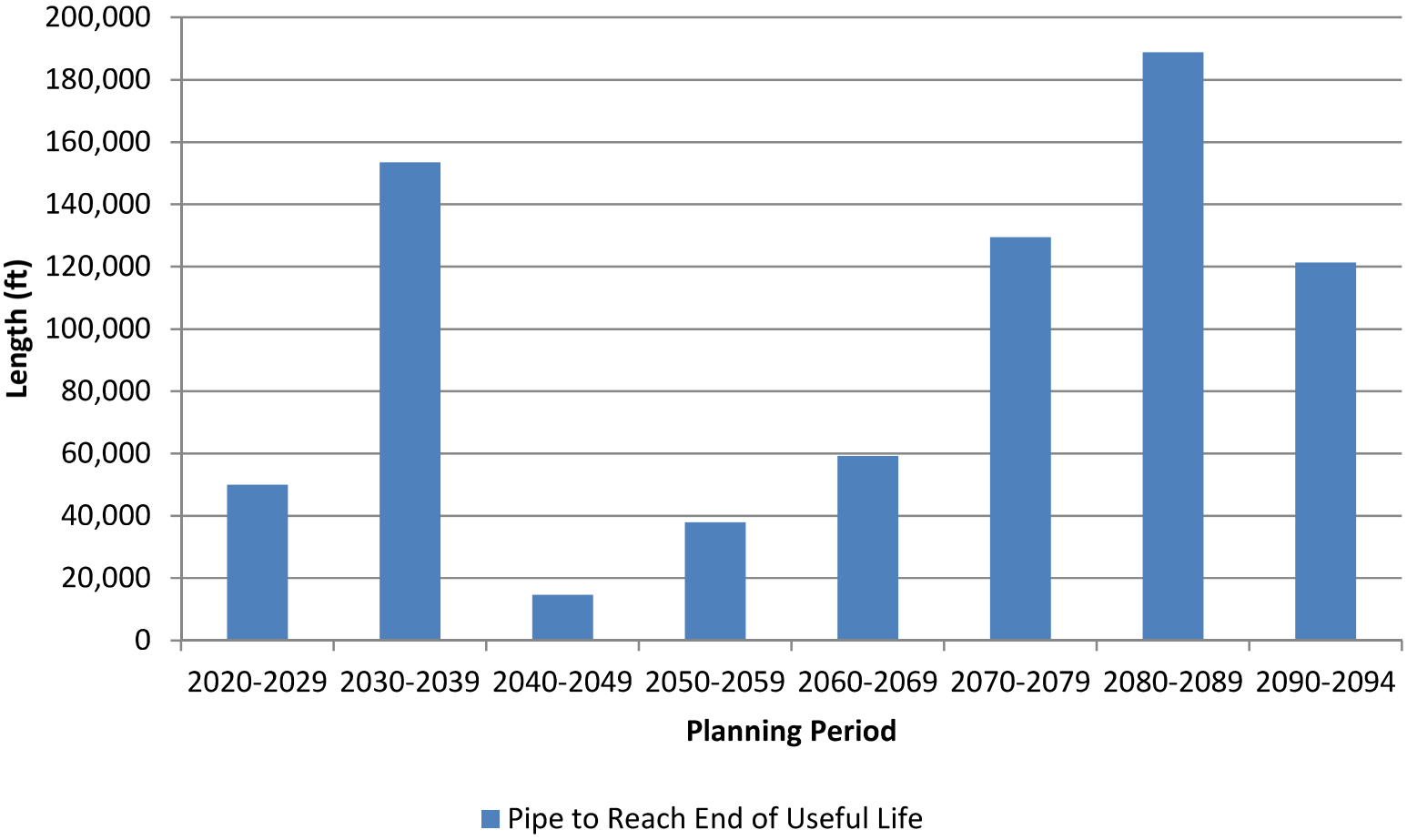
The City water main R&R program will need to be expanded during the long-term planning horizon (late 2020s and 2030s) to address aging infrastructure near downtown that is anticipated to reach the end of its usable life in the 2030s. Approximately 15,300 linear feet of pipe per year would need to be replaced in the mid– to long-term. Small diameter mains (2-inch to 6-inch) should be upsized to 8-inch to meet current City standards. To gain economies of scale, the City should consider geographically concentrated projects that incorporate other utilities, such as sewer main R&R and roadway resurfacing.

4.9 O&M IMPROVEMENTS

The City has a well operated and maintained system. Condition Assessments identified repair and replacement projects for above ground assets (i.e., pump stations, wells, and reservoirs, etc.). The majority of projects were necessary due to aging electrical equipment and normal replacement of pumps and motors. The City plans to replace two reservoirs, built prior to 1940, that have reached the end of their usable life. A PRV study is recommended to evaluate settings, condition, and address normal, minor maintenance issues.

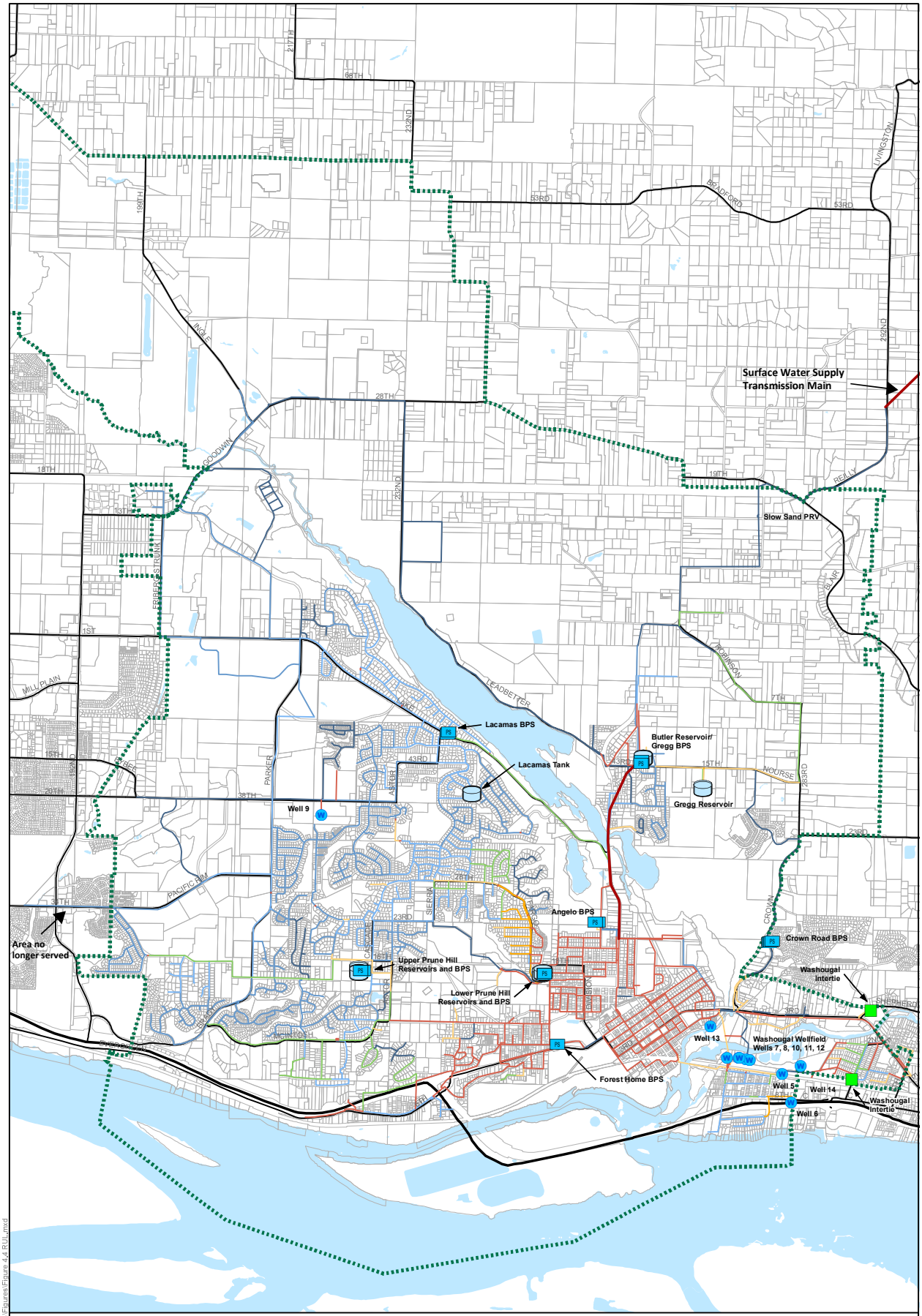
The RUL of the City's water mains were estimated to aid in planning for an annual pipeline repair and replacement program. The RUL analysis and recent operation challenges indicate that the City's surface water transmission mains are likely reaching the end of their usable life. It is anticipated that the piping in Downtown and surrounding areas will begin to reach the end of their life in the long-term planning horizon (2025 – 2035). The City's long-term goal is to create a risk prioritized water infrastructure rehabilitation program that addresses above and below ground assets. However, at this time, the City's financial resources are focused on meeting the rapid growth occurring in Camas.

To gain economies of scale during the replacement, the City should consider geographically concentrated projects that incorporate other utilities, such as sewer main R&R and roadway resurfacing.



LENGTH OF PIPE REPLACEMENT BY DECADE

FIGURE 4.5



REMAINING USEFUL LIFE

FIGURE 4.6

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

Document Path: E:\KRC D DRIVE\CAMAS\Figures\Figure 4.4 RUL.mxd

Chapter 5

WATER REQUIREMENTS

Projecting realistic future water requirements, i.e. demand, is necessary for planning infrastructure projects and securing adequate water supply to meet future growth. Future water demands are a key component of the water system analyses presented in this Plan and in the City of Camas' (City's) Capital Improvement Program (CIP). Accurate demand projections require a thorough review of historical water use, predicting where and how much growth will occur, and estimating the future water use for existing and new customers.

Historical data provides the City's unique water use over a long period of time, which captures the range of water use due to weather, economic conditions, conservation practices, and other factors. This Chapter presents an analysis of historical water use from 2008 to 2015 based on customer billing and production records. These data provide information on the City's different types of customers, as well as water use parameters on an average annual basis, seasonally, and for the maximum day. Historical water use patterns and parameters were established from these data to predict future water use for existing and new customers.

Demographic projections were used to predict where and how much demand will occur in the water system. The demographic projections were developed based on the City's comprehensive planning. Future customer accounts were developed based on existing customer accounts and the demographic growth rates of each Service Area. The resulting future accounts were converted to projected demands using the historical water use patterns and parameters.

Demand projections were generated for the planning period of 2015 to 2035 for the City's established Retail Water Service Area (RWSA). The projections were divided into three planning scenarios:

- Short-term, 6-year (2015 - 2021).
- Medium-term, 10-year (2022 - 2025).
- Long-term, 20-year (2026 - 2035).

Dividing the planning period into three scenarios aids in the development and phasing of improvement projects and the CIP, as well as being consistent with Washington Department of Health (DOH) requirements.

Demand projections were expressed as Equivalent Residential Units (ERUs), average day demand (ADD), and maximum day demand (MDD). One ERU is defined as the average quantity of water beneficially used by one average, full-time, single-family residence per day. The quantity of water used by other customer classes, and by the whole system, can be expressed in terms of ERUs. The ADD is typically used in operational evaluations. It is

calculated by dividing the total water produced by the number of days per year (2008 and 2012 were leap years and include 366 days per year). The MDD represents the single largest day water demand during the year and is a key parameter for infrastructure sizing.

Changes in water use, conservation activities, system growth, and other factors may result in higher or lower than projected water use. Planning for the potential changes allows the City to better manage potential risks from these changes. For example, lower than projected water use may be a concern for the City's financial planning, while higher than projected water use may be a concern for water supply planning. Therefore, three demand scenarios were developed: Low, Medium, and High demand scenarios. The low demand scenario represents future demand with conservation; the high demand scenario generally reflects the highest demands in the last eight years; the medium demand scenario is a conservative projection between the low and high projections. Details on the historical water use, demographic projections, and demand calculations used to develop these projections are presented in this Chapter.

5.1 HISTORICAL WATER USE

Historical water use data, i.e., consumption data, were obtained from City records to characterize the demands of the City's customers. Annual water use data for the years 2008 to 2015 were used to develop historical demand patterns and parameters, which represent current and likely future water use. Two key demand parameters were generated from the data: typical water use per customer class, and typical water use per ERU. These parameters were used as the basis of future demand projections.

5.1.1 Historical Accounts

The City customers were divided into six customer classifications. These customer classes are:

- City Accounts.
- Commercial.
- Industrial.
- Irrigation.
- Multifamily Residential (MFR).
- Single-family Residential (SFR).

The number of accounts for each customer class is summarized in Table 5.1. As seen in the table, SFR makes up approximately 89 percent of accounts. The total number of accounts has increased by approximately 32 percent from 2008 to 2015 due to growth and development in the City.

Table 5.1 Historical Number of Accounts by Customer Class Water System Plan Update City of Camas							
Year	**SFR**	**MFR**	**Commercial**	**Industrial**	**City**	**Irrigation**	**Total**
2008	4,205	159	163	27	37	121	**4,712**
2009	4,518	237	174	28	49	129	**5,135**
2010	4,851	250	182	28	48	133	**5,492**
2011	5,194	257	189	28	35	145	**5,848**
2012	5,523	271	217	33	52	151	**6,247**
2013	6,002	305	217	34	55	160	**6,773**
2014	6,499	342	237	36	56	175	**7,345**
2015	7,157	369	244	38	57	179	**8,044**
Avg.	5,494	274	203	32	49	149	**6,200**
Avg. Percent Per Class	89.0%	4.6%	3.0%	0.5%	0.7%	2.2%	

The City's top ten water users, herein termed "Large Users," were also evaluated in this study. The Large Users class includes the following customers: Wafertech Industries, Linear Technologies, Georgia Pacific Mill, Camas School District, the City of Camas, Underwriter's Labs, SE Incorporated, Sharp Electronics, Bodycote, and Karcher North America. These customers are the largest water users in their Service Areas, which warrants careful consideration. Therefore, individual demand projections were developed for each Large User to provide additional accuracy in the demand projections, as well as the system analyses. The development of the Large User demand projections is detailed in Section 5.6.2.

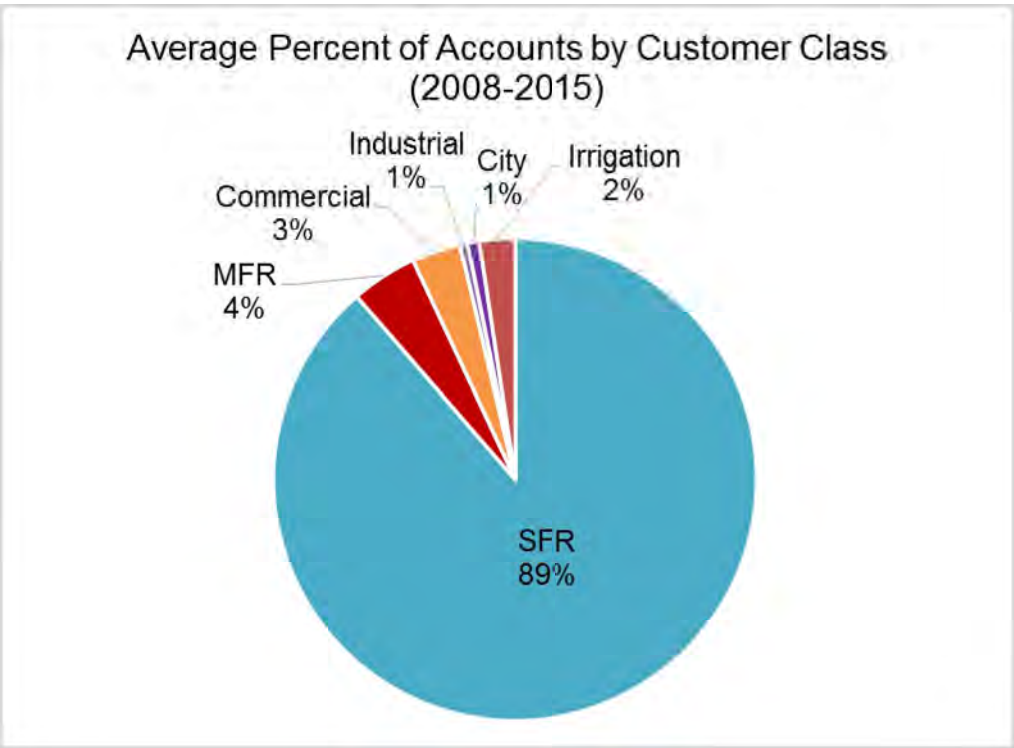
5.1.2 Historical Consumption

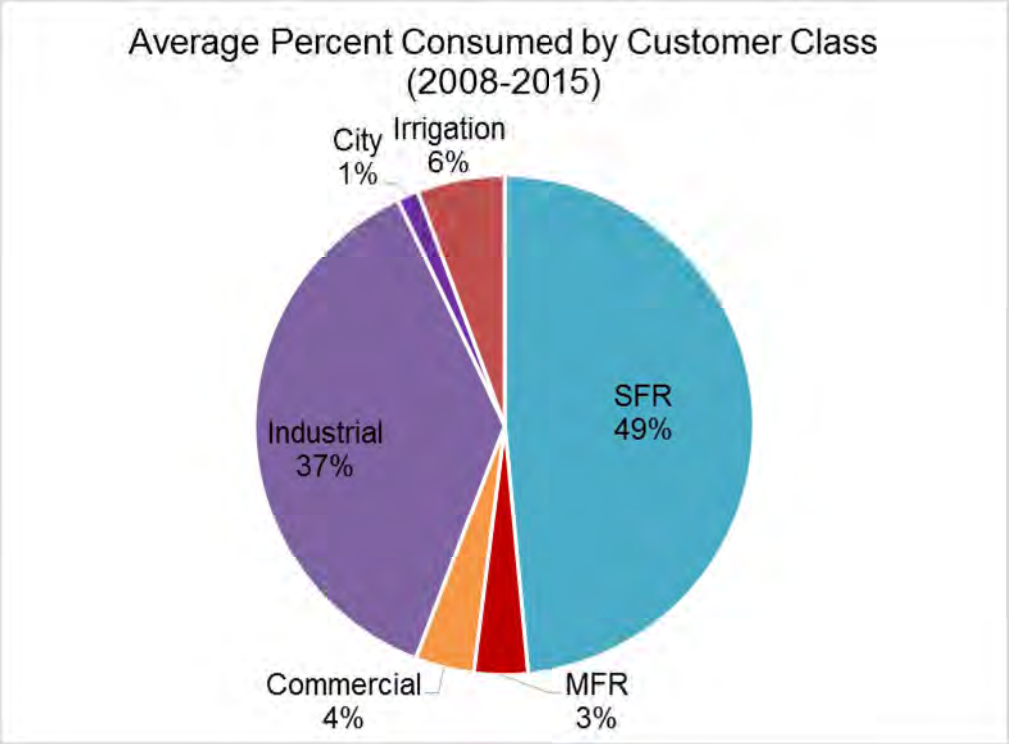
The City’s historical annual water consumption was provided for each customer class based on City billing data, as presented in Table 5.2 in units of million gallons per day (mgd). The table also includes the average, 75th percentile, and 3-year average statistics on historical consumption. Notably, total demand has increased over the 2008 to 2015 period for every customer class except City. This increase is due to the increase in number of connections shown in Table 5.1.

Table 5.2 Historical Water Demand by Customer Class (mgd)
Water System Plan Update
City of Camas

Year	SFR	MFR	Commercial	Industrial	City	Irrigation	Total
2008	1.46	0.10	0.13	1.17	0.04	0.15	**3.05**
2009	1.62	0.11	0.13	1.12	0.06	0.15	**3.18**
2010	1.47	0.11	0.12	1.19	0.03	0.12	**3.05**
2011	1.49	0.12	0.11	1.22	0.03	0.18	**3.16**
2012	1.59	0.11	0.13	1.21	0.04	0.19	**3.28**
2013	1.66	0.12	0.12	1.21	0.04	0.19	**3.34**
2014	1.60	0.11	0.12	1.34	0.05	0.22	**3.43**
2015	1.84	0.12	0.14	1.29	0.08	0.28	**3.76**
Avg.	1.59	0.11	0.12	1.22	0.05	0.19	**3.28**
75th Percentile	1.63	0.12	0.13	1.24	0.05	0.20	**3.37**
3-Year Avg.	1.70	0.12	0.13	1.28	0.05	0.23	**3.51**

The average percentage of accounts and annual water consumption by customer class from 2008 to 2015 are presented in Figure 5.1. Comparing accounts and water consumption illustrates the differences in water use between the customer classes. As seen in these figures, SFR customers represent 89 percent of the accounts, yet only comprise 49 percent of the demand. By contrast, industrial customers represent less than one percent of the accounts, but account for 37 percent of the total demand. This difference in proportional water use was quantified by comparing the historical water use per account for each customer class (in Table 5.3), as described in the Section 5.1.3.





DISTRIBUTION OF WATER CONSUMPTION AND ACCOUNTS BY CUSTOMER CLASS

FIGURE 5.1

CITY OF CAMAS
WATER SYSTEM PLANT UPDATE

5.1.3 Water Use per Account and Equivalent Residential Units

The demand of each customer class can be expressed in terms of ERUs for forecasting and planning purposes. As discussed previously, one ERU is defined as the average quantity of water beneficially used by one average, full-time, single-family residence per day. Importantly, the ERU calculation is based on historical consumption (i.e., billing records) and therefore does not include distribution system leakage.

Table 5.3 shows the historical annual average water consumption by customer classification. The table also includes the average, 75th percentile, and 3-year average consumption statistics. Based on the data from 2012 through 2015, the average quantity of water used by one typical, full-time single-family residence ERU is equal to 260 gallons per day (gpd). From 2008 through 2015, the 75th percentile of water consumption per ERU was 315 gpd.

Table 5.3 Historical Annual Water Use per Account (gpd/account)
Water System Plan Update
City of Camas

Year	SFR	MFR	Commercial	Industrial	City	Irrigation
2008	348	651	781	43,273	994	1,273
2009	358	468	736	40,100	1,127	1,149
2010	304	450	634	42,480	718	914
2011	288	465	608	43,617	887	1,235
2012	288	419	582	36,743	819	1,275
2013	277	400	565	35,573	693	1,185
2014	246	324	514	37,180	842	1,232
2015	258	326	584	34,066	1,382	1,585
3-Year Avg.	**260**	350	555	35,606	972	1,334
Avg.	**290**	417	616	38,718	936	1,244
75th Percentile	**315**	466	659	42,679	1,027	1,274
ERUs per Account(1)	**1.0**	**1.5**	**2.1**	**135.7**	**3.3**	**4.1**

Notes:
(1) ERUs per Account based on 75th percentile of annual water consumption.

Compared to other utilities evaluated by Carollo Engineers, the City's water use per SFR account appears slightly high, possibly indicating larger properties requiring irrigation or lower than usual replacement rates of high-flow appliances and fixtures. Additionally, the City's MFR water use per account appears low, possibly due to a higher percentage of low-density MFR accounts (such as tri-plexes or quad-plexes), or due to monitoring MFR irrigation needs in separate irrigation meters (under the "Irrigation" customer category).

Calculating the City's water use in terms of ERUs provides a means to express water use by non-residential customers as an equivalent number of SFR accounts. The ERUs per account for MFR and all non-residential accounts are obtained by dividing the average water use per account for each customer class by the ERU water use. For example, the average Commercial account uses approximately 2.1 times the water use of an average SFR account; therefore, each Commercial account is equivalent to 2.1 ERUs. Table 5.3 presents the ERUs per account for each customer class based on 75th percentile of historical water use. The number of ERUs per account ranges from 1.5 for MFR accounts to 135.7 for Industrial accounts.

5.2 SEASONAL DEMANDS

The pattern of water consumption differs between the customer classes. Water use increases significantly during the summer when daylight hours are longer and lawn and landscape watering is prominent. Other outdoor uses, including car washing and recreation, are also at their highest during summer months. Figure 5.2 presents average total monthly consumption by customer class from 2008 through 2015. Note that, with some exceptions, the City conducts bi-monthly meter reading; therefore the water consumption was averaged between months to better reflect the actual water consumed in the month.

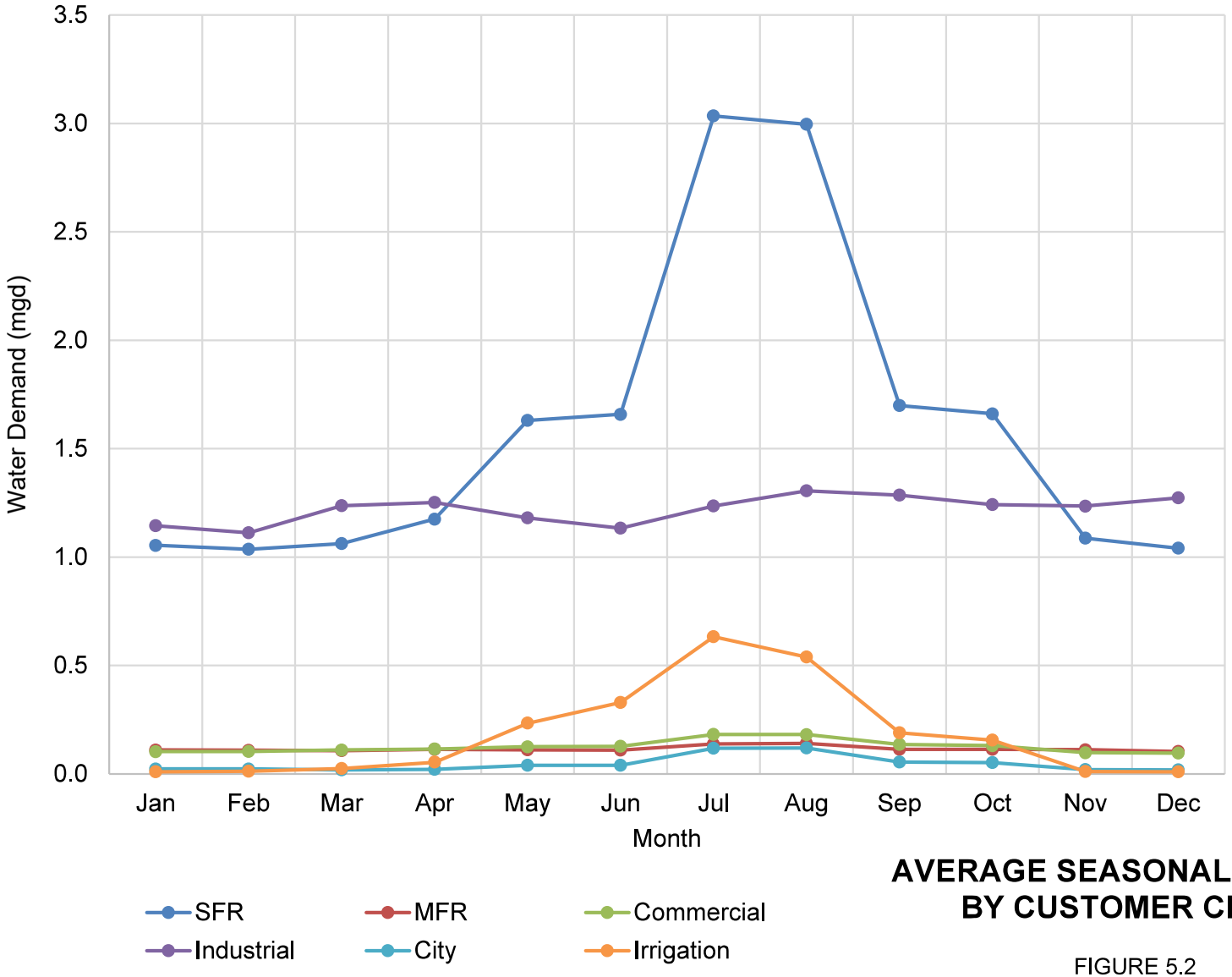
As seen in Figure 5.2, SFR and irrigation accounts show a significant peak in total consumption during the summer months. By contrast, industrial users do not demonstrate significant seasonal variation in demand. These monthly variations in demand for each customer class can be used to target water use efficiency efforts and/or to project future water-use patterns for planning purposes.

5.3 HISTORICAL PRODUCTION

The historical average and maximum water demands are important parameters when performing system and supply analyses. The term “water demand” refers to all the water requirements of a system including metered customers, unmetered water use, and unaccounted-for water such as leakage. For this reason, the City’s production data, which accounts for all water demand, was used to calculate the ADD and MDD for each year. Additionally, historical production allows the City to track system-wide demands on a daily basis, rather than monthly or bi-monthly billing records.

5.3.1 Distribution System Leakage

Distribution System Leakage (DSL) represents the difference between production and documented water use (retail and authorized unmetered). It may include inaccurate master and service connection meters, unaccounted-for non-revenue water use, pipeline leakage, and unauthorized use. DSL does not include authorized water usage such as water used for fire protection, flushing, construction, and other maintenance and operations practices. However, to be credited, this usage must be metered or estimated using credible means.



AVERAGE SEASONAL DEMAND BY CUSTOMER CLASS

FIGURE 5.2

CITY OF CAMAS
WATER SYSTEM PLANT UPDATE

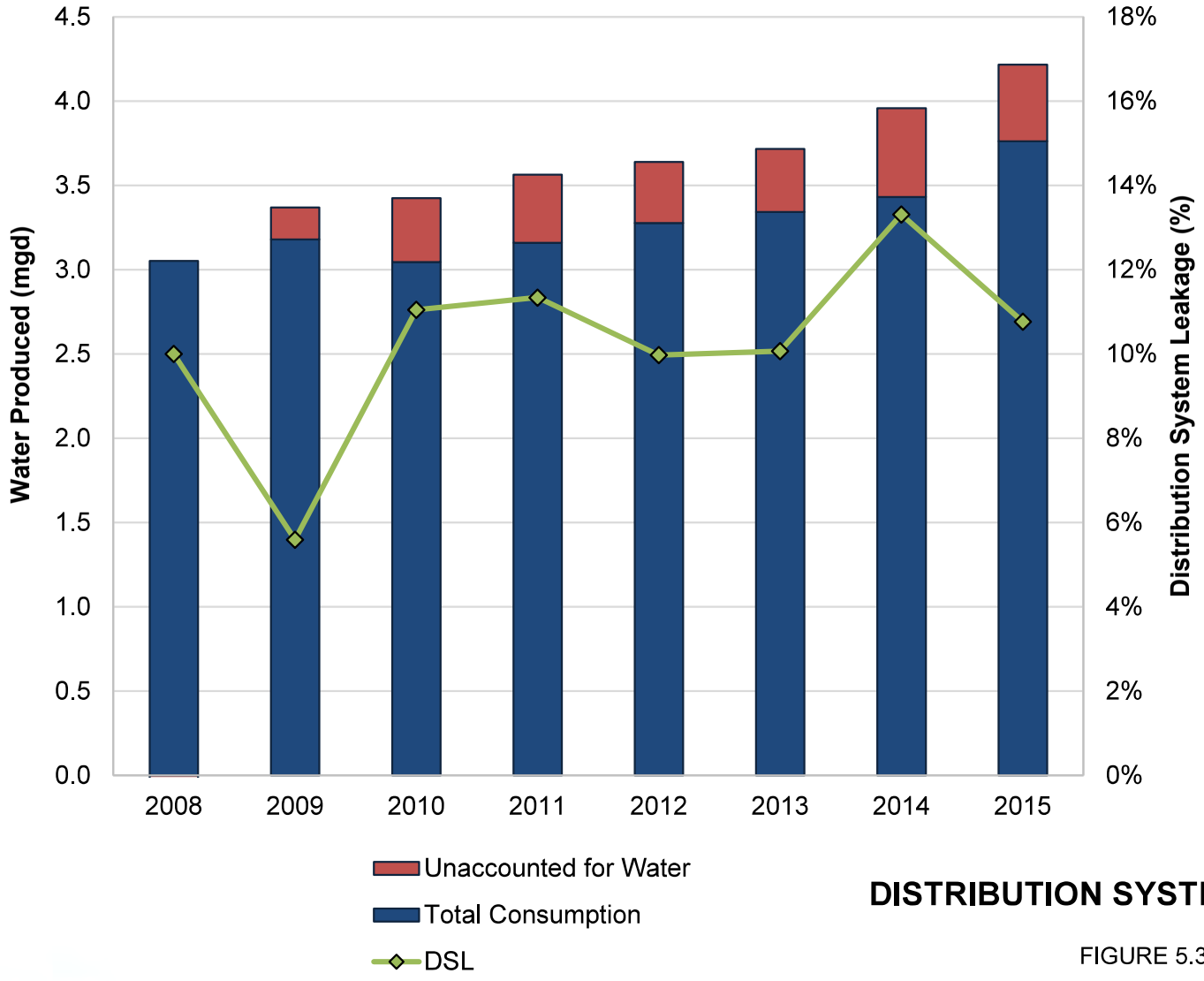
DSL is calculated as the difference between the total amount of water produced and the sum of water sold and authorized unmetered water usage. The City's total water production and consumption in millions of gallons, or MG, as well as estimates of DSL for 2008 through 2015 are shown in Table 5.4 and presented graphically in Figure 5.3. The City's average annual DSL over the period was 10.3 percent.

Table 5.4 Historical Distribution System Leakage
Water System Plan Update
City of Camas

Year	Total Production (MG)	Total Consumption (MG)	Unaccounted for Water (MG)	DSL (%)
2008(1)	1,086	1,117	-31	10.0%
2009	1,230	1,161	69	5.6%
2010	1,250	1,112	138	11.1%
2011	1,301	1,153	147	11.3%
2012	1,332	1,199	133	10.0%
2013	1,357	1,220	137	10.1%
2014	1,445	1,253	192	13.3%
2015	1,539	1,373	166	10.8%
			Average	**10.3%**

Notes:

(1) In 2008, the total consumption reported by the City exceeded the total reported production. Therefore, these data are considered erroneous and a DSL of 10.0% was assumed instead for 2008 to be consistent with other years in this period.



DISTRIBUTION SYSTEM LEAKAGE

FIGURE 5.3

CITY OF CAMAS
WATER SYSTEM PLANT UPDATE

5.3.2 Historical Average and Maximum Demands

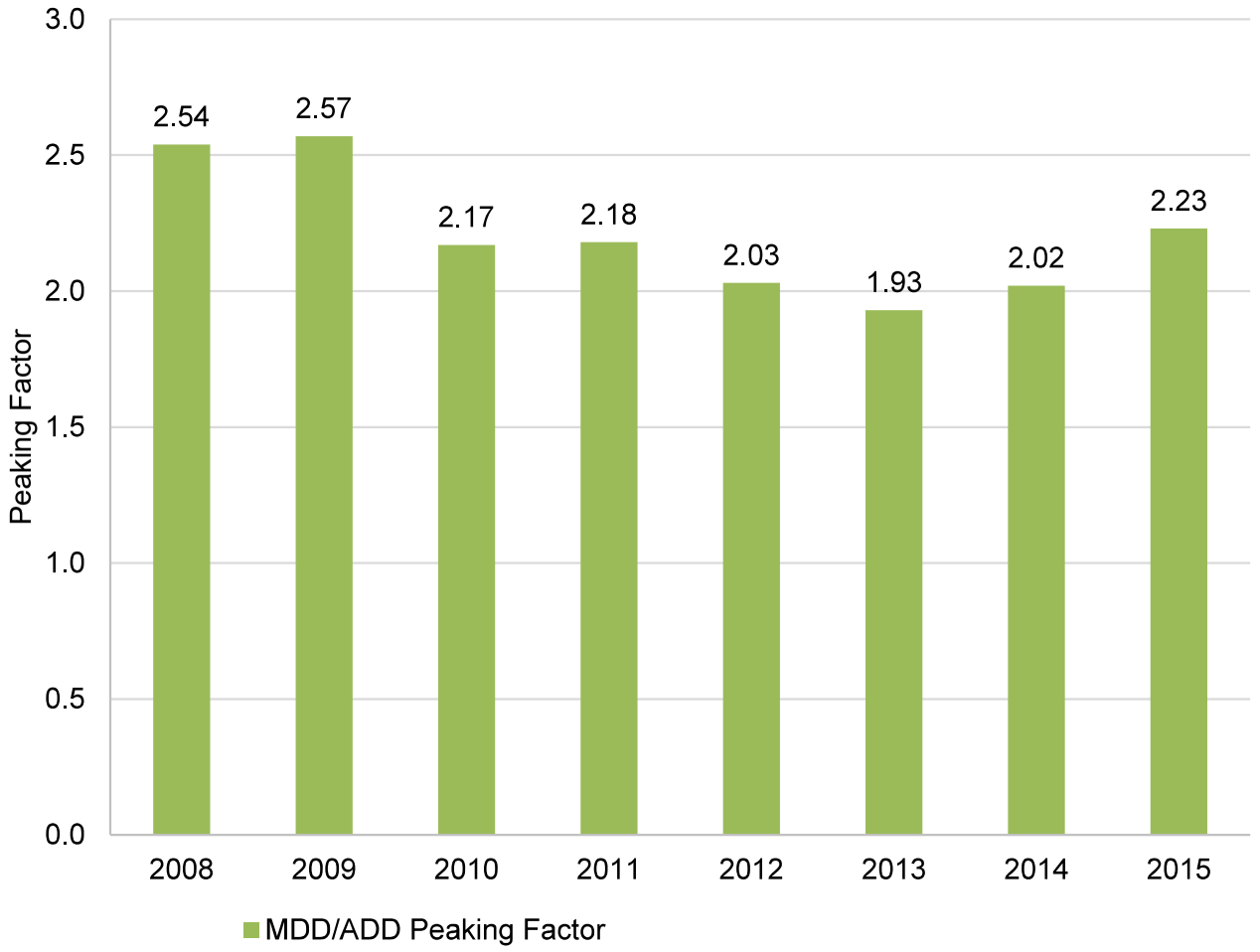
The City produces water for its customers through ten wells and two surface water sources. Table 5.5 presents the ADD and MDD (based on production) for the period of 2008 through 2015. The average annual water produced from 2008 through 2015 was 1,317 million gallons per year. The average ADD over the period was 3.61 mgd. The annual ADD trends strongly upward over this period, reflecting the growing number of City water customers.

Table 5.5 Historical Average Production, Maximum Day Demand, and Peaking Factor
Water System Plan Update
City of Camas

Year[1]	Date of MDD	MDD (mgd)	ADD (mgd)	Peaking Factor
2008	8/16	7.55	2.97	2.54
2009	7/31	8.65	3.37	2.57
2010	8/15	7.42	3.42	2.17
2011	8/20	7.76	3.56	2.18
2012	8/16	7.39	3.64	2.03
2013	7/27	7.19	3.72	1.93
2014	8/9	7.99	3.96	2.02
2015	7/4	9.40	4.22	2.23
	3-year Avg.	**8.19**	**3.96**	**2.06**
	75th Percentile	**8.48**	**3.90**	**2.46**
	Maximum	**9.40**	**4.22**	**2.57**

The MDD is a key benchmark for supply capability, pump station discharge rates, reservoir capacity, and pump sizes. The MDD is the highest production in one day in a given year, and usually occurs during the summer when irrigation is prevalent. Table 5.5 presents the historical MDD from 2008 to 2015. MDD is less dependent on indoor water use (which drives the ADD), and more dependent on irrigation. The highest MDD value (9.40 mgd) occurs in 2015, which had record-setting high temperatures and low rainfall. The next highest MDD occurred in 2009, six years earlier.

The last column of Table 5.5 presents the historical MDD to ADD peaking factor, which normalizes the historical data to compare between years. The peaking factor is also a key parameter in developing the future MDD projections, as discussed later in this chapter. The maximum peaking factor of 2.57 occurred in 2009 and the minimum peaking factor of 1.93 occurred in 2013. The MDD to ADD peaking factor over the period is shown graphically in Figure 5.4. Figure 5.4 illustrates the variability in the peaking factor over the period. Section 5.6.4 discusses the peaking factor to be used for future projections.



MDD/ADD PEAKING FACTOR

FIGURE 5.4

CITY OF CAMAS
WATER SYSTEM PLANT UPDATE

5.4 DEMOGRAPHIC FORECAST

Demand projections depend on the future number of customers to be served by the City's water system. Thus, demographic forecasts of future population and employment must be made to establish an estimate of the future number of customers. A demographic analysis consistent with regional growth planning was performed to estimate the number and type of the future customer accounts served by the City's water system. Converting the number of accounts into demand projections is discussed in Section 5.6.

5.4.1 Land Use

Land use designations and regulations provide important information in determining future water requirements. Land use determines the area available for various types of development including both SFR and MFR development, as well as commercial and other types of land use that provide the economic base necessary to support residential development.

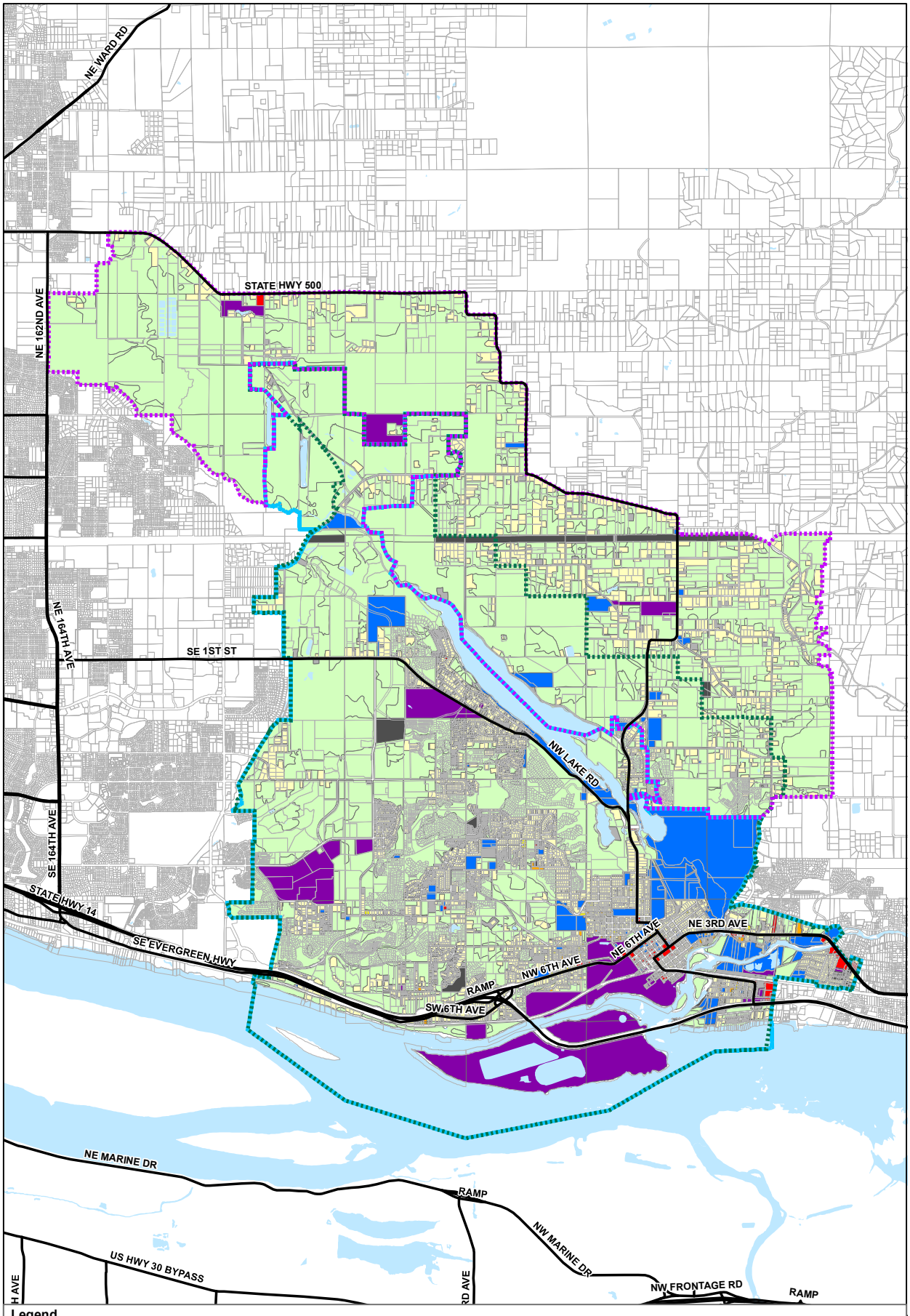
5.4.1.1 Existing Land Use

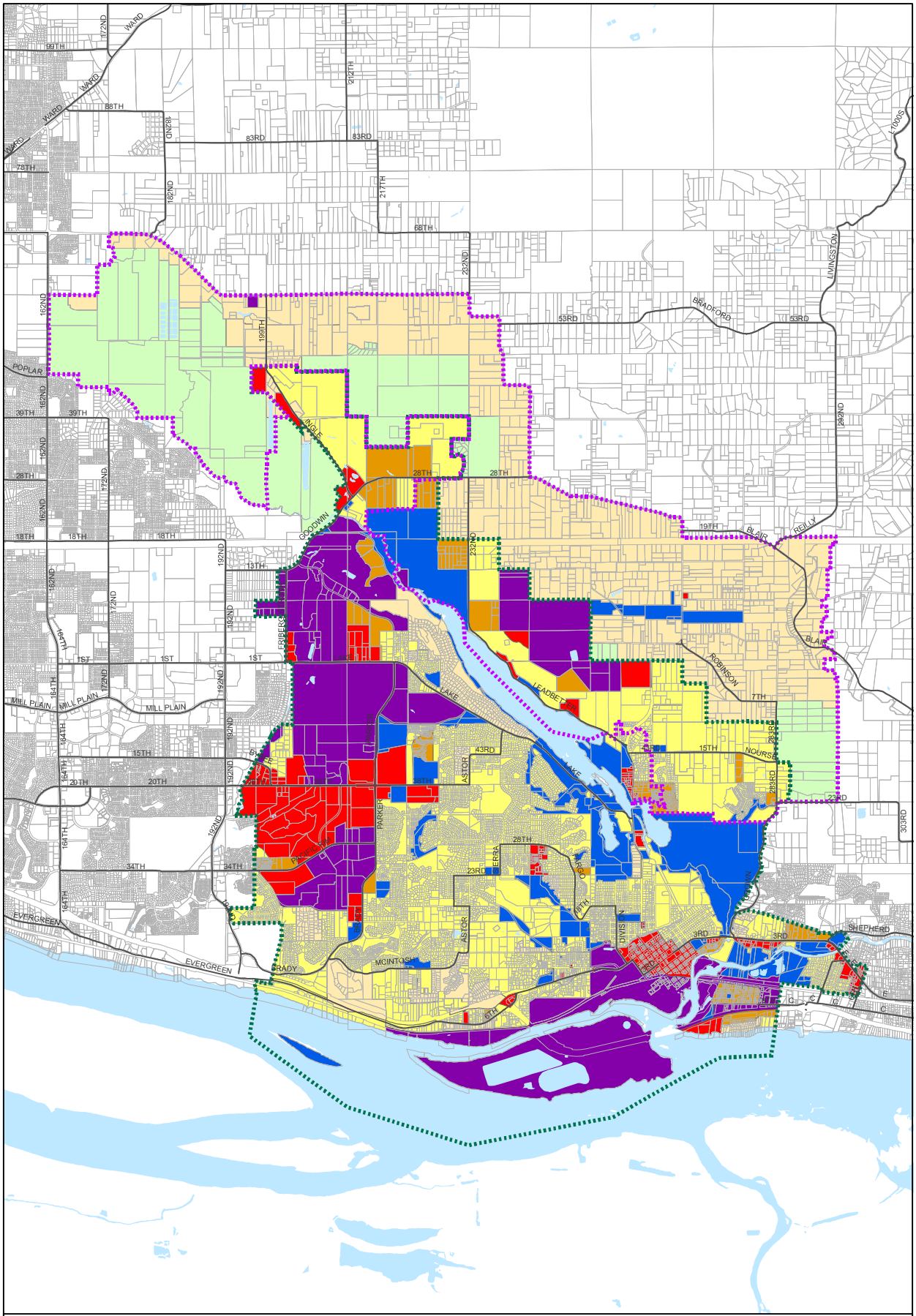
Figure 5.5 depicts the best available data on existing land use from Clark County GIS data developed for the 1994 Growth Management Act. Because these GIS data are not up-to-date, existing water customers were derived using the City's up-to-date meter data. Each metered account was assigned an address and one of the six customer classes. Using GIS, these metered accounts were geocoded to correspond to a geographic location within a Service Area.

Note that in Figures 5.5, 5.6, and 5.7, the North Shore Urban Growth Area (UGA), or North Shore UGA, refers to the entirety of Service Area 542, but only the portion of this area within the RWSA is incorporated into the demand projections. Note that in Figures 5.5, 5.6, and 5.7, City services in Vancouver, Washington were not included in the demographic forecast.

5.4.1.2 Future Land Use

Future land use designations were obtained from the City's 2035 Comprehensive Plan (Camas 2016). These future land use designations are depicted in Figure 5.6. The future land use designations are used to evaluate the 20-year development conditions as described below.


NE WARD RD
STATE HWY 500
NE 162ND AVE
NE 164TH AVE
SE 1ST ST
SE 164TH AVE
NW LAKE RD
STATE HWY 14
SE EVERGREEN HWY
NE 6TH AVE
NE 3RD AVE
NW 6TH AVE
RAMP
SW 6TH AVE
NE MARINE DR
RAMP
NW MARINE DR
US HWY 30 BYPASS
NW FRONTAGE RD
RAMP
Legend
Major roads
North Shore Urban Growth Area
Retail Water Service Area
Coordinated Water System Boundary
Parcels
Water
Existing Land Use
Residential Low
Residential Medium
Residential High
Commercial
Public/Institutional
Industrial
Forest; Brush; Agriculture
Vacant
Unknown
0
0.6
1.2
Miles
EXISTING LAND USE
FIGURE 5.5
CITY OF CAMAS
WATER SYSTEM PLAN UPDATE
carollo



FUTURE LAND USE PER COMPREHENSIVE PLAN

FIGURE 5.6

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

5.4.2 Demographic Growth Rates

The demographic forecasts include an estimated rate of growth and a low and high development cap in each Service Area. In 2035, The City is expected to have a population of 34,098 people, and 11,255-person increase from the 2015 population of 22,843 (Camas 2035, 2016). Rates of growth were based on housing and employment estimates per Transportation Analysis Zones (TAZs) for the City. Camas's water system has five Service Areas encompassing 65 different TAZs. Each Service Area contains multiple TAZs and the boundaries do not coincide. The percentage of each TAZ within each Service Area was estimated using GIS. To estimate the rates of growth in each Service Area, the existing and projected households and employees for each TAZ were allocated to the Service Area in which they lie according to the percentage of their area in that Service Area. A map of the TAZs and Service Areas is shown in Figure 5.7.

Two scenarios were considered for build-out capacity:

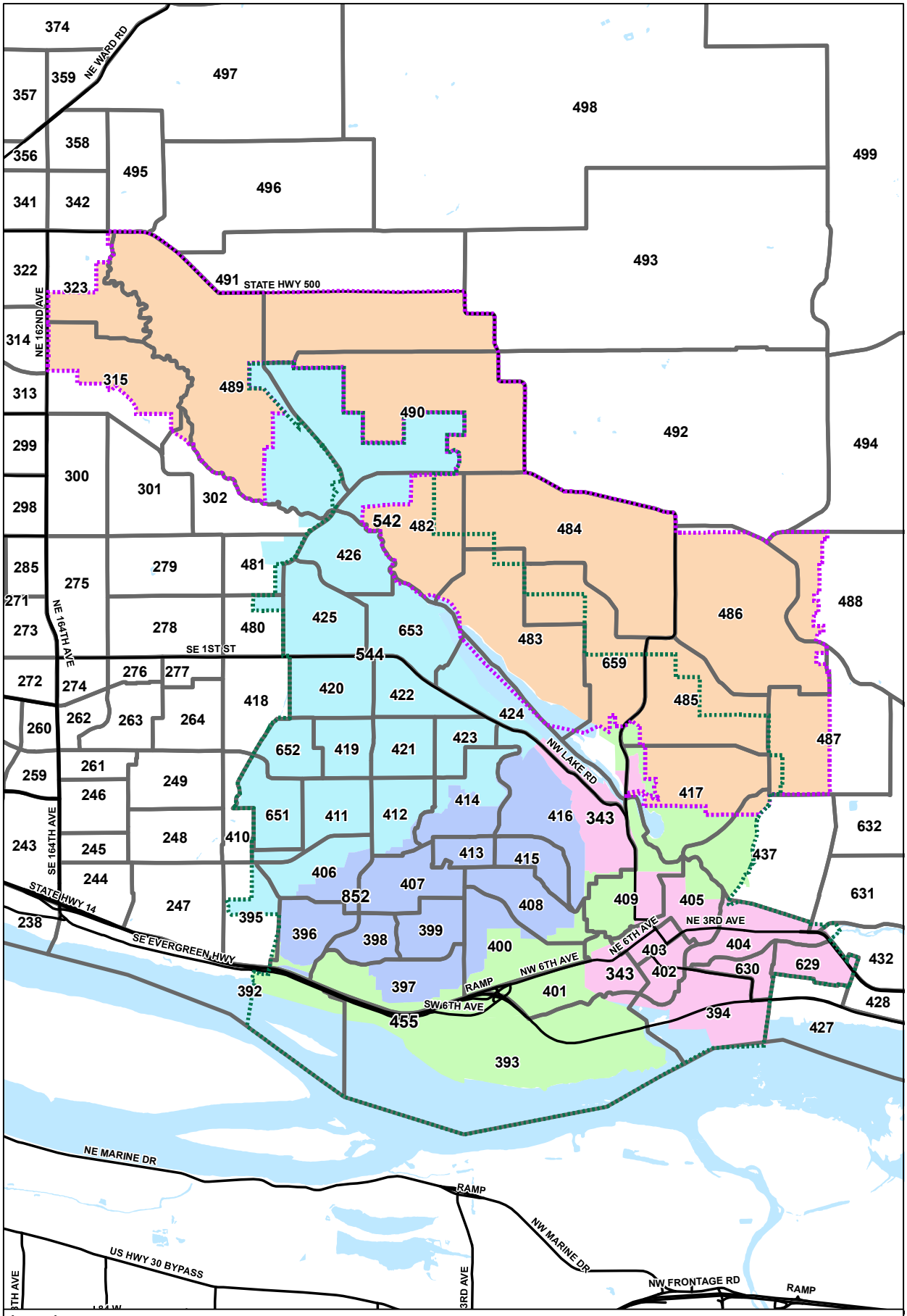
- High Growth Scenario: this scenario assumes full development of the City according to the City's Comprehensive Plan representing maximum allowable buildout in 2035.
- Low Growth Scenario: this scenario assumes development of all currently vacant and underutilized lots according to the Comprehensive Plan; however, currently developed properties do not redevelop according to the Comprehensive Plan.

These growth scenarios establish a limit on demographic growth within each Service Area. To estimate households and employees from land use data, the following employee and household density assumptions were used based on the 2015 Clark County Buildable Lands Report:

- SFR: 6 households per acre.
- MFR: 18 households per acre.
- Commercial/City: 20 employees per acre.
- Industrial: 9 employees per acre.

When the projected number of households or employees within a Service Area reached these density limits, no more households or employees were added and household or employee growth within that Service Area was considered "capped."

The final household and employee growth rates were calculated for each Service Area based on the low and high growth scenarios. Medium growth scenario growth rates were calculated as the average between the low and high growth scenarios. Table 5.6 summarizes overall growth within the Service Area for each of the planning years from 2015 to 2035. The table presents total growth compared to 2015 for each of the planning years, and the average annual growth rate.



TRANSPORTATION ANALYSIS ZONES AND SERVICE AREAS

FIGURE 5.7

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

Table 5.6 Retail Water Service Area Demographic Growth Rates
Water System Plan Update
City of Camas

Service Area	Demographic Growth Type	2021			2025			2035		
		L	M	H	L	M	H	L	M	H
343	Households (overall)	3.7%	3.7%	3.7%	6.2%	6.2%	6.2%	12.4%	12.4%	12.4%
	Employees (overall)	1.4%	1.4%	1.4%	2.3%	2.3%	2.3%	4.5%	4.6%	4.6%
455	Households (overall)	16.0%	16.0%	16.0%	26.7%	26.7%	26.7%	35.4%	44.4%	53.3%
	Employees (overall)	0.8%	0.8%	0.8%	1.3%	1.3%	1.3%	2.6%	2.6%	2.6%
542 Non-Sewer(1)	Households (overall)	58.8%	58.8%	58.8%	97.9%	97.9%	97.9%	195.8%	195.8%	195.8%
	Employees (overall)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
544	Households (overall)	15.0%	15.0%	15.0%	24.9%	24.9%	24.9%	49.9%	49.9%	49.9%
	Employees (overall)	15.3%	15.3%	15.3%	25.5%	25.5%	25.5%	46.8%	48.9%	51.0%
852	Households (overall)	10.5%	10.5%	10.5%	17.5%	17.5%	17.5%	18.4%	26.7%	35.0%
	Employees (overall)	5.2%	5.2%	5.2%	8.6%	8.6%	8.6%	11.6%	14.4%	17.3%
Overall(2)	Households (overall)	13.1%	13.1%	13.1%	21.8%	21.8%	21.8%	34.3%	38.9%	43.6%
	Employees (overall)	7.5%	7.5%	7.5%	12.5%	12.5%	12.5%	22.5%	23.7%	24.9%
	Households (average annual growth since 2015)	2.2%	2.2%	1.4%	2.2%	2.2%	1.6%	1.7%	1.9%	2.2%
	Employees (average annual growth since 2015)	1.2%	1.2%	1.2%	1.2%	1.2%	1.3%	1.1%	1.2%	1.2%

Notes:

(1) Demographic growth projections were not developed for the 542 Sewer section of Service Area 542, since the 542 Sewer ERU projections were obtained from the City's Sewer Master Plan, as described in Section 5.4.3. See Table 5.10 for ERU projections in the entire Service Area 542.

(2) The overall demographic growth rates presented in this table include only the Service Areas listed, and do not include households nor employees located in the 542 Sewer section of Service Area 542.

The City currently serves several accounts located outside the RWSA based on agreements with adjacent purveyors. These accounts were not grown as expansion of water service in this area is not expected, per the definition of the RWSA. Instead, their 2015 demands were held constant over the entire 20-year planning period.

5.4.3 Service Area 542 Projections

Some exceptions to the methods for projecting growth described in the previous sections were made in Service Area 542. Previous growth projections were developed for this area as part of the City's sanitary sewer planning. Much of Service Area 542 lies within the North Shore UGA Sewer Basins I-IV, as delineated in the City's Sewer Master Plan. For the region of Service Area 542 inside these basins, the ERU projections developed in the Sewer Master Plan were used. The methods used to project growth and development for all other Service Areas were applied exclusively to properties within the RWSA but outside these sewer basins. These two sections of Service Area 542 are referred to as 542 Sewer and 542 Non-Sewer, respectively, to reflect their distinct methods for projecting growth. Additionally, Camas Meadows Golf Course in Service Area 544 was identified as being contained within the North Shore UGA Sewer Basins I-IV. Meters and land corresponding to this property were consequently excluded from Service Area 544 growth and buildout projections.

5.5 PROJECTED NUMBER OF CONNECTIONS

Once growth rates were established, the number of existing accounts was grown by the low, average, and high Service Area growth rates for each Service Area. Existing residential accounts were grown by the estimated household growth rates for each Service Area; existing non-residential accounts were grown by the estimated employment growth rates for each Service Area.

Table 5.7 summarizes the projected number of accounts for each Service Area, excluding Large Users. The projected number of future accounts was then used to develop ERUs and demand projections.

Table 5.7 Account Projections
Water System Plan Update
City of Camas

Service Area	Account Type	Accounts - 2015	Accounts - 2021			Accounts - 2025			Accounts - 2035		
			Low	Med	High	Low	Med	High	Low	Med	High
343	L. Users[1]	13	13	13	13	13	13	13	13	13	13
	COM	169	171	171	171	173	173	173	177	177	177
	IND	3	3	3	3	3	3	3	3	3	3
	IRR	35	35	35	35	35	35	35	35	35	35
	MFR	156	162	162	162	166	166	166	175	175	175
	SFR	1,053	1,092	1,092	1,092	1,118	1,118	1,118	1,183	1,183	1,183
	Total	1,416	1,463	1,463	1,463	1,495	1,495	1,495	1,573	1,573	1,573
455	L. Users	4	4	4	4	4	4	4	4	4	4
	COM	10	10	10	10	10	10	10	10	10	10
	IND	1	1	1	1	1	1	1	1	1	1
	IRR	11	11	11	11	11	11	11	11	11	11
	MFR	132	153	153	153	167	167	167	179	191	202
	SFR	1,150	1,334	1,334	1,334	1,457	1,457	1,457	1,557	1,660	1,764
	Total	1,304	1,509	1,509	1,509	1,646	1,646	1,646	1,758	1,873	1,989
542 Non-Sewer[2]	L. Users	4	4	4	4	4	4	4	4	4	4
	COM	11	11	11	11	11	11	11	11	11	11
	IND	-	-	-	-	-	-	-	-	-	-
	IRR	6	6	6	6	6	6	6	6	6	6
	MFR	1	2	2	2	2	2	2	3	3	3
	SFR	295	435	435	435	529	529	529	764	764	764
	Total	313	454	454	454	548	548	548	784	784	784
544	L. Users	24	24	24	24	24	24	24	24	24	24
	COM	21	24	24	24	26	26	26	31	31	32
	IND	4	5	5	5	5	5	5	6	6	6

Table 5.7 Account Projections
Water System Plan Update
City of Camas

Service Area	Account Type	Accounts - 2015	Accounts - 2021			Accounts - 2025			Accounts - 2035		
			Low	Med	High	Low	Med	High	Low	Med	High
	IRR	33	156	156	156	156	156	156	156	156	156
	MFR	17	20	20	20	21	21	21	25	25	25
	SFR	1,553	1,785	1,785	1,785	1,940	1,940	1,940	2,328	2,328	2,328
	Total	1,628	1,990	1,990	1,990	2,149	2,149	2,149	2,546	2,547	2,547
852	L. Users	12	12	12	12	12	12	12	12	12	12
	COM	7	7	7	7	8	8	8	8	8	8
	IND	1	1	1	1	1	1	1	1	1	1
	IRR	72	22	22	22	22	22	22	22	22	22
	MFR	50	55	55	55	59	59	59	59	63	68
	SFR	3,071	3,394	3,394	3,394	3,609	3,609	3,609	3,635	3,891	4,148
	Total	3,201	3,479	3,479	3,479	3,698	3,698	3,698	3,725	3,985	4,246
Total	L. Users	57	57	57	57	57	57	57	57	57	57
	COM	218	224	224	224	228	228	228	237	237	238
	IND	9	10	10	10	10	10	10	11	11	11
	IRR	157	230	230	230	230	230	230	230	230	230
	MFR	356	391	391	391	415	415	415	442	458	474
	SFR	7,122	8,040	8,040	8,040	8,653	8,653	8,653	9,468	9,827	10,186
	Grand Total	**7,862**	**8,895**	**8,895**	**8,895**	**9,535**	**9,535**	**9,535**	**10,387**	**10,763**	**11,139**

Notes:

(1) All City accounts are included in the Large Users class. Large User accounts were not grown - the number of Large User accounts in each service area over the entire planning period was assumed to be equal to the 2015 number of accounts. Instead, independent growth projections were developed for each large user and used to project Large User demands, as described in Section 5.6.2.

(2) Account projections were not developed for the 542 Sewer section of Service Area 542, since the 542 Sewer ERU projections were obtained from the City's Sewer Master Plan. See Table 5.10 for ERU projections in the entire Service Area 542.

5.6 PROJECTED WATER DEMAND

Projecting future water demand is one of the key elements of the water system planning process. Identification of system improvements such as supply, pumping, storage, and piping requirements are all related to demand projections. This section summarizes the ERU, ADD, and MDD projections, as well as the potential range in future demands associated with various factors, such as water use per ERU, DSL, and demographic growth rate.

5.6.1 Potential Range in Future Water Demand

Numerous factors and assumptions affect the accuracy of projected future water demands. Recognizing that certain assumptions built into the demand projections will vary in the future, the projections were developed for low, medium, and high demand scenarios to provide a range in demands that may be experienced in the future.

The variables considered in developing the range of demand projections are summarized in Table 5.8 and are discussed below.

- **Future Water Accounts:** The future water accounts are presented in Table 5.7 and were used for their corresponding demand scenario (low, medium, and high).
- **Water Use per ERU:** Water use per ERU for the low and medium demand projections are based on the average water use per ERU over the last three years (2013 to 2015), 260 gallons per day per equivalent residential unit (gpd/ERU), and reflect the City's conservation goals. The high demand projection was based on 75th percentile of the historical data presented in Table 5.3, which equals 315 gpd/ERU.
- **ERUs per Account:** The historical ERUs per account by customer class presented in Table 5.3 were used to project the future demands. These ERU per Account values were based on the 75th percentile of the historical data and a water use per ERU value of 315 gpd/ERU to be conservative.
- **Distribution System Leakage:** DSL varied between 5.6 and 13.3 percent of the City's total production between 2008 and 2015. For the low and medium demand scenarios, a DSL of 10 percent was selected to represent the City's conservation goals. For the high demand scenario, the average DSL observed from 2008 to 2015 of 10.3 percent was used.
- **Maximum Day/Average Day Peaking Factor:** Due to the high projected demands for the City's largest water users (described in the following section), and the lack of summer peaking of industrial users (which comprise most Large Users), the MDD/ADD peaking factor was not applied to Large Users to avoid overly conservative demand projections. Therefore, MDD/ADD peaking factors were developed for all customers excluding the largest users from the historical data to be used for the

demand projections herein. The MDD/ADD peaking factor for all customers excluding Large Users varied from 2.48 to 3.58 between 2008 and 2015. For the low demand projection, the average peaking factor over the most recent three year period (2013 to 2015) of 2.74 was used. For the medium demand projection, the average peaking factor observed from 2008 to 2015, 2.95, was used. For the high demand projection, the 75th percentile peaking factor from 2008 to 2015, 3.43, was used.

Large Users were based on individual demand projections that are presented in the following sections.

Table 5.8 Demand Projection Parameters Water System Plan Update City of Camas

Demand Scenario	Demographic Growth Scenario	Water Use per ERU (gpd/ERU)	Distribution System Leakage (%)	Maximum Day Peaking Factor
Low	Low	260	10.0%	2.74
Medium	Average of High and Low	260	10.0%	2.95
High	High	315	10.3%	3.43

5.6.2 Large Users Demand Forecast

The City's top 10 water users, or Large Users, were identified by the City as presented in Section 5.1.1. Low, medium, and high demand forecasts were created for each Large User based on historical water use data from 2008 through 2015.

The low demand scenario projections assume that each Large User's annual water demand is held constant over the entire planning period at the maximum demand observed by the user during the 2008 to 2015 period. The Large Users high demand scenario projections assume that each user's demands increased at a constant rate equal to that user's average rate of annual increase in demand over the most recent three year period (2013 to 2015). The medium demand scenario is an average of the low and high demand projections.

Notably, demand projections for some Large Users were developed differently. Wafertech Industries and Linear Technologies are not expected to expand and subsequently increase demand, per City staff. Similarly, recent budget cuts applied to the City of Camas and Camas School District limit the amount of water to be used for irrigation purposes in the future. Consequently, the demand projections for these four Large Users calculated under the low demand scenario were used for all demand scenarios, as significant increases in water demand are not expected over the planning period. Additionally, SE Incorporated did not contribute any water demand until 2013, so limited data is available for establishing demand projections. In this case, annual increases in water demand were assumed to match the annual rate of increase in demand over the most recent three year period (2013

to 2015) for all Large Users combined: approximately 4 percent. Lastly, both Karcher North America and Georgia Pacific Mill demonstrated a decline in average demand over the 2008 to 2015 period. For these two users, the annual average rate of increase in demand from 2008 to 2015 was used to develop the low demand scenario instead of the maximum observed demand.

The City does not expect any new Large Users to contribute demand in the immediate future. However, the City has requested Large Users projections include a 0.5 mgd "block" for future industrial clients. This 0.5 mgd was added to the Large Users demand projections in 2021 - the end of the short-term planning period - as it is unlikely any new Large Users will contribute to demand within this planning period.

The Large Users demand projections are presented in Table 5.9. For each Large User, Table 5.9 provides the Service Area, 2015 demand, and the projected 2021, 2025, and 2035 demands.

5.6.3 Projected ERUs

Future water system demands are based on projected ERUs, which in turn are based on the projected water consumption by customer classification and the projected number of accounts discussed earlier in this chapter. Table 5.10 shows the projected ERUs for the City's individual Service Areas over the planning period under each growth scenario. The projected number of ERUs for each Service Area was calculated by multiplying the projected number of accounts, provided in Table 5.7, by the number of ERUs per account, as summarized in Table 5.3, for each customer class. The total ERUs in Service Area 542 includes the projected ERUs based on the City's sewer projections for ERUs in this area.

To incorporate the unique demand projections for Large Users, the Large Users projections were also converted to ERUs and incorporated into the total ERUs for each Service Area.

5.6.4 Projected Average Day and Maximum Day Demands

ADD projections were determined by multiplying the total number of projected ERUs per Service Area by the appropriate water use per ERU for each demand scenario, as listed in Table 5.8. Additionally, the ADD projections incorporate the assumptions for DSL and the unique Large Users demand projections. To develop MDD projections, the ADD projections for all customers other than Large Users were multiplied by the peaking factors shown in Table 5.8 for each demand scenario (as Large Users show limited seasonal peaking).

Tables 5.11 and 5.12 show the projected ADD and MDD, respectively, under the low, medium, and high demand scenarios. These projections, as well as historical ADD and MDD, are visually depicted in Figure 5.8.

Table 5.9 Large Users Demand Projections
Water System Plan Update
City of Camas

Large User	Service Area	Demand - 2015 (mgd)	Demand - 2021 (mgd)			Demand - 2025 (mgd)			Demand - 2035 (mgd)		
			Low	Med	High	Low	Med	High	Low	Med	High
Wafertech Industries	544	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750
Linear Technologies	544, 852	0.274	0.283	0.283	0.283	0.283	0.283	0.283	0.283	0.283	0.283
Georgia Pacific Mill	343, 455	0.218	0.211	0.256	0.301	0.206	0.281	0.356	0.195	0.345	0.495
Camas School District	All	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096
City of Camas	All	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079
Underwriter's Labs	544	0.032	0.032	0.054	0.076	0.032	0.069	0.106	0.032	0.106	0.179
SE Incorporated	All(1)	0.014	0.016	0.019	0.022	0.017	0.020	0.022	0.021	0.023	0.025
Sharp Electronics	544, 852	0.017	0.016	0.020	0.024	0.016	0.020	0.024	0.015	0.020	0.024
Bodycote	544	0.013	0.014	0.016	0.019	0.014	0.018	0.022	0.014	0.022	0.031
Karcher North America	544	0.014	0.013	0.017	0.021	0.012	0.019	0.025	0.011	0.023	0.035
Total (Current Large Users)	-	**1.51**	**1.51**	**1.59**	**1.67**	**1.51**	**1.63**	**1.76**	**1.50**	**1.75**	**2.00**
Total (Including Future Large Users)	-	**1.51**	**2.01**	**2.09**	**2.17**	**2.01**	**2.13**	**2.26**	**2.00**	**2.25**	**2.50**

Notes:
(1) SE Incorporated was not mapped to a specific Service Area; its demand is assumed to be distributed equally among all five Service Areas.

2233

Item 8.

Table 5.10 ERU Projections
Water System Plan Update
City of Camas

Service Area	ERUs - 2015	ERUs - 2021			ERUs - 2025			ERUs - 2035		
		Low	Med	High	Low	Med	High	Low	Med	High
343	2,480	2,742	2,901	2,829	2,762	3,023	3,018	2,810	3,326	3,482
455	1,695	1,990	2,044	2,015	2,129	2,217	2,210	2,237	2,530	2,696
542[(1)]	417[(2)]	2,042	2,044	2,025	3,247	3,248	3,228	7,007	7,005	6,984
544	5,714	7,478	7,571	6,733	7,646	7,798	7,001	8,064	8,366	7,678
852	4,051	4,493	4,493	4,330	4,716	4,709	4,543	4,748	4,989	5,081
Total	**14,357**	**18,745**	**19,053**	**17,932**	**20,501**	**20,995**	**19,999**	**24,866**	**26,216**	**25,920**

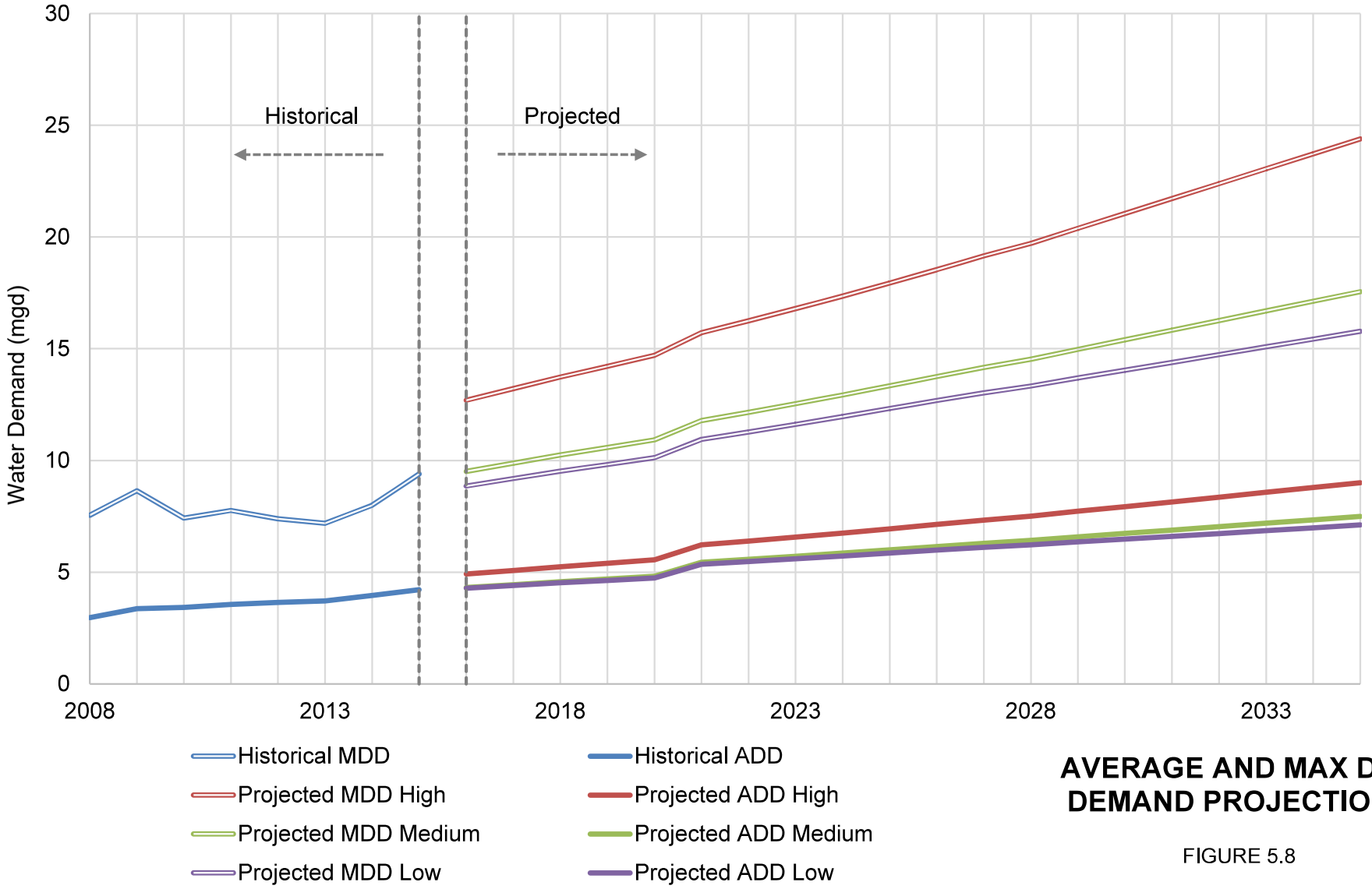
Notes:
(1) Service Area 542 henceforth includes ERUs from 542 Non-Sewer projections, developed per the method described in Section 5.4.2, and 542 Sewer projections from the City's Sewer Master Plan.
(2) This value only includes 542 Non-Sewer ERUs, since City's Sewer Master Plan did not include the 542 Sewer ERUs in the year 2015.

Table 5.11 Average Day Demand Projections
Water System Plan Update
City of Camas

Service Area	2015 ADD (mgd)	ADD - 2021 (mgd)			ADD - 2025 (mgd)			ADD - 2035 (mgd)		
		Low	Med	High	Low	Med	High	Low	Med	High
343		0.78	0.83	0.98	0.79	0.86	1.05	0.80	0.95	1.21
455		0.57	0.58	0.70	0.61	0.63	0.77	0.64	0.72	0.94
542		0.58	0.58	0.70	0.93	0.93	1.12	2.00	2.00	2.43
544		2.14	2.17	2.34	2.19	2.23	2.43	2.31	2.39	2.67
852		1.29	1.29	1.50	1.35	1.35	1.58	1.36	1.43	1.76
Total	**4.22**	**5.36**	**5.45**	**6.23**	**5.86**	**6.01**	**6.95**	**7.11**	**7.50**	**9.00**

Table 5.12 Maximum Day Demand Projections
Water System Plan Update
City of Camas

Service Area	2015 MDD (mgd)	MDD - 2021 (mgd)			MDD - 2025 (mgd)			MDD - 2035 (mgd)		
		Low	Med	High	Low	Med	High	Low	Med	High
343		1.66	1.82	2.47	1.68	1.88	2.57	1.74	2.01	2.80
455		1.38	1.50	2.08	1.49	1.63	2.27	1.58	1.86	2.74
542		1.54	1.68	2.34	2.49	2.70	3.78	5.44	5.90	8.27
544		3.30	3.48	4.31	3.43	3.64	4.55	3.76	4.04	5.14
852		3.06	3.30	4.52	3.24	3.49	4.79	3.26	3.73	5.44
Total	**9.40**	**10.95**	**11.79**	**15.72**	**12.33**	**13.35**	**17.94**	**15.78**	**17.55**	**24.39**



AVERAGE AND MAX DAY DEMAND PROJECTIONS

FIGURE 5.8

CITY OF CAMAS
WATER SYSTEM PLANT UPDATE

Chapter 6

WATER USE EFFICIENCY

The City of Camas (City) promotes efficient water use to conserve and protect their existing water supplies for present and future residents. The City promotes water conservation and efficient use of water through a variety of activities that encompass their Water Use Efficiency (WUE) Program. The program encourages water conservation and utilizes continued improvements to reduce leakages and water loss in the City's system. This chapter details both the City's existing and future WUE programs.

6.1 WUE PROGRAM BACKGROUND

In 2003, the Washington State Legislature passed the Engrossed Second Substitute House Bill 1338, known as the Municipal Water Law or the WUE rule, to address the increasing demand on Washington's water resources. This law established that all municipal water suppliers (MWS) must use water more efficiently in exchange for water right certainty and flexibility to help them meet future demand.

The WUE rule, which became effective on January 22, 2007, emphasizes the importance of measuring water use and evaluating the effectiveness of the water supplier's WUE program. The intent is to minimize water withdrawals and water use by implementing water saving activities and adopting policies, resolutions, ordinances, or bylaws. This chapter follows the guidelines set forth in the Water Use Efficiency Guide Book, Third Edition, (January 2017) as well as the Water System Planning Handbook (April 1997).

6.1.1 Current WUE Program

The City's current WUE Program was established as part of the 2010 Water System Plan (2010 WSP). Per the Washington Administrative Code (WAC) 246-290-830(4)(a), all water purveyors with 1,000 or more connections were required to set efficiency goals through a public process. The established goals promote water use efficiency for internal operations and for water customers. The current WUE Program goals were established in the 2010 WSP and re-established in 2013:

- **Demand-Side Goal:** Reduce customer consumption per equivalent residential units (ERU) by 1 percent or approximately 2 gallons per day (gpd) per year over the next 6 years.
- **Supply-Side Goal:** Continue to reduce distribution loss to at or below 10 percent for the next 5 years.

The following summarizes the current program.

6.1.1.1 Supply-Side Measures

The City implements the following supply-side measures as part of their WUE Program. A number of these measures are mandated by Washington State Department of Health (DOH) per the Water Use Efficiency Guidebook. The following summarizes the City's supply-side measures:

1. Record and monitor supply source production (Mandatory).
2. Record and monitor customer demands through customer water meters (Mandatory).
3. Test and calibrate industrial and commercial meters annually (Mandatory).
4. Replace customer water meters with enhanced advanced meter reading (AMR) meters. Nearly 60 percent of customer meters have been upgraded to the new AMR meters. Once complete, the City will regularly test and repair residential meters per manufacturer recommendations.
5. Perform annual leak detection surveys through a private contractor. Hydrants and valves are checked as part of leak detection surveys (Mandatory).
6. Replace or replace old distribution system piping with defects as budget allows.
7. Reclaimed Water: Treated wastewater is used for wash down and process use and for landscape irrigation at the wastewater treatment plant (WWTP) (Mandatory to evaluate reclaimed water).

6.1.1.2 Demand-Side Measures

The City implements a number of demand-side measures that the meet the DOH requirement for 6 water use efficiency measures. These measures are similar to many of the example water use efficiency measures presented in Appendix B of the Water Use Efficiency Guidebook. The City provides an overview of their water use efficiency activities on their Water Services website (http://www.ci.camas.wa.us/index.php/pwwater). The City's various public outreach activities meet the DOH requirement for educating customers about water use efficiency. The following provides a summary of the City's demand-side measures:

1. Include water consumption history on customer's utility bills.
2. City staff alert and visit customers where customer leaks are identified.
3. Promote installation of smart controllers and irrigation timers for the school district and industrial users

4. Educate the public on conservation and water-saving devices at community events and on the City website (http://www.ci.camas.wa.us/images/DOCS/WATER_SEWER/REPORTS/waterconservation.pdf).
5. Distribute water-saving devices such as shower timers at community events.
6. Require xeriscaping and Low Impact Development (LID) to reduce irrigation requirements for new developments.
7. Work with developers to evaluate their irrigation systems to incorporate drip systems or micro sprayers.
8. Promote odd/even day and late night or early morning irrigation for all customers.

The above supply and demand side WUE measures are effective in encouraging WUE for the water system. Additional measures will be evaluated if new opportunities arise for WUE.

6.1.2 Distribution System Leakage

Distribution system leakage (DSL) is a significant element of supply-side WUE requirements. DSL above 10 percent on a 3-year rolling average is considered excessive and necessitates the creation of a water loss control action plan. DSL is the difference between total water production and documented water use (retail and authorized unmetered). The estimate of DSL is dependent on the accuracy of meter readings for supply and customer meters and the accuracy of tracking authorized unmetered use for activities such as fire hydrant flushing. Table 6.1 presents the City's reported 3-year rolling average DSL from 2014 through 2016. The City has consistently maintained DSL below their WUE program goal and DOH standard of 10 percent.

Table 6.1 Distribution System Leakage (3-year Rolling Average)
Water System Plan Update
City of Camas

Year	3 Year Rolling Average DSL (%)
2014	8.7%
2015	8.7%
2016	9.1%
2017	9.6%

The DSL in Table 6.1 differs from that calculated in Chapter 5 – Water Requirements in 2014 and 2015, where Chapter 5 typically has less authorized consumption and higher DSL. Note, 2016 and 2017 data was not available for use in Chapter 5 at the time of its completion. The City is not able to account for the differences, since the Lead Operator completing the reports has retired; however, it is believed to be related to year end meter

reading. The City will conduct a water audit in 2018 using the American Water Works Association (AWWA) Water Audit methodology. The AWWA mythology will provide the City with a robust framework to understand the components of water loss and document data sources. The 2018 Water Audit can be found in Appendix L. If the AWWA Water Audit finds DSL greater than 10 percent, then the City will develop a Water Loss Control Action Plan.

6.1.3 Historical Effectiveness of Current WUE Program

The City's current WUE Program includes measures for residential, irrigation, commercial, and industrial customers. The effectiveness of the City's program in meeting their WUE goals can be evaluated considering system-wide water use trends.

The 2010 WSP used a planning ERU of 296 gpd based on average residential use from 2004 to 2007. The current planning ERU value of 260 gpd was based on the average of water use from 2013 to 2015. This equates to a decrease of 4.5 gpd, or 1.6 percent annually over the eight year period, above the City's goal of 1 percent, or approximately 2 gpd per year.

Annual water use per account from 2008 to 2015 was detailed previously in Section 5.1.3. Water use across for the City's single-family residential, multi-family residential, commercial, and industrial accounts have all shown decreases since 2008. Single-family residential, commercial and industrial water use per account have all decreased over 20 percent since 2008, or over 2.5 percent per year. The City believes these decreases were in part from the WUE Program. It is acknowledged that other factors may have played a prominent role, such as weather and economic conditions.

The City does not track staff time or project costs associated with WUE. The supply-side WUE measures, such as metering and leak detection, are core activities of the Utility and are funded through Utility Capital Improvement and operations and maintenance (O&M) funds. The City estimate it dedicates approximately 0.5 full-time-equivalents (FTE) of staff time to conduct demand side measures across its Water Utility, Finances department, and development services staff. It is not possible to estimate the impact of demand-side measures on water use; therefore, no cost per gallon can be calculated.

Water consumption in City billing is based on $1.86 per one hundred cubic feet or 0.2 cents per gallon. Based on other Washington State Utilities, costs for WUE activities are similar to the City's production costs.

As shown in Table 6.1, the City's WUE Program efforts have been effective at keeping DSL below the program goal of 10 percent.

6.2 FUTURE WUE PROGRAM

The City plans to continue its efforts to encourage efficient water use. Going forward, the program will continue to focus on measures targeted at residential customers. The WUE Program goals established in 2013, which have been maintained, are:

- **Demand-Side Goal:** Reduce customer consumption per ERU by 1 percent or approximately 2 gpd per year over the next 6 years.
- **Supply-Side Goal:** Continue to reduce distribution loss to at or below 10 percent for the next 5 years.

Public comment on the future WUE program was taken at the October 7, 2019 City Council Meeting. An agenda and minutes for the meeting are provided in Appendix D.

6.2.1 Mandatory Measures

The WUE Program includes supply side measures that the City implements to understand and control leakage including new meters and leak detection surveys. The City's WUE Program will continue to meet the following mandatory measures in the future:

- Install production (source) meters.
- Install consumption (service) meters.
- Perform meter calibration.
- Implement a water loss control action plan to control leakage if the 3-year rolling average exceeds 10 percent.
- Educate customers about water use efficiency practices.
- Evaluate rates that encourage water demand efficiency, as discussed in a subsequent section.
- Evaluate reclamation opportunities, as discussed in a subsequent section.

6.2.1.1 Rate Structure

The City's current rate structure bills customers on a uniform volumetric charge. In 2010, the City added a consumption based element to sewer rates based on average winter water consumption, which was thought to encourage water efficiency. The City will reevaluate a more aggressive rate structure, such as inclined block rates, in future rate studies.

6.2.1.2 Reclaimed Water

Per WAC 246-290-100 and WUE requirements, water systems with over 1,000 connections must evaluate reclaimed water opportunities. As mentioned previously, the City currently

uses treated wastewater at the WWTP. In addition, the City is currently (2017) working with one of their large industrial water users to evaluate opportunities for reuse of reclaimed water. If requested, the City is open to extending the reclaimed system to serve private customers.

6.2.2 Future WUE Program Supply-Side Measures

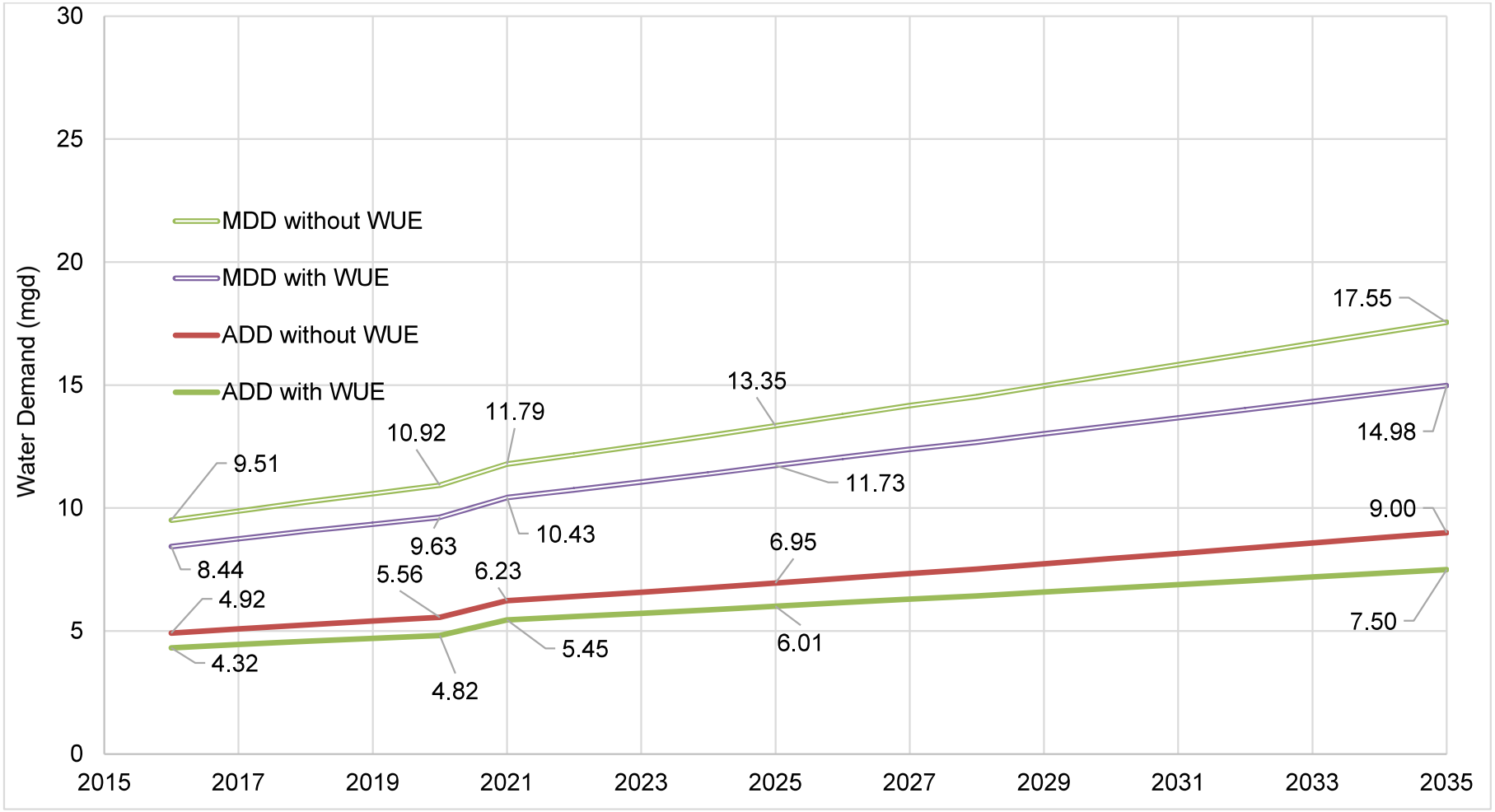
The City will continue their existing program for replacement of customer water meters. The AMR meter provides operational benefits, reduces data error and helps identify customer-side leaks. Continued installation of AMR meters is expected to enhance meter accuracy, leak detection and customer education through the detailed water use data and statistics provided by the AMR system.

6.2.3 Future WUE Program Demand-Side Measures

The City will continue the existing program measures described in Section 6.1. The City exceeds the minimum DOH requirement of 6 WUE measures.

6.2.4 Projected Demands with WUE Goals

The projected water demands considering the water savings from the City's WUE Program were represented with the low demand scenario presented in Chapter 5. Projected demands with WUE savings were compared to the medium demand projection. The low demand projection assumes a 2015 demand of 245 gallons per day per equivalent residential unit (gpd/ERU) while the medium demand projections assumes a 2015 demand of 260 gpd/ERU. The low demand projection also assumes the WUE Program will help to reduce the maximum day demand (MDD) to average day demand (ADD) peaking factor by approximately 8.1 percent. Both demand projections assume the City maintains DSL at 10 percent. Table 6.2 presents the projected ADD and MDD with and without the WUE Program for the 20-year planning period. The projected demands with the WUE Program are also shown in Figure 6.1. For ADD, WUE measures are projected to provide a reduction of 0.78 million gallons per day (mgd), or 9.1 percent, by 2035. For MDD, WUE measures are projected to provide a reduction of 2.57 mgd, or 14.7 percent, by 2035.



PROJECTED DEMANDS WITH WATER USE EFFICIENCY

FIGURE 6.1

Table 6.2 WUE Demand Projections Water System Plan Update City of Camas				
Demand Scenario	**2035 Projection with WUE (mgd)**	**2035 Projection without WUE (mgd)**	**Water Savings (mgd)**	**Percent Savings**
ADD	6.82	7.50	0.78	9.1
MDD	14.98	17.55	2.57	14.7

6.2.5 Future WUE Program Effectiveness

The effectiveness of the existing WUE program was evaluated using system-wide water use data. Measuring the effectiveness of the City's future WUE Program against the established goals could be similarly evaluated using system-wide water use data. Estimating the water savings directly resulting from the City's WUE Program in a single year is difficult. Therefore, long-term trends should be use to more clearly show the impact of the City's WUE Program.

Once AMR is implemented, the City will consider targeted public education programs to customers in a particular area or user profile, such as heavy irrigators. Using AMR, the City can estimate overall usage, irrigation usage and peak water use rates.

The first step would be to establish a baseline from historical information. The second step is to evaluate the resulting water use after promoting WUE through targeted activities and events to customers. It is recommended that water use be tracked for at least a year to identify trends. Some consideration would need to be given to variations in weather and economic conditions. Another method would be to perform the same before/after water use analysis for WUE Program participants who volunteer and provide their address. The resulting information would be valuable for the City to correlate its WUE Program efforts with direct water savings for its customers.

6.2.6 Budget

The City recognizes the importance of continuing their WUE measures and considers it a core function of the Utility. The WUE program provides cost savings through demand reduction and reduction in DSL. Continuing the WUE Program can assist the City in meeting peak demands and avoiding curtailment periods. The City will continue level of effort for demand-side measures; approximately 0.5 FTE of staff time across its Water Utility, finances department, and development services department. Due to AMR capabilities, it is anticipated that the City will further personalize water use communications with customers without increasing staff effort. Future supply-side WUE measures will be funded, as appropriate, through the Capital Improvement and O&M funds. If AMR detects a large numbers of existing and new leaks, the City will evaluate the need for additional personnel in its meter maintenance group to address leaks.

6.3 WATER SHORTAGE PLAN

City ordinances, CMC Chapter 13.14, have been created that allow the City to impose restrictions during a water shortage. They define five stages of water emergencies:

- Stage I – Anticipated Water Shortage.
- Stage II – Serious Water Shortage.
- Stage III - Critical Water Shortage.
- Stage IV – Emergency Water Shortage – Mandatory Outdoor Restrictions and Indoor Conservation.
- Stage V – Regional Disaster - Water Rationing.

The public works director is responsible for declaring and implementing the water shortage plans. Stages I or II implement voluntary reductions in water use for customers and some City watering reductions. Stages III and IV further regulate or prohibit nonessential uses of water. Up-to-date details on the Water Shortage can be found in CMC Chapter 13.14.

Chapter 7

WATER QUALITY

7.1 INTRODUCTION

The City of Camas (City) is defined as a Group A – Community Water System and must comply with the drinking water standards of the federal Safe Drinking Water Act (SDWA) and its amendments, as regulated by the United States Environmental Protection Agency (USEPA). The Washington State Department of Health (DOH) adopted the updated federal standards under Washington Administrative Code (WAC) 246-290, of which the most recent version became effective April 8, 2016.

The quality of the City's drinking water sources is of primary concern to the City. The City's water is supplied by groundwater aquifers and surface water sources (Jones and Boulder Creeks), which are tested regularly for the presence of contaminants at frequencies prescribed by DOH regulations. The City is in compliance with all DOH reporting requirements, including publication and distribution of an annual Water Quality Report that keeps consumers informed as to the quality of the City's water supply and water delivery systems.

This chapter includes the following components:

- Description of current drinking water quality regulations.
- Summary of anticipated future regulations.
- Summary of current monitoring programs.
- Summary of the City's compliance with USEPA and DOH regulations.
- Recommendations.

This chapter utilizes information from the DOH's website for Drinking Water Regulation and Compliance , the USEPA's website for regulations under the SDWA , the City's annual Water Quality Reports (included in Appendix E), and the City's 2012 through 2015 water quality data.

7.2 OVERVIEW OF REGULATORY REQUIREMENTS

The SDWA of 1974, amended in 1986 and 1996, established specific roles for the federal government, state government, and water system purveyors, with respect to water quality monitoring. The USEPA is authorized to develop national drinking water regulations and oversee the implementation of the SDWA. State governments are expected to adopt the federal regulations and accept primary responsibility or "primacy" for administration and enforcement of the Act. States can also regulate contaminants and set advisory levels. Public water system purveyors are assigned the day-to-day responsibility of meeting

regulations by incorporating monitoring, record-keeping, and sampling procedures into their operation and maintenance programs.

Applicable SDWA regulations are summarized in Table 7.1 and are divided into those that address source water quality, surface water treatment, distribution system water quality, and system-wide requirements, respectively. Monitoring requirements under each rule are noted herein.

Table 7.1 Drinking Water Regulations
Water System Plan Update
City of Camas

Rule	CFR	WAC 246-290	Affected Contaminants	Publication Date of Final Rule
Source Water Quality				
National Primary and Secondary Drinking Water Standards	See below	Part 4, 300, 310, and 320	Bacteriological, IOC, VOC, SOC, Asbestos, Radionuclides, Trihalomethanes, Lead/Copper, Phase II/V	Phases I through V promulgated 1987 through 1992
Radionuclide Rule	40 CFR 141.15 141.25 141.26	Part 4, 300(9) 310(6), and 320	Radionuclides	Promulgated April 4, 1997
Arsenic Rule	40 CFR 141.23 141.24 141.16	Part 4, 300(3) and 310(3)	Arsenic	Promulgated February 2002 Compliance by January 23, 2006
Unregulated Contaminants Monitoring Rule	N/A		Various contaminants considered for future regulations	UCMR 1 promulgated 1999
				UCMR 2 promulgated 2007
				UCMR3 promulgated May 2, 2012
Groundwater Rule		Part 4, 300(3) and 320(2)	Fecal indicators in groundwater	Promulgated January 8, 2007

Table 7.1 Drinking Water Regulations
Water System Plan Update
City of Camas

Rule	CFR	WAC 246-290	Affected Contaminants	Publication Date of Final Rule
Surface Water Treatment Rules				
Information Collection Rule	40 CFR, Part 141, Subpart M	Part 6, Subparts A and B	Large Surface Water Systems: Bacteriological, DBP, IOCs	Promulgated June 18, 1996
Interim Enhanced Surface Water Treatment Rule (ESWTR)	63 FR 69478	Part 6, Subparts A and B	Large Surface Water Systems: Bacteriological, incorporate *Cryptosporidium* into watershed plans	Promulgated November 1998
Long Term 1 Enhanced Surface Water Treatment Rule	40 CFR, Parts 9, 141, 142 67 FR 1812	Part 6, Subparts A and B	Bacteriological, *Cryptosporidium*	Promulgated February 13, 2002, compliance by March 15, 2005
Long Term 2 Enhanced Surface Water Treatment Rule	40 CFR Parts 141, 142 68 FR 47639	Part 6, Subparts A and B	Bacteriological	Promulgated in 2006
Filter Backwash Recycling Rule	40 CFR Parts 9, 141, 142 66 FR 31086	Part 6, Subparts A and B	Bacteriological	Promulgated August 7, 2001, compliance by December 8, 2003
Distribution System Water Quality				
Revised Total Coliform Rule		Part 4, 300, 310(2), 320	Total coliform bacteria	Promulgated February 13, 2013 Compliance by April 2016
Lead and Copper Rule	40 CFR 141.86 141.87 141.88	Part 4, 300(4) and 310(3)	Lead and Copper	Promulgated January 12, 2000 Revised December 4, 2013
Stage 1 Disinfectants/ Disinfection Byproducts Rule	40 CFR, Parts 9, 141, 142 63 FR 69390	Part 4, 300, 310, and 320	Trihalomethanes, haloacetic acids, chlorite, bromate, and disinfectant residuals	Promulgated February 16, 1999

Table 7.1 Drinking Water Regulations Water System Plan Update City of Camas				
Rule	**CFR**	**WAC 246-290**	**Affected Contaminants**	**Publication Date of Final Rule**
Stage 2 Disinfectants/ Disinfection Byproducts Rule	40 CFR, Parts 9, 141, 142 71 FR 388	Part 4, 300, 310, and 320	Trihalomethanes and haloacetic cids	Promulgated January 4, 2006 Effective March 6, 2006
System-Wide Requirements				
Consumer Confidence Report Rule	40 CFR 141 Part O	Part 7, Subpart B	Reporting only	Published August 19, 1998
Public Notification Rule	40 CFR 141 Part Q	Part 4, 320	Reporting only	Promulgated 2000
Operator Certification Rule		WAC 246-292	N/A	Effective January 4, 2014

7.3 SOURCE WATER QUALITY

Historically, the City has relied on groundwater supplies from wells and surface water diversions. All of the City's sources are treated with chlorine and fluoride. Surface water is also treated via a slow sand filtration plant. Regulations that address source water quality for groundwater and surface water systems are described herein.

7.3.1 National Primary and Secondary Drinking Water Standards

National Primary Drinking Water Standards are currently set for 92 contaminants. Maximum contaminant levels (MCLs) and maximum contaminant level goals (MCLGs) have been established for 83 contaminants, while the remaining nine have treatment technique requirements. A constituent's MCL is generally based on its public health goal (PHG), which is the level of a contaminant in drinking water below which there is no known expected health risk. Regulated constituents include microbial contaminants, inorganic chemicals (IOCs), volatile organic compounds (VOCs), synthetic organic chemicals (SOCs), radionuclides, and disinfection by-products (DBPs). Regulations affecting DBPs are discussed below in the distribution system water quality section.

The USEPA regulates most of the chemical contaminants through the rules known as Phases I, II, IIb, and V. The USEPA issued the four rules regulating 69 contaminants over a five-year period as it gathered, updated, and analyzed information on each contaminant's presence in drinking water supplies and its health effects. The Phase I Rule was promulgated July 8, 1987 and included eight VOCs. The Phase II and IIb Rules (published January 30 and July 1, 1991) updated or created new limits for 38 contaminants. The Phase V Rule (published July 17, 1992), set standards for 23 additional contaminants.

These rules form the basis of the DOH regulations, WAC 246-290. Since the Phase V Rule, MCLs for additional contaminants have been established through new regulations and must be adopted by the DOH.

The USEPA has also established secondary standards for 15 contaminants to address the aesthetic quality of drinking water; these secondary standards have also been adopted within the WAC. Because the federal standards primarily address taste and odor, rather than health issues, they are often used only as a guideline. For new community water systems, the DOH requires treatment for secondary MCL exceedances under WAC 246-290-320 (3)(d). For other public water systems, the WAC stipulates that the required follow-up action be determined by the DOH based on the degree of consumer acceptance of the water quality and their willingness to bear the cost of meeting the secondary standard.

Current primary and secondary MCLs for inorganic and organic constituents, respectively, are documented in the following subsections.

7.3.2 Inorganic Chemicals

Regulated IOCs include elemental metals such as mercury, arsenic, and iron. Some non-metallic constituents such as chloride, fluoride, and sulfate are also included in this category. Physical properties of IOCs that affect water quality in this category include turbidity, specific conductivity, total dissolved solids, and color. WAC 246-290-310 specifies primary and secondary MCLs for IOCs, which are summarized in Table 7.2 and Table 7.3 respectively.

Table 7.2 Primary MCLs for Inorganic Chemicals
Water System Plan Update
City of Camas

Chemical	Primary MCL (mg/L)[1]
Antimony (Sb)	0.006
Arsenic (As)	0.01
Asbestos	7 million fibers/liter (length > 10 microns)
Barium (Ba)	2.0
Beryllium (Be)	0.004
Cadmium (Cd)	0.005
Chromium (Cr)	0.1
Copper (Cu)	1.3[2]
Cyanide (HCN)	0.2
Fluoride (F)	4.0
Lead (Pb)	0.015[2]
Mercury (Hg)	0.002
Nickel (Ni)	0.1

Table 7.2 Primary MCLs for Inorganic Chemicals Water System Plan Update City of Camas	
Chemical	**Primary MCL (mg/L)(1)**
Nitrate (as N)	10.0
Nitrite (as N)	1.0
Selenium (Se)	0.05
Sodium (Na)	20(3)
Thallium (Tl)	0.002

Notes:
(1) Source: State DOH Drinking Water Regulations (246-290-310), effective March 2012.
(2) Lead and copper have established ALs, rather than MCLs. These are discussed further in the lead and copper rule (LCR), under the *Distribution System Water Quality* section.
(3) USEPA has established a recommended level of 20 milligrams per liter (mg/L) for individuals that have restrictions on daily sodium intake. This is not an enforceable standard.

Table 7.3 Secondary MCLs for Inorganic Chemicals Water System Plan Update City of Camas	
Chemical	**Primary MCL (mg/L)(1)**
Aluminum	0.05 to 0.2 mg/L
Chloride	250 mg/L
Color	15 (color units)
Copper	1.0 mg/L
Corrosivity	Non-corrosive
Fluoride	2.0 mg/L
Foaming Agents	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Odor	3 threshold odor number
pH	6.5-8.5
Silver	0.10 mg/L
Sulfate	250 mg/L
Total Dissolved Solids	500 mg/L
Zinc	5 mg/L

Notes:
(1) Source: State DOH Drinking Water Regulations (246-290-310), effective March 2012.

7.3.2.1 Monitoring Requirements

The City has a waiver for IOC testing that reduces the frequency to once every nine years for all its wells. The next IOC samples are required in 2020.

7.3.2.2 Compliance

The City complies with the requirements for monitoring IOCs, and has not exceeded any water quality requirements. Water quality data for inorganic chemicals from 2012-2015 is presented in Table 7.4.

Table 7.4 Inorganic Chemicals Monitoring Results
Water System Plan Update
City of Camas

Contaminant	Maximum Contaminant Level Goal	Maximum Contaminant Level	2012	2013	2014	2015
Fluoride (mg/L)	1	4	0.56 - 0.96	0.58 - 1.09	0.62 - 1.1	0.6 - 0.96
Nitrates (mg/L)	10	10	0.44 - 1.56	0.43 - 1.11	0.41 - 1.22	0.57 - 1.6
Other Substances						
Total Hardness (ppm)	0	0.015	34	34	34	34
Turbidity (NTU)	0	1.3	0.32	0.32	0.28	0.28

7.3.3 Volatile Organic and Synthetic Organic Compounds

VOCs are manufactured, carbon-based chemicals that vaporize quickly at normal temperatures and pressures. VOCs include many hydrocarbons associated with fuels, paint thinners, and solvents. This group does not include organic pesticides, which are regulated separately as SOCs. VOCs are divided into the two following groups:

- Regulated VOCs that have been determined to pose a significant risk to human health.
- Unregulated VOCs for which the level of risk to human health has not been established.

There are currently 21 regulated VOCs and 33 regulated SOCs. A list of these compounds and their MCLs is included in Table 7.5.

Table 7.5 Regulated Volatile and Synthetic Organic Chemicals
Water System Plan Update
City of Camas

Organic Chemical	Federal Regulation	Primary MCL (mg/L)[1]	Organic Chemical	Federal Regulation	Primary MCL (mg/L)[1]
Volatile Organic Chemicals (VOCs)					
Vinyl chloride	Phase I	0.002	Monochlorobenzene	Phase II	0.1
Benzene	Phase I	0.005	Ortho-Dichlorobenzene	Phase II	0.6
Carbon Tetrachloride	Phase I	0.005	Styrene	Phase II	0.1
1,2-Dichloroethane	Phase I	0.005	Tetrachloroethylene	Phase II	0.005
Trichloroethylene	Phase I	0.005	Toluene	Phase II	1
Para-Dichlorobenzene	Phase I	0.075	Trans-1,2-Dichloroethylene	Phase II	0.1
1,1-dichloroethylene	Phase I	0.007	Xylenes (total)	Phase II	10
1,1,1-Trichloroethane	Phase I	0.2	Dichloromethane	Phase V	0.005
Cis-1,2-Dichloroethylene	Phase II	0.07	1,2,4-Trichloro-benzene	Phase V	0.07
1,2-Dichloropropane	Phase II	0.005	1,1,2-Trichloroethane	Phase V	0.005
Ethylbenzene	Phase II	0.7	Chlorobenzene		0.07
Synthetic Organic Chemicals (SOCs)					
Arochlor	Phase II	0.002	Benzo(a)pyrene	Phase V	0.0002
Atrazine	Phase II	0.003	Dalapon	Phase V	0.2
Carbofuran	Phase II	0.04	Di(2-ethylhexyl) adipate	Phase V	0.4
Chlordane	Phase II	0.002	Di(2-ethylhexyl) phthalate	Phase V	0.006
Dibromochloro-propane	Phase II	0.0002	Dinoseb	Phase V	0.007
2,4-D	Phase II	0.07	Diquat	Phase V	0.02
Ethylene dibromide	Phase II	0.00005	Endothall	Phase V	0.1
Heptachlor	Phase II	0.0004	Endrin	Phase V	0.002
Heptachlor epoxide	Phase II	0.0002	Glyphosate	Phase V	0.7
Lindane	Phase II	0.0002	Hexachlorobenzene	Phase V	0.001
Methoxychlor	Phase II	0.04	Hexachloro Cyclopentadiene	Phase V	0.05
Polychlorinated biphenyls (PCBs)	Phase II	0.0005	Oxamyl (vydate)	Phase V	0.2
Pentachlorophenol	Phase II	0.001	Picloram	Phase V	0.5
Toxaphene	Phase II	0.003	Simazine	Phase V	0.004
2,4,5-TP	Phase II	0.05	2,3,7,8-TCDD (dioxin)	Phase V	$3x10^{-8}$

Notes:
(1) 40 CFR 141.61(a) and (c); adopted by State DOH, effective April 1999.

7.3.3.1 Monitoring Requirements

Per DOH requirements, VOCs and SOCs must be sampled once every three years, unless a waiver is in place. State waivers requiring no monitoring have been issued for dioxin, endothal, diquat, glyphosate, and insecticides. Additionally, the state grants a waiver if a chemical is not in use or previous monitoring indicates contamination would not occur. The City must apply for waivers through DOH. There are two types of waivers, risk-based or area-wide. The risk-based waiver requires a susceptibility analysis and DOH charges a fee for these waivers (purchased waivers). Area-wide waivers are issued if a chemical is not used within a region, thus DOH does not charge for these waivers. While the state issues both types of waivers, an area-wide waiver is referred to as a "State waiver." A waiver is in place for two years, during which time there are no requirements for monitoring. However, once a waiver expires, monitoring frequency for VOCs and SOCs is one sample every three years.

Quarterly sampling of VOCs is required for the Washoughal wellfield. Well 13 has a six-year waiver ending December, 2019. All other wells have statewide state issued waivers. The City has waivers that reduce required sampling frequencies to once every nine years for pesticides and soil fumigants for all wells Herbicides.

7.3.3.2 Compliance

A review of the City's 2007 to 2013 water quality data shows that all of the City's source wells test below the VOC or SOC MCLs, or are not detected at all.

7.3.4 Radionuclides

In December 2000, the USEPA announced updated standards for radionuclides. This rule became effective December 2003. All community water systems are required to meet the MCLs listed in Table 7.6 and requirements for monitoring and reporting. All systems were required to complete initial monitoring and phase in the monitoring requirements between December 8, 2003 and December 30, 2007. Initially, utilities were required to undergo four consecutive quarters of monitoring for gross alpha, combined radium-226/-228, and uranium. Only systems that were considered "vulnerable" were required to monitor for gross beta (quarterly samples), tritium, and strontium-90 (annual samples). The initial monitoring was used to determine if the system would have to perform reduced or increased monitoring.

Table 7.6 Regulated Radionuclides Water System Plan Update City of Camas	
Radionuclide	**MCL[1]**
Radium – 226	3 pCi/L
Combined Radium – 226 and 228	5 pCi/L
Uranium	30 μg/L
Gross Alpha (excluding Uranium)	15 pCi/L
Beta Particle and Photon Radioactivity	4 millirem/year[2]
Tritium	20,000 pCi/L[2]
Strontium-90	8 pCi/L[2]

Notes:

(1) Environmental Protection Agency, 40 CFR 141.66.
(2) According to USEPA 40 CFR 141.66, "average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water must not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year." The MCLs for tritium and strontium-90 are assumed to produce body organ doses equivalent to 4 millirem/year.

7.3.4.1 Monitoring Requirements

The WAC states "The purveyor may omit analysis for radium-226 and radium-228 if the gross alpha particle is less than five picocurie per liter (pCi /L)." The City is required to sample for radium-228 once every three years at Well 9 and once every six years at all other wells. Gross alpha monitoring is required once every three years at Well 9 and once every six years at all other wells. The USEPA has adopted a new schedule of sampling once every three years that has not yet been adopted by DOH. In Washington State, natural occurrence levels of the regulated radionuclides have generally been quite low.

7.3.4.2 Compliance

The City is in full compliance with the monitoring requirements and has no exceedances to date.

7.3.5 Arsenic Rule

In January 2001, the USEPA promulgated a new standard that requires public water systems to reduce arsenic levels in drinking water. The final rule became effective in 2002 and required compliance by 2006. The rule applies to all community water systems and non-transient, non-community water systems, regardless of size. The rule not only establishes an MCL for arsenic (0.010 mg/L), based on a running annual average (RAA) of quarterly results and an MCLG for arsenic (zero), but also lists feasible and affordable technologies for small systems that can be used to comply with the MCL. However, systems are not required to use the listed technologies in order to meet the MCL.

Initial monitoring of arsenic required groundwater systems to take one sample between 2005 and 2007. Monitoring requirements decreased to one sample every three years (for groundwater systems) if the initial result is less than the MCL. Monitoring requirements increased to quarterly samples if the initial results were greater than the MCL. Each entry point to the distribution system should have been tested, unless otherwise specified by the State.

The arsenic rule has been adopted by the Washington DOH as a revision to the arsenic MCL under WAC 249-290-310.

7.3.5.1 Monitoring Requirements

Monitoring requirements are once every three years, per requirements for IOCs. Arsenic must be monitored at each entry point to the distribution system as part of the IOC monitoring framework. If any sampling point is in violation of an MCL, the system is in violation.

7.3.5.2 Compliance

The City is in full compliance with the monitoring requirements and has no exceedances to date.

7.3.6 Surface Water Treatment Rules

7.3.6.1 Surface Water Treatment Rule

On December 31 1990, USEPA promulgated the Surface Water Treatment Rule (SWTR) to establish filtration and disinfection as a drinking water treatment technique in lieu of MCLs for Giardia lamblia, viruses, HPC bacteria, Legionella, and turbidity. The SWTR is based on the premise that all surface water and groundwater under the influence of surface water (GWI) are at risk of microbiological contamination and the previous requirements were inadequate to prevent waterborne disease outbreaks. The SWTR requires 99.9 percent (3 log) removal and/or inactivation of Giardia cysts, and 99.99 percent (4 log) removal and/or inactivation of viruses. To meet these requirements, surface water systems must disinfect according to strict requirements, must filter water unless certain source water-quality and site-specific conditions are met, and must be operated by qualified personnel. To avoid the filtration requirement, the following criteria must be met:

1. Ninety percent of the samples taken from the source water must have fewer than 100 total coliform bacteria per 100 milliliters (mL) and fewer than 20 fecal coliform bacteria per 100 mL.
2. The turbidity level prior to disinfection must not exceed 5.0 nephelometric turbidity unit (NTU).
3. Giardia and virus inactivation requirements must be met, providing redundant disinfection components and maintaining required disinfection residuals.

4. An approved watershed control program must be implemented with annual onsite inspections.
5. Total Coliform Rule (TCR) requirements in the distribution system and Triahalomethanes (THM) requirements must be met.
6. The water system must be free of waterborne disease outbreaks.
7. The purveyor must have alternative operating plans to address high turbidity levels and other water quality issues.

Utilities that use unfiltered water must maintain a disinfectant residual throughout the water distribution system. At entry points to the distribution system, residual disinfectant concentrations cannot be <0.2 mg/L for more than 4 hours. At distribution system sample locations, residual disinfectant concentrations cannot be undetectable in greater than 5 percent of samples in a month, for any 2 consecutive months. Heterotrophic plate count (HPC) ≤ 500/mL is deemed to have detectable residual disinfectant.

GWI is regulated by the SWTR. The intent is to provide the same level of treatment for groundwater sources that are at risk for contamination by pathogens as surface water supplies. Examples of water sources that may be classified as GWI are shallow wells, springs, infiltration galleries, and Ranney wells.

7.3.6.2 Long Term 2 Enhanced Surface Water Treatment Rule

The Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) is intended to address a number of deficiencies in the original 1990 SWTR, including the following:

1. Cryptosporidium is not addressed in the SWTR.
2. Pathogen reduction may not be adequate in poorer quality waters.
3. Virus disinfection requirements may be greater than indicated in the SWTR.
4. Disinfectants and Disinfection Byproducts Rule (DBPR) may undermine the SWTR by causing utilities to reduce disinfectant residuals.

USEPA developed the ESWTR in two stages. The proposed Interim Enhanced Surface Water Treatment Rule (Interim ESWTR) was published in the Federal Register on 29 July 1994. USEPA finalized the Interim ESWTR and Stage 1 DBPR in November 1998, as required by the 1996 Amendments to the SDWA, Section 1412(b)(2)(C). The final rules resulted from formal regulatory negotiations with a wide range of stakeholders that took place in 1992-93 and 1997. On 16 January 2001, USEPA published final revisions to the Interim ESWTR and Stage 1 DBPR. The Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) was promulgated in February 2002 and builds on the requirements of the SWTR. The LT1ESWTR specifies treatment requirements to address Cryptosporidium and other microbial contaminants in public water systems serving less than 10,000 persons.

The LT2ESWTR proposed rule was promulgated in August 2003 and published in the Federal Register on January 5, 2006. The LT2ESWTR requires public water systems (PWSs) that use surface water or groundwater under the direct influence of surface water to monitor their source water (influent water prior to treatment) for *Cryptosporidium, E. coli*, and turbidity for a period of two years starting six months after the rule is finalized. Based on the results of this monitoring, water systems will be classified in one of four risk bins. Systems classified in higher risk bins must provide 90 to 99.7 percent (1.0 to 2.5 log) additional reduction of Cryptosporidium levels. The regulation specifies a range of treatment and management strategies, collectively termed the "microbial toolbox," that systems may select to meet their additional treatment requirements. All unfiltered systems must provide at least 99 or 99.9 percent (2 or 3-log) inactivation of Cryptosporidium, depending on the results of their monitoring.

7.3.6.3 Monitoring requirements

Monitoring requirements are dictated by source water quality and the selected treatment processes. The City has recently completed construction of a new Slow Sand Filtration Treatment Plant for its surface water sources. The City's surface water sources have been listed as Bin 1 sources for cryptosporidium removal and do not require additional treatment beyond slow sand filtration. Specific treatment objectives and monitoring for the slow sand facility include:

- Turbidity reduction as required for slow sand filtration processes, providing finished water turbidity less than one NTU in 95 percent of samples each month and no turbidity samples greater than five NTU.
- Provide 3-log giardia removal and inactivation through a combination of 2-log removal by filtration and 1-log inactivation by chlorine disinfection.
- Provide a total 4-log virus inactivation and removal through filtration and disinfection.
- Provide a continuous free chlorine residual of not less than 1.0 mg/L entering the distribution system at the water quality station and pressure reducing valve (PRV) vault at NE 277th Avenue and NE 14th Street.
- Provide treated water pH of 7.5 plus or minus 0.2 units (if the optional caustic feed system is installed and used for pH adjustment).
- Provide a fluoride residual of 0.7 mg/L.

7.3.6.4 Compliance

The City has constructed a new slow sand filtration treatment plant that is in full compliance with all surface water treatment rules.

7.3.6.5 Filter Backwash Recycling Rule

The Filter Backwash Recycling Rule (FBRR) regulates the recycling of filter backwash water within the treatment process of public water systems. The purpose of the rule is to require systems to review their recycle practices and, where appropriate, work with the DOH to make any necessary changes to recycle practices that may compromise microbial control. The City's slow sand filter backwash water is wasted to a detention pond rather than recycled to the head of the plant and thus the FBRR does not apply.

7.3.7 Groundwater Rule

The USEPA enacted the final Groundwater Rule (GWR) January 8, 2007, for the purpose of providing increased protection against microbial pathogens in public water systems that use untreated groundwater. The GWR will apply to public water systems that serve groundwater as well as to any system that mixes surface and groundwater, if the groundwater is added directly to the distribution system and is provided to customers without providing disinfection contact time.

To implement the GWR, the USEPA is taking a risk-based approach to protect drinking water from groundwater sources that have been identified as being at the greatest risk of fecal contamination. This strategy includes four primary components:

1. **Sanitary Surveys**. Sanitary surveys must be conducted every three years and meet the provisions of the 1998 Interim ESWTR as it relates to populations served. In addition, the sanitary survey shall implement the eight elements of the USEPA/State Joint Guidance on Sanitary Surveys. These elements relate to source protection; identification of the physical components and their condition; and description and implementation of programs for treatment, distribution, storage, pumping, monitoring, operation and maintenance; and operator certification.

2. **Source Water Monitoring**. Source water monitoring is triggered when a system does not sufficiently disinfect drinking water to achieve 4-log (99.99 percent) virus removal and identifies a positive routine sample during its TCR monitoring and hydrogeologic sensitivity assessment monitoring (at the State's discretion) targeted at high-risk systems. Once a total coliform-positive sample is found within a distribution system, the system is required to collect one source water sample per source and monitor for a fecal indicator. Washington State may choose to issue a waiver if the groundwater source has a hydrogeologic barrier.

3. **Corrective Action**. Corrective action is required for any system with a significant deficiency or evidence of source water fecal contamination. Corrective actions must be taken by "groundwater systems that have a significant deficiency or have detected a fecal indicator in their source water." USEPA guidelines recommend that corrective actions take place within 90 days, or longer if approved by the State. The problem should be solved by eliminating the contaminate source, correcting the significant deficiencies, or providing an alternate source of water supply.

4. **Compliance Monitoring**. Compliance monitoring ensures that treatment technology installed to treat drinking water reliably achieves 4-log virus inactivation. Compliance monitoring applies to all groundwater systems that disinfect as a corrective action. Systems serving greater than 3,300 individuals must continuously monitor their disinfection treatment process. If disinfection concentrations are below the required level, the system must restore disinfection concentration within 4 hours.

The compliance date for triggered source water monitoring and the associated corrective actions, as well as compliance monitoring, was December 1, 2009. Initial sanitary surveys should have been completed by December 31, 2012. However, for community water systems that have been identified by the State as outstanding performers (generally those that have treatment that provides 4-log virus inactivation or removal at all sources), the initial sanitary survey must be completed by December 31, 2014.

Many of the requirements of the GWR are determined by the individual state agencies. The requirements of the GWR were adopted by the Washington DOH into WAC 246-290 in November 2010. In addition, the DOH has provided a Fact Sheet for Group A utilities with recommended actions to prepare for the GWR. These actions include the following:

- Correct deficiencies from the last sanitary survey.
- Install a sample tap at each wellhead.
- Know specifically where each well's water goes. Triggered source water monitoring will require monitoring of all sources, unless it can be shown that the area of concern in the distribution system is only served by a limited number of sources.
- Update the emergency response plan, to be ready to provide alternate water, if needed.
- If currently treating groundwater from a well, contact the regional office engineer to confirm whether you currently achieve 4-log virus inactivation. Systems that treat to this level will not be required to conduct triggered source water monitoring, but will instead be required to meet treatment technique monitoring requirements.

7.3.7.1 Monitoring Requirements

The DOH is not requiring all systems to perform assessment monitoring. In addition, DOH has indicated that the sanitary surveys completed under the GWR will not differ significantly from those currently required.

Triggered source water monitoring is required at all sources if a distribution system sample tests positive for total coliform (as collected under the total coliform regulations). The federal GWR includes a provision that positive coliform samples attributed to a distribution system source will not trigger source water monitoring. The DOH has not yet decided on the criteria for determining whether a sample can be attributed to the distribution system but

may not require triggered source monitoring if they document in writing that the coliform positive sample was attributed to a distribution system deficiency. Source water monitoring will be required at fewer sources if systems can demonstrate the sources impacting each TCR sample site. However, such a plan would need to be pre-approved by the DOH.

The federal GWR also allowed for reduced source water monitoring after 12 non-detect samples. The DOH has not yet established a reduced monitoring standard.

7.3.7.2 Compliance

The City completed its sanitary survey in 2014. No reduction in monitoring resulted from the survey. The City is in full compliance at this time.

7.3.8 Unregulated Contaminant Monitoring Rule

The 1986 amendments to the SDWA require public water systems to monitor for unregulated contaminants every five years and submit these data to the states. The intent of this program is to gather scientific information on unregulated contaminants to determine if regulations are required to protect human health. Both the 1993 and 1996 amendments to the act added new lists of contaminants, which led the USEPA to develop a revised program for monitoring. The new program became known as the Unregulated Contaminant Monitoring Regulations (UCMR 1999). The new UCMR program began in 2001, and produces a new list of unregulated contaminants for monitoring every five years.

Under the UCMR program, USEPA asks large systems to take two sets of samples for unregulated contaminants at six-month intervals. There are two tiers of contaminants in UCMR 1; List 1 - Assessment Monitoring, and List 2 - Survey Screening. List 1 contaminants are sampled by all water systems serving over 10,000 people. There are 10 List 1 contaminants, consisting of flame-retardants and other priority contaminants (USEPA Method 527), and some explosives (USEPA Method 529). List 2 contaminants are analyzed using less common analytical techniques, and only a portion of the purveyors required to test for List 1 contaminants are required to test for List 2. List 2 contaminants include Acetanilide pesticides and degraded products (USEPA Methods 525.2 and 535), and Nitrosoamines/NDMA (USEPA Method 521).

The second cycle (UCMR 2) of monitoring was published in the Federal Register on January 4, 2007. The UCMR 2 required monitoring for 25 contaminants using five analytical methods during 2008- 2010. The third cycle (UCMR 3) of monitoring was published on May 2, 2012. UCMR 3 requires monitoring for 30 contaminants: 28 chemicals, and 2 viruses. Monitoring is to occur during 2012 to 2016, and the third cycle UCMR 3 requires laboratories have USEPA approval to analyze public water supply samples.

7.3.8.1 Monitoring Requirements

The City has conducted monitoring of the unregulated contaminants for UCMR 1, 2, and 3. UCMR 3 testing was completed with results published in the 2015 Water Quality Report.

7.3.8.2 Compliance

The City is in compliance with the UCMR testing requirements.

7.4 DISTRIBUTION SYSTEM WATER QUALITY

Regulations that address distribution system water quality are described herein.

7.4.1 Total Coliform Rule

Coliform bacteria describe a broad category of organisms routinely monitored in potable water supplies. Though not all coliform bacteria are pathogenic in nature, they are relatively easy to identify in laboratory analysis. If coliform bacteria are detected, then pathogenic organisms may also be present. Bacterial contamination in a water supply can cause a number of waterborne diseases; therefore, these tests are strictly monitored and regulated by DOH.

The TCR specifies two types of MCL violations, “monthly” and “acute.” A purveyor is required to notify both DOH and system consumers if either a monthly or acute MCL violation occurs. The TCR also requires secondary disinfection in accordance with the following:

- A minimum disinfectant residual of 0.2 mg/L free chlorine or 0.5 mg/L chloramines measured as total chlorine must be continually present at the entrance of the distribution system, with a detectable chlorine residual maintained throughout the distribution system.
- A sample with HPCs less than 500 colony forming units per 100 mL is assumed to carry the required minimum residual.

The original 1989 TCR rule was revised on February 13, 2013. Water systems must comply with the requirements of the Revised Total Coliform Rule (RTCR) by April 1, 2016. The revision requires public water systems that are vulnerable to microbial contamination to identify and fix problems; and establishes criteria for systems to qualify for and stay on reduced monitoring, which could reduce water system burden and provide incentives for better system operation. The rule changes associated with the RTCR are summarized below.

- Monitoring Changes: The RTCR links monitoring frequency to water quality and system performance.
- Public Notification Changes: The RTCR requires public notification when an *E. coli* MCL violation occurs, or when a utility fails to conduct the required assessment and corrective action.

- MCL Changes and Treatment Technique Violation: The RTCR replaces the MCL and MCLG for total coliforms with a MCL and MCLG for *E. coli*, as well as a treatment technique for coliforms.
- New Assessment Requirements: As part of the new treatment technique requirements, all utilities must conduct an assessment to find and fix any vulnerabilities when a treatment technique trigger occurs. Systems must conduct a Level 1 assessment or a more complex Level 2 assessment depending on the level of concern raised by the results of total coliform sampling.
- Corrective Action Requirements: Utilities are responsible for correcting any sanitary defects found through Level 1 or Level 2 assessments within 30 days or on a schedule approved by the DOH if this timeframe is not possible.

7.4.1.1 Monitoring Requirements

Monitoring requirements are described in the City's coliform monitoring plan (CMP). The City currently collects 30 samples per month from 26 locations based on a residential population of 27,111 as provided by the DOH Water Quality Monitoring Schedule as of October, 2016.

7.4.1.2 Compliance

Within the last ten years the City has had two total coliform exceedances; one total coliform exceedances in 2015 and one total coliform exceedance in 2007. All follow-up tests were negative, and no public notification was required. The City is currently in full compliance with the TCR and its RTCR compliant CMP can be found in Appendix E.

7.4.2 Stage 1 Disinfectants and Disinfection Byproducts Rule

The Stage 1 DBPR was promulgated in December 1998 and regulates the concentration of disinfectants such as chlorine, chlorine dioxide, and chloramines, which are oxidants used to control waterborne disease. The DBPR also regulates DBPs such as THMs and Haloacetic acids (HAAs), bromate, and chlorite. DBPs are formed when disinfectants used to control microorganisms react with natural organic matter in water.

The MCLs for THMs and HAAs are 0.080 and 0.060 mg/L, respectively. The four regulated trihalomethanes are chloroform, bromodichloromethane, dibromochloromethane, and bromoform. The five regulated HAAs are monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid. Compliance with the THM and HAA MCLs is based on a system-wide RAA of quarterly samples taken in the distribution system. The Stage 1 DBPR also introduced a maximum residual disinfectant level (MRDL) of 4 mg/L for free chlorine, based on an RAA of samples collected concurrent with TCR monitoring.

7.4.2.1 Monitoring Requirements

Monitoring locations under the Stage 1 DBPR were initially identified in an Initial Distribution System Evaluation (IDSE) prepared by the City in 2004. The City's IDSE explains that the chlorine and chloramines are monitored as part of the CMP, which currently tests at 40 sites system wide. The City monitors quarterly for disinfectant residuals at each of these locations. Additionally, the IDSE identifies nine locations representing the longest detention time corresponding to each water treatment plant. The IDSE notes that because the City does not use ozone or chlorine dioxide, monitoring for bromated or chlorite is not necessary. Monitoring for DBPs included a THM and HAA sample from each site quarterly.

7.4.2.2 Compliance

The City meets the requirements of the Stage 1 DBPR.

7.4.3 Stage 2 Disinfectants and Disinfection Byproducts Rule

The Stage 2 DBPR was promulgated by the USEPA on January 4, 2006. The key provisions of the Stage 2 DBPR consist of:

- An IDSE to identify distribution system locations with high DBP concentrations. Further information is provided below.
- Site-specific locational running annual average (LRAAs) instead of system-wide RAAs to calculate compliance data. LRAAs will strengthen public health protection by eliminating the potential for groups of customers to receive elevated levels of DBPs on a consistent basis.

The MCLs for THM4 and HAA5 remain unchanged from the Stage 1 DBPR at 0.080 and 0.060 mg/L, respectively, although they will now be calculated as LRAAs.

The IDSE is the first step in Stage 2 DBPR compliance. Its intent is to identify sampling locations for Stage 2 DBPR compliance monitoring that represents distribution system sites with high THM and HAA levels. For systems serving more than 500 people, three options were available for the IDSE:

- 40/30 Waiver, which allows systems with no samples exceeding THM and HAA concentrations of 40 and 30 micrograms per Liter (µg/L), respectively, during eight consecutive quarters to apply to waive the IDSE requirements.
- Standard Monitoring Program (SMP), which involves a one-year distribution system monitoring effort to determine locations that routinely show high THM4 and HAA5 concentrations.
- System-Specific Study (SSS), based on historical data and a system model.

The Washington DOH adopted the Stage 2 DBPR on January 4, 2010.

7.4.3.1 Monitoring Requirements

The City was approved for a 40/30 waiver in 2006 and is currently required to collect two samples per year for THM and HAA5.

7.4.3.2 Compliance

The City is in compliance with monitoring requirements for the Stage 2 DBPR. Since April 2012, there have been no samples exceeding the MCL for THM or HAA5 as shown in Table 7.7. The results represent the range of samples from all sources sampled in a particular year.

Table 7.7 Disinfection Byproducts Rule Monitoring Results
Water System Plan Update
City of Camas

Contaminant	Maximum Contaminant Level Goal	Maximum Contaminant Level	2012	2013	2014	2015
Haloacetic Acids (µg/L)	48	60	1.2 - 7.4	1.1 - 3.7	1.5 - 4.2	9.6
Total Trihalomethanes (µg/L)	60	80	1.2 - 1.4	1.5 - 9.7	5.7 - 7.2	4.1 - 15

7.4.4 Lead and Copper

In 1991, the USEPA promulgated the Federal Lead and Copper Rule (LCR). Washington State adopted this rule in 1995 with minimal changes. The LCR is intended to reduce the tap water concentrations that can occur when corrosive source water causes lead and copper to leach from water meters and other plumbing fixtures. Possible treatment techniques to reduce lead and copper leaching include addition of soda ash or sodium hydroxide to the source water prior to distribution.

The LCR establishes an action level (AL) of 0.015 mg/L for lead and 1.3 mg/L for copper, based on the 90th percentile level of tap water samples. The most recent revisions (2007) added the following requirements (required as of December 10, 2009):

1. Monitoring. The rule adds a new reduced monitoring requirement, which prevents water systems above the lead AL to remain on a reduced monitoring schedule.
2. Treatment. Water systems must provide advanced notification and gain the approval of the primacy agency for intended changes in treatment or source water that could increase corrosion of lead.
3. Consumer notification. All utilities must now provide a notification of tap water monitoring results for lead to owners and/or occupants of homes and buildings who consume water from the taps that are part of the utility's sampling program.

4. Lead service line replacement. Utilities must reconsider previously "tested-out" lines when resuming lead service line replacement programs. This provision only applies to systems that have:
   a. Initiated a lead service line replacement program.
   b. Complied with the lead AL for two consecutive monitoring periods and discontinued the lead service line replacement program.
   c. Subsequently been re-triggered into lead service line replacement.
   d. All previously "tested-out" lines would then have to be tested again or added back into the sampling pool and considered for replacement.

An AL exceedance is not a violation but can trigger other requirements that include water quality parameter monitoring, corrosion control treatment, source water monitoring/treatment, public education, and lead service line replacement.

Samples must be collected at cold water taps in homes/buildings that are at high risk of lead/copper contamination as identified in 40 CFR 141.86(a). The number of sample sites is based on system size.

7.4.4.1 Monitoring Requirements

The City must collect 30 samples every three years, based on the standard monitoring schedule. The most recent set of customer tap samples were collected during September 2015.

7.4.4.2 Compliance

The City is installing a corrosion control system in the Slow Sand Filtration Plant to comply with the LCR. It is anticipated that corrosion control will require caustic soda and CO2 addition. This system is anticipated to be online in 2019. The City's monitoring results indicate that the City is in compliance with the requirements of the LCR. The City's LCR monitoring results for 2012 and 2015 are presented in Table 7.8. Results represent the 90th percentile of all samples taken within a given period.

Table 7.8 Lead and Copper Rule Monitoring Results
Water System Plan Update
City of Camas

Contaminant	Maximum Contaminant Level Goal (mg/L)	Action Level (mg/L)	2012 Result (mg/L)	2015 Result (mg/L)
Lead	0	0.015	0.0033	0.0026
Copper	0	1.3	0.56	0.61

7.5 WATER QUALITY MONITORING PROGRAM

Federal regulations related to system-wide requirements are discussed herein.

7.5.1 Consumer Confidence Report

The Consumer Confidence Report (CCR) Rule was finalized on September 19, 1998. Each July, community water systems must provide an annual report to customers providing information as to the quality of their drinking water supply. These reports are referred to as "Consumer Confidence Reports" or CCRs. These reports let customers know whether their water meets state and federal drinking water standards. The CCR includes information on the water source, the regulated and unregulated contaminants that have been detected during the year, and their concentrations. The report also provides information on DBPs or microbial contaminants and the potential health effects of the contaminants at concentrations greater than the MCL. The likely source of the contaminants is identified, and a summary of any violations in monitoring, reporting, or record-keeping is included. The reports can assist customers with special health needs to make informed decisions regarding their drinking water. CCRs provide references and telephone numbers as to health effects data and available information about the water system in general.

7.5.1.1 Compliance

The City issues an annual *Water Quality Report*, which includes a basic description of drinking water contaminants, source description, and annual water quality results. The 2016 *Water Quality Report* is included in Appendix E.

7.5.2 Public Notification Rule

The Public Notification Rule (PNR) requires that public water systems notify their customers when they violate USEPA or State regulations (including monitoring requirements) or otherwise provide drinking water that may pose a risk to consumers' health. The original public notification requirements were established in the SDWA; the revised PNR was promulgated in 2000 as required by the 1996 SDWA amendments.

The PNR establishes three notification levels:

- Immediate Notice (Tier 1): In a situation where there is the potential for human health to be immediately impacted, notification is required within 24 hours.
- Notice as Soon as Possible (Tier 2). In a situation where an MCL is exceeded or water has not been treated properly, but there is no threat to human health, notification is required as soon as possible and within 30 days.
- Annual Notice (Tier 3). In a situation where a standard is violated that does not directly impact human health, notice must be provided within one year, likely within the system's CCR.

Notification requirements are described in the City's Emergency Response Plan (ERP), available through City Staff. The ERP includes protocol for notifying the DOH and the public when a positive detection of VOCs/SOCs, IOCs, physical characteristics, or bacteriological presence is determined. The ERP maintains current phone numbers and contact information to all relevant utilities, contractors, government agencies, and local cable and radio stations.

7.5.2.1 Compliance

Because the City has never had a Tier 1, 2, or 3 violation, no notifications under the PNR have been required.

7.5.3 Operator Certification

The 1996 SDWA amendments require that states develop and implement an operator certification program. Final guidelines were published in February 1999. The regulations set out minimum guidelines for such a certification program including operator classification and qualifications. These sections of the regulation require that:

- Each treatment facility and/or distribution system is placed under the direct supervision of a certified operator.
- Operator certification must be equal to or greater than the system classification being operated.
- At least one certified operator is available on every shift.
- Operators must sit for, and pass, a validated exam demonstrating skills, knowledge, ability, and judgment necessary for the system classification.
- Each operator must have a high school diploma, GED, or state-approved experience and training.

While the responsibility for developing the program lies with DOH, individual systems must bring all operators up to the level of certification as required. The "grandparenting" clause of the regulation will address existing operators; however, new operators will be required to meet the guidelines of the legislation. Washington State issued revised operator certification guidelines in December 2000 (WAC 246-292). A grandparenting clause is also present in this regulation. However, because this clause expired in 2002, full compliance was required by that date.

On December 4, 2013, the DOH adopted the proposed rule changes for the Waterworks Operator Certification rule. The changes of the rule include strengthening the state's authority to enforce regulations, clarify authority to certify Backflow Assembly Testers (BATs) and Cross Connection Control Specialists (CCSs), and other updates to reflect current program practices, move requirements from guidelines into rules, and improve language and readability. Adopted changes pertinent to PWSs include the following:

- Requires purveyors to designate an operator in responsible charge for each operating shift and each major segment of the system, if applicable.
- Requires purveyors to designate and report all mandatory positions to the department within 30 days of starting operations or when a position is vacated.
- Purveyors shall not require operators to perform work that is beyond their skills, abilities, or level of certification.
- Additional requirements for operators, CCSs, and BATs are included.

7.5.3.1 Compliance

Operation, maintenance, cross-connection control, and water quality monitoring functions for the City are accomplished under the direction of the Water/Sewer Superintendent. As a Group A water system, the City presently meets minimum staff certification requirements. To ensure compliance in the future, all certified staff is provided the necessary expenses and leave time to attend classes and seminars in order to meet requirements for certification renewal. Further details on operator certifications are described in Chapter 4.

7.6 FUTURE REGULATORY REQUIREMENTS

Anticipated future regulatory requirements are summarized in Table 7.9. This table includes ongoing programs to introduce new regulatory requirements, under the UCMR and the Contaminant Candidate List (CCL), as well as specific rules and regulations currently under consideration. The City does not anticipate issues with meeting future regulatory requirements based on the limited available information. The City will revisit each proposed rule when specific requirements are published. A brief description of anticipated requirements under each rule is provided herein.

**Table 7.9 Future Regulatory Requirements
Water Quality Analysis
City of Vancouver**

Proposed Rule	Affected Contaminants	Proposed Publication Date(1)
Unregulated Contaminant Monitoring Regulations	Unregulated Contaminants	UCMR 4 - unknown
Contaminant Candidate List	Unregulated Contaminants	CCL4 - unknown
Radon Rule	Radon	Unknown
Perchlorate	Perchlorate	Unknown
Lead and Copper Rule Revisions	Lead Copper	Unknown
Carcinogenic VOC Rule	cVOCs	Unknown

Notes:

(1) Effective and compliance dates were obtained from the Federal Register and USEPA's Drinking Water Hotline and represent the best information available as of the date of this report.

7.6.1 Unregulated Contaminant Monitoring Rule

The USEPA UCMR is used to collect occurrence data for contaminants suspected to be present in drinking water, but do not yet have health-based standards. The current UCMR was discussed in Section 7.3.8. The UCMR is updated every five years; however, no issue date for UCMR 4 has been published by the USEPA at this time.

7.6.2 Contaminant Candidate List

The CCL aids in priority setting for the drinking water program. The USEPA conducts research on the following for CCL contaminants: health effects; analytical methods; treatment technologies, effectiveness, and costs; and occurrence. The third CCL (CCL3) was published in October 2009 and includes 104 chemicals or chemical groups and 12 microbiological contaminants that are known or anticipated to occur in public water systems. The list includes chemicals used in industry, pesticides, waterborne pathogens, DBPs, and biological toxins. The USEPA is currently requesting nominations for chemical and microbial contaminants for possible inclusion in the fourth CCL.

7.6.3 Radon Rule

Radon is a naturally occurring radioactive gas that may cause cancer and may be found in drinking water and indoor air. The first proposed radon MCL of 300 pCi/L was proposed in August 2000. An alternative MCL of 4,000 pCi/L with implementation of a Multimedia Mitigation Program targeted at reducing indoor-air risks has also been proposed. Final determination on a regulatory requirement for radon is still underway.

7.6.4 Perchlorate

The USEPA made a preliminary determination in late 2008 to not set an MCL for perchlorate. In the USEPA's *Interim Drinking Water Health Advisory for Perchlorate* released in December 2008, it is stated that a perchlorate concentration below 15 parts per billion (ppb) would be sufficient to protect subpopulations. The contaminant was slated to be part of UCMR 2, however, public comments asserting that no new information would be gained from additional monitoring were heeded, and the contaminant was removed from consideration. In early 2011, USEPA reversed course and decided to initiate the process for developing a national primary drinking water regulation for perchlorate. The USEPA is still in the process of publishing a proposed regulation; no confirmed date is available from the USEPA at this time.

7.6.5 Revisions to the Lead and Copper Rule

Stakeholder meetings were held twice in 2014 to discuss the long-term revisions that will replace the short-term revisions promulgated in 1999. Items subject to revision will be tiering criteria, service line replacement, corrosion controls, and water quality parameters. It is unknown when these revisions will be finalized.

7.6.6 Carcinogenic Volatile Organic Compounds (cVOC) Rule

The USEPA announced in February 2011 that it plans to develop one national primary drinking water regulation covering up to 16 carcinogenic volatile organic compounds. The following eight compounds are already regulated: benzene, carbon tetrachloride, trichloroethylene (TCE), vinyl chloride, 1,2-dichloroethane, tetrachloroethylene (PCE), 1,2-dichloropropane, and dichloromethane. The following eight potential contaminants are on the CCL3: 1,1-dichloroethane, 1,2-butadiene, aniline, benzyl chloride, nitrobenzene, oxirane methyl, 1,2,3-trichloropropane, and urethane. The USEPA may add, drop, or substitute other contaminants into the rule as additional information becomes available. The USEPA website provides little information on this rule, but does project publication of the rule in February 2018.

7.7 SUMMARY AND RECOMMENDATIONS

The City seeks to maintain high water quality for its customers from the source to the tap. In addition, the City complies with all DOH monitoring and reporting requirements. Therefore, no recommendations were identified in evaluating the City's water quality program.

Chapter 8

WATER RESOURCES

The City of Camas (City) has diverse water supply sources, including wells and surface water supplies. To meet future demands, the City will be required to fully use its water resources and develop new sources to continue to provide a high level of service. The City currently receives its water from 10 wells and two surface water diversions. This chapter presents an evaluation of these supplies to identify any future deficiencies in the City's water rights or in the ability of its supplies to produce reliable water at the levels needed to meet future demands. These deficiencies are addressed by the City's water supply strategy summarized in this chapter.

8.1 WATER RIGHT ANALYSIS

The City relies upon its groundwater wells and surface water sources to meet its current supply needs. Water rights for these sources are administered by the Washington State Department of Ecology (DOE). Source water protection is regulated by the Washington State Department of Health (DOH). This section summarizes the City's existing water rights and analyzes the ability of the rights to meet the City's projected demand.

The City obtains its water from two surface water sources and ten wells. Eight of the nine groundwater sources are located in the City's "Lower Washougal Wellfield", commonly referred to as the Washougal Wellfield, in the lower Washougal floodplain near downtown Camas. The remaining well (Well 9) is located in the uplands about 2 miles north of the Columbia River and 1.5 miles west of Lacamas Lake. The City's Boulder and Jones Creek surface water diversions are located in the headwaters of the Washougal River drainage.

The City has diverted water from Jones Creek since 1913 and from Boulder Creek since 1931. Traditionally, the surface water sources were the City's primary water sources and operated continuously for 24 hours per day with the wellfield being used to meet higher summer peaks. In looking at ways to meet its future demands, the City realizes the importance of protecting the streams and rivers of the region, and understands that there is no opportunity for expansion of the surface water diversions. The City decided to meet future water supply needs with ground water, and the most promising area for future supply has been identified as the productive Pleistocene Alluvial Aquifer (PAA) system in the lower Washougal floodplain.

With the issuance of 4 new groundwater permits in 2008 came the requirement that the City cease their surface water operations between May 15 and October 31 of each year. The requirement further stated that "At the State's discretion, the water rights associated with these diversions will be placed into the State's Trust Water Program as permanent, seasonal donations". In 2015 the City attempted to place the rights into the Trust Program but was advised by DOE that the action was not strictly necessary provided they agreed to operate the surface water system consistent with the intent of the agreement.

Today, the City's focus is on developing new groundwater sources under its existing and applied for water right permits.

8.1.1 Water Rights Summary

The City's water system (DOH ID 108002) currently has two water right claims which have been modified by Certificates of Change, eight certificated water rights, and four water right permits. A summary of the City's water rights is provided in Table 8.1. Copies of the water right certificates for each well are included in Appendix G. The City's 2015 Water Facility Inventory (WFI) is provided in Appendix F. Note, Ecology extended the development schedule on the Parkers Landing and Wastewater Treatment Plant site water right permits to 2020 upon the City's request in November of 2015. The City's current plan for developing the wells is presented in Section 8.4.

The City has limitations on its water rights that are poorly documented and complicate the calculation of total instantaneous water right (Qi) and annual water right (Qa).

- Jones and Boulder Creek surface water sources may only be operated seasonally from May 15 through October 31. The Qa for periods outside of the operating time window are used to maintain instream flow in the Creeks (not for City use). The original water rights have not been modified to reflect the change in operation.
- Water Right permits and certificates with priority dates before 1979 were limited by DOE to a "total Qa of 5,750 acre-feet per year (AFY)". Those rights are shaded green in Table 8.1.
- The modifications of the City's water right claims resulted in the recognition of an additional 550 AFY which increased the total Qa to 6,300 acre-feet/year with priority dates before 1979.
- Well 9 is considered an alternative water right with a non-additive Qa. The permit does not increase the cumulative annual total of all rights but does increase the Qi.

The City's resulting water rights equate to Qi of 14,045 gallons per minute (gpm) (20.2 million gallons per day [mgd]), primary Qa of 11,090 AFY (9.89 mgd), and alternative Qa of 210 AFY (0.3 mgd).

Table 8.1 Water Right Summary

Source	ID Number	Priority Date	Instantaneous Qi (gpm)	Annual Qa (AFY)
Claims				
Well 1	G2-CV1-2P159 (121022)	06/11/74	900	320(1)
Well 2	G2-CV1-2P160 (121023)	06/11/74	900	230(1)

Table 8.1 Water Right Summary				
Well 10	Claims transferred from Wells 1 and 2[6]			
Well 12	Claims transferred from Wells 1 and 2[6]			
Certificates				
Boulder Creek[7]	S 712	08/22/23	1,120 (2.5 cfs)	977 [2] (P)
	CS2-SWC 712			843 P (Instream Flow)
Jones Creek[7]	S 711	09/05/30	450 (1.0 cfs)	393[3] (P)
	CS2-SWC 711			337 P (Instream Flow)
Well 3	G 85-A	07/21/45	1,200	118 (P)
Well 4	G 4072-A	02/12/59	1,325	1,208 (P)
Well 5	G 6636-A	03/22/68	600	920[4] (P)
Well 6	G 6635-A	03/22/68	1,500	2,400[4] (P)
Well 7	G2-00501	03/22/71	1,000	530[5] (P)
Well 8	G2-24400	02/04/77	900	530[5] (P)
Well 11	Water Right transferred from Well 3[5]			
Well 13	Water Right transferred from Well 4[5]			
Permits				
Well 9	G2-27384	08/13/86	650	210 (A)
Washougal Wellfield Permit	G2-30144	08/13/86	500	2,150 (P)
Well 14 (Anderson Site)	G2-30145	08/13/86	1,000	880 (P)
Parkers Landing	G2-30146	08/13/86	1,000	880 (P)
Treatment Plant Well	G2-30147	08/13/86	1,000	880 (P)
Total			**14,045 gpm**	**11,090 (P)** **210 (S)**
Pending Applications				
Camas Meadows	G2-30019		1,000	1,200
Fire Station	G2-30018		350	300
Steigerwald Regional Supply [8]	G2-30528		17,213	13,555

Table 8.1 Water Right Summary

Notes:

(1) Claims are considered valid until proven otherwise through an adjudication process.
(2) This source was formerly known as the Little Washougal River. The certificate refers to an instantaneous quantity (Qi) and does not specify an annual withdrawal. A DOE Report of Examination for Well No. 7 (G2-00501) summarizes existing water rights, including 1,820 AFY for Boulder Creek (S 712), based on continuous withdrawal at the instantaneous right specified.
(3) The certificate refers to an instantaneous quantity (Qi) and does not specify an annual withdrawal. A DOE Report of Examination for Well No. 7 (G2-00501) summarizes existing water rights, including 730 AFY for Jones Creek (S 711), based on continuous withdrawal at the instantaneous right specified.
(4) The Permit and Report of Examination preceding this certificate limited water rights to "the total quantity withdrawn or diverted from all sources is not to exceed 3,300 AFY."
(5) The Permit and Report of Examination preceding this certificate limited water rights to "the total quantity withdrawn or diverted from all sources is not to exceed 5,750 AFY."
(6) Well 10, 11, and 12 were installed to replace Well 1, 2 and 3, which have failed due to collapsed well casings; see Pacific Groundwater Group report dated June 9, 2003. Well 13 replaced Well 4 after Well 4 was determined to be groundwater under the influence of surface water; see Pacific Groundwater Group report dated August 14, 2006. G2-CV1-2P160 which is now associated with Well 10 allowed for seasonal between May 1st and August 31st. Year-round operation of Well 10 is authorized under Permit G2-30144 for the Washougal Wellfield.
(7) See DOE agreement that limits withdrawal from the surface water sources from May 15 through October 31.
(8) Joint application with City of Camas and City of Washougal
(9) (P) = Primary water right, additive to other rights.
(10) (A) = Alternative water right, not additive or considered when summing a cumulative total of all rights.

8.1.2 Water Rights Analysis

The City's water rights were compared to current (2015), 10-year (medium-term, 2025) and 20-year (long-term, 2035) production to establish water right excess or deficiency. Both Qi and Qa were considered and are summarized in Table 8.2 and Table 8.3, respectively. Note, the Plan was started in late 2016, where 2015 was the last full year of record and used in the analyses. The City's Water Rights Self-Assessment is provided in Appendix H and includes the latest 2018 information.

The City currently has surplus water rights based on the actual well pumping in 2015, which was considered to be the existing condition. Note, the reported values reflect the pumping over the entire year, where not all wells were pumped at the same time.

Table 8.2 Instantaneous Water Rights (Qi) Summary

Year	Future Forecasted Source Production (gpm)(1)	Instantaneous Water Right (Qi) (gpm)	Surplus/Deficiency (gpm)
2015	11,395 [2]	14,045	2,650
2025	13,300	14,045	745
2035	17,770	14,045	-3,725

Table 8.2 Instantaneous Water Rights (Qi) Summary			
Year	**Future Forecasted Source Production (gpm)(1)**	**Instantaneous Water Right (Qi) (gpm)**	**Surplus/Deficiency (gpm)**
Notes: (1) Future values based on the high maximum day demand (MDD) demand projection scenario. (2) Summation of maximum instantaneous yield from each water right in 2015.			

Table 8.3 Instantaneous Water Rights (Qa) Summary			
Year	**ADD - High Scenario (AFY)**	**Annual Water Right (Qa) (AFY)**	**Surplus/Deficiency (AFY)**
2015	4,723 [2]	11,090	6,367
2025	7,780	11,090	3,310
2035	10,080	11,090	1,010
Notes: (1) Future values based on high average day demand (ADD) demand projection scenario. (2) Based on actual 2015 annual production data.			

For the future water rights evaluation, the forecasted source production was based on the high demand projection scenario. The high demand scenario generally reflects the water use rates from the period of highest demands in the last eight years, as presented in Chapter 4. Use of the highest projected demands is intended to ensure the City has sufficient physical supplies to meet demands and provide sufficient time for in phasing in new supplies, which is typically a multi-year process.

The City is expected to have a sufficient Qi through the next 10 years. The City is expected to have a Qi deficiency starting in 2027 and increasing to -3,725 gpm (-3.3 mgd) in 2035, which equates to approximately 27 percent of the existing Qi. As described in the water supply strategy later in this chapter, the City plans to meet this deficiency by a combination of developing all of its existing water rights, developing pending city groundwater rights (the Fire Station water right), and using the Steigerwald Regional Supply Source with the City of Washougal (pending water right). Additionally, the City will continue to encourage water use efficiency including the reduction of irrigation use, which is a major driver for the relatively high projected maximum day demand (MDD).

8.2 ABILITY TO PUMP

The City will have sufficient Qa for the next 20 years. However, a relatively small percentage of Qa is remaining in 2035. Therefore, it is recommended the City begin to pursue new Qa sources before the end of the study period. Ability to pump

In addition to water rights, the City further evaluated each source's actual supply capacity or "Ability to Pump". The Ability to Pump comprehensively considers physical, water quality, and

regulatory limitations. The resulting total Ability to Pump was compared to demands to determine supply excess or deficiency. Supply improvements are proposed to eliminate all deficiencies. As with the water right evaluation, the supply evaluation considered both MDD and average day demand (ADD) conditions. Further, the Ability to Pump was evaluated for three supply scenarios:

- Standard (all supplies).
- Reliability (only supplies with backup power).
- Redundancy (largest source out-of-service).

8.2.1 MDD Ability to Pump

The MDD Ability to Pump represents the City's Ability to Pump during the peak water use period, typically late-July through mid-August. The standard scenario represents the City's ability to meet MDD with all sources pumping continuously (24 hours per day). This represents the maximum quantity of water that can be produced. The redundancy scenario represents the City's ability to meet MDD with the single largest source offline. The reliability scenario represents the City's ability to meet MDD during a widespread power outage where only supplies with auxiliary power are considered. Demands above the MDD (such as peak hour demands or fire flow) are met from storage and are evaluated in Chapter 9.

The City's existing MDD Ability to Pump is tabulated in Table 8.4. The table quantifies the following components:

- Instantaneous Water Right (Qi): The sum of instantaneous water rights or contractual maximum at each source.
- Pumping Capacity: The pump or physical capacities at each source.
- Treatment Capacity: The available treatment capacity for each applicable source.
- Operational Limitations: Limitations due to water quality in sources without treatment, well field water right limitations (rather than a well specific Qi), and aquifer limitations.
- Auxiliary Power: Source is considered to be reliability if backup power (onsite generator or quick connects).

The City's existing Ability to Pump is approximately 9,300 gpm (13.4 mgd) in the standard scenario and approximately 7,900 gpm (161.4 mgd) in the redundancy scenario. Improvements to existing well capacity may increase supply by 1,145 gpm to approximately 10,475 gpm by resolving operational challenges with Well 5, physical capacity issues in Well 6, and minor changes in Wells 7 and 8. The future construction of the Parkers Landing and Treatment Plant wells add an additional 2,000 gpm of MDD Ability to Pump and resolve the majority of differences between the instantaneous water right and rated source capacity. Additional Auxiliary power is needed for Washougal Wellfield (Wells 5, 6, 7, 9, and 10) to increase the reliable Ability to Pump. Note, the City's surface water sources, Jones and Boulder Creek, cannot be used in the summer per water right; therefore, they were not included in the MDD Ability to Pump analysis.

8.2.1.1 MDD Supply Analysis

The MDD Ability to Pump was compared with the projected MDD for the planning period to evaluate if the City has sufficient supply, as shown in Figure 8.1 and Table 8.5. The top green line represents the maximum instantaneous supply allowed by the City's existing water rights. The solid and dashed red lines represent the existing MDD ability to pump for the standard and redundancy scenarios, respectively. The solid orange line represents the reliability scenario. The demand projections are shown for the high, medium (thicker dashed purple line in Figure 8.1), and low scenarios. Although the high demand projection scenario was used to determine water rights deficiencies, the combination of the high demand scenario and the redundancy supply scenario was considered to be overly conservative. Therefore the medium demand projection scenario is used to determine supply Ability to Pump deficiencies and is presented in Table 8.5. The demands shown in column 2 of Table 8.5 include not only retail demands (medium scenario), but also 830 gpm to replenish fire storage, per DOH recommendations.

The City currently has sufficient supplies to meet the projected demands through 2022 for the standard scenario (solid red line in Figure 8.1). However, the City is anticipated to exceed the MDD Ability to Pump by 2018 for the redundancy scenario (dashed red line in Figure 8.1)). The City will need an additional approximately 3,690 gpm of supplies to meet the standard scenario by the end of the planning period. Considering redundancy (largest source out of service), the City will need an additional 5,040 gpm of redundant supplies by the end of the planning period to avoid a deficiency. To meet the City's reliability goals, all source would require backup power by the end of the planning period.

8.2.2 ADD Ability to Pump

The ADD Ability to Pump evaluation confirms the ability of the City to supply its demand throughout the year. The ADD was used to represent the average conditions expected to occur. Similar to the MDD Ability to Pump evaluation, standard, redundancy, and reliability scenarios were considered for ADD.

The City's existing Ability to Pump is tabulated for the standard scenario in Table 8.6 that consists of the following components:

- Annual Water Right (Qa): The sum of Primary annual water rights or contractual limitations at each source.
- Rated Source Capacity: The pump or physical capacities at each source.
- Treatment Capacity: The available treatment capacity for each applicable source.
- Operational Capacity: Limitations due to water quality in sources without treatment, well field water right limitations, and aquifer limitations.
- Auxiliary Power: Source is considered to be reliability if backup power (onsite generator or quick connects).

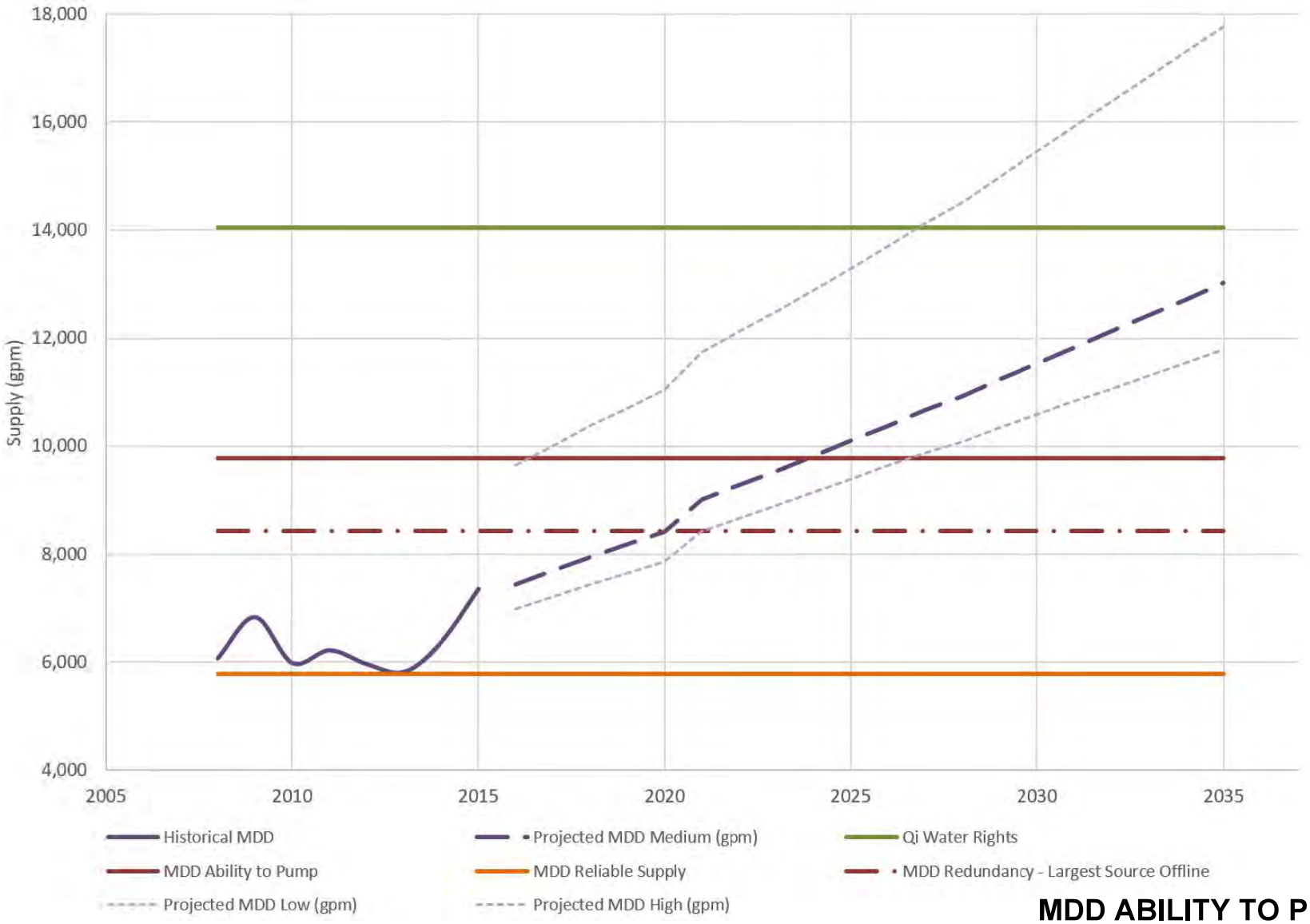
Table 8.4 Maximum Day Demand Ability to Pump Summary

Source	Instantaneous Water Right (gpm)	Rated Source Capacity (gpm)	Treatment Capacity Limitations (gpm)	Operational Capacity (gpm)	Auxiliary Power (Reliability)	Ability to Pump (gpm)	Reliable Ability to Pump (gpm)	Redundancy - Largest Source Out-of-Service
Boulder Creek	0(1)	0(1)		0(1)	Yes	0	0	0
Jones Creek	0(1)	0(1)		0(1)	Yes	0	0	0
Well 5	600	500		0(2)	No	500	0	500
Well 6	1,500	1,000			No	1,000	0	1,000
Well 7	1,000	950			No	950	0	950
Well 8	900	1,350		1,350(3)	Yes	1,350	1,350	0
Well 9	650	650(4)			No	650	0	650
Well 10	900	900			No	900	0	900
Well 12	1,200	1,200			Yes	1,200	1,200	1,200
Well 11	900	900			Yes	900	900	900
Well 13	1,325	1,325			Yes	1,325	1,325	1,325
Well 14	1,000	1,000			Yes	1,000	1,000	1,000
Washugal Wellfield Right	500	Used at Well 8				NA	NA	NA
Parkers Landing	1,000	0 5						
Treatment Plant Well	1,000	0 5						
Total	**12,975**	**9,775**				**9,775**	**5,775**	**8,430**

Notes:

(1) Water rights do not allow use of the surface water sources during the summer; therefore, it is not considered for the MDD evaluation.
(2) Forest Home booster pump station (BPS) must be on to prevent over pressurization of 343 Downtown Zone during Well 5 operation.
(3) The Washougal Wellfield instantaneous water right of 500 gpm is currently exercised at Well 8.
(4) High Silica content requires valving in distribution system.
(5) City has water right permit, but has delayed well construction until required to meet customer demand.

Table 8.5 MDD Ability to Pump Analysis							
Year	**MDD + Fire Flow Replenishment (gpm) [1]**	**Existing MDD Ability to Pump (gpm)**	**Surplus/ Deficiency (gpm)**	**Redundancy**	**Surplus/ Deficiency (gpm)**	**Reliability**	**Surplus/ Deficiency (gpm)**
2021	9,020	9,775	755	8,425	-595	5,775	-3,245
2025	10,100	9,775	-325	8,425	-1,675	5,775	-4,325
2035	13,020	9,775	-3,245	8,425	-4,595	5,775	-7,245
Notes: (1) Column 2 demands include retail demands plus 830 gpm to replenish fire storage, per DOH recommendations.							



MDD ABILITY TO PUMP

FIGURE 8.1

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

p:\n\Carollo\Documents\Client\WA\Camas\10116A00\Deliverables\WSPU\Ch 08 – Water Res.\Fig_08_01.docx

Table 8.6 Annual Ability to Pump Summary

Source	Annual Water Right (gpm)	Rated Source Capacity (gpm)	Treatment Capacity Limitations (gpm)	Operational Capacity (gpm)	Auxiliary Power (Reliability)	Ability to Pump (gpm)	Reliable Ability to Pump (gpm)	Redundancy - Largest Source Out-of-Service (gpm)
Boulder Creek	606	1,120	1,120		Yes	606	606	606
Jones Creek	244	450	450		Yes	244	244	244
Well 5	570	500		0[(1)]	No	0	0	0
Well 6	1,488	1,000			No	503	503	0
Well 7	329	950			No	329	329	0
Well 8	329	1,350		736[(2)]	Yes	736	736	736
Well 9	0	650		0[(3)]	No	0	0	0
Well 10	198	900		0[(4)]	No	0	0	0
Well 12	73	1,200		765[(2)]	Yes	73	73	73
Well 11	143	900			Yes	765	765	765
Well 13	749	1,325			Yes	749	749	749
Well 14	546	1,000		850[(2)]	Yes	850	0	850
Washugal Wellfield Right	1,333	Used at Wells 8, 12, and 14				NA [4]		
Parkers Landing	546	0				0		

Table 8.6 Annual Ability to Pump Summary

Source	Annual Water Right (gpm)	Rated Source Capacity (gpm)	Treatment Capacity Limitations (gpm)	Operational Capacity (gpm)	Auxiliary Power (Reliability)	Ability to Pump (gpm)	Reliable Ability to Pump (gpm)	Redundancy - Largest Source Out-of-Service (gpm)
Treatment Plant Well	546	0				0		
Total	**8,432**	**11,400**				**4,860**	**4,020**	**4,010**

Notes:

(1) Forest Home BPS must be on to prevent over pressurization of 343 Downtown Zone when Well 5 is run. Well 5 is used as a seasonal source due to this operational complexity.
(2) The Washougal Wellfield annual water right of 1,333 gpm is anticipated to be exercised at Well 8, 12, and 14; however, actual well use will vary due to operational & maintenance needs.
(3) Well 9 is typically used to meet summer demands. Alternative annual water right (210 AFY) typically does not allow for winter pumping. High Silica content requires valving in distribution system.
(4) Well 10 may only be used between May 1st and August 31st per its water right.
(5) The Washougal Wellfield annual water right has been allocated to individual wells.

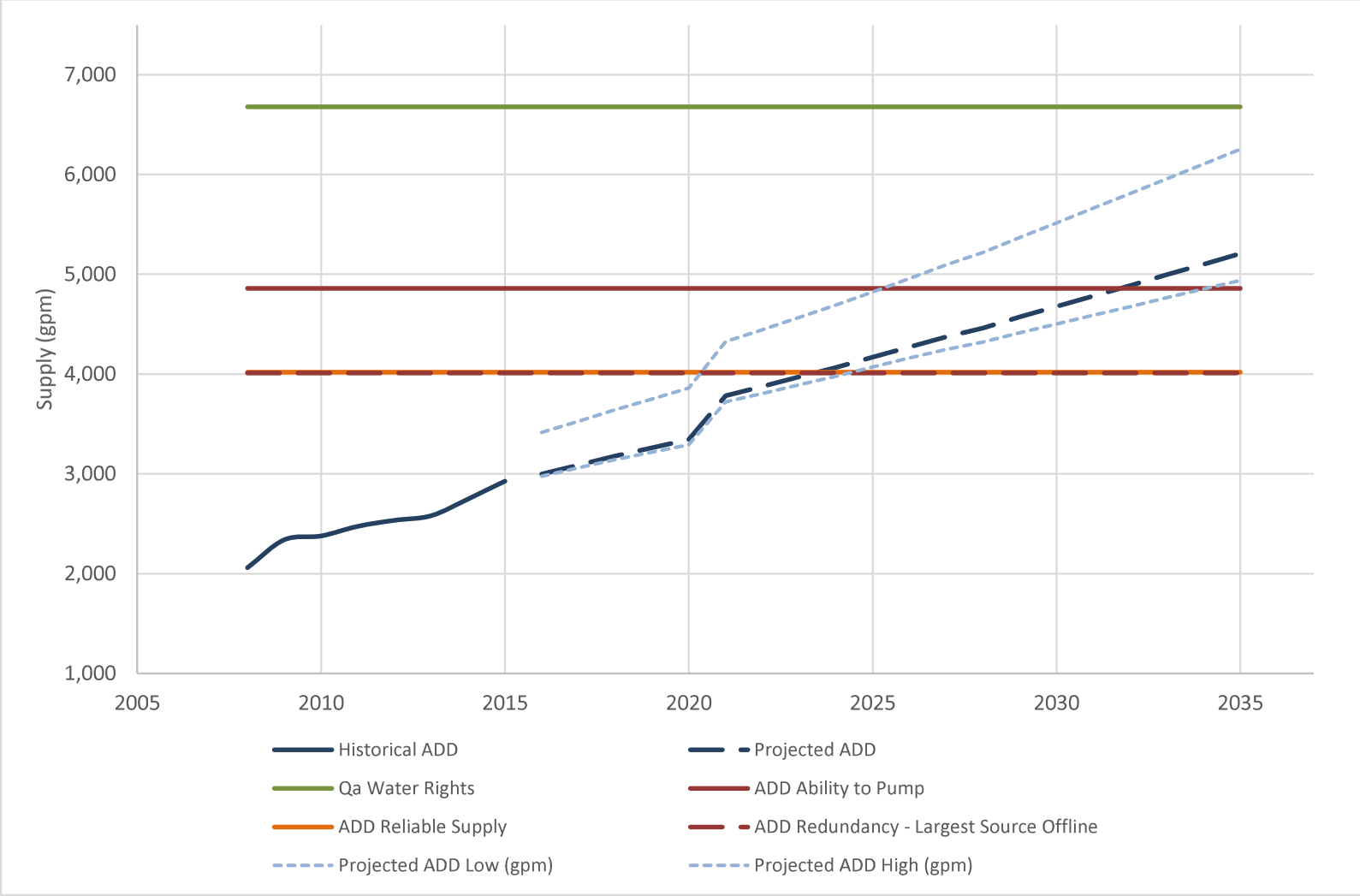
Similar to the MDD Ability to Pump evaluation, the City's wells have the pumping or physical capacity to use their entire water rights. Seasonal water right limitations the ADD Ability to Pump to approximately 4,855 gpm. Considering the largest source out-of-service (Well 14), the ADD Ability to Pump drops to 4,005 gpm. The City's annual restrictions for water rights with priority dates before 1979 account for the majority of differences between the Qa and rated source capacity (see above water right analysis for additional detail). The City's existing sources have sufficient capacity to produce their full annual water right. Additional annual supplies may come from the undeveloped Well 17, Parkers Landing Well, and Treatment Plant Well, and Steigerwald supply. Note, the City's surface water sources, Jones and Boulder Creek, are included in the ADD Ability to Pump analysis.

8.2.2.1 ADD Supply Analysis

Similar to the MDD, the ADD Ability to Pump was compared with the projected medium ADD scenario for the planning period to evaluate if the City has sufficient supply, as shown in Figure 8.2 and Table 8.7. This Figure uses the same coloring as Figure 8.1, where the green line represents the Primary Qa, rather than the Qi. Consistent with the MDD ability to pump, the medium demand scenario was used to determine deficiencies and is presented in Table 8.7. The City currently has sufficient supplies to meet the projected demands throughout 2032 for the standard scenario (solid red line) and 2024 for the redundancy scenario (dashed red line). The City will need an additional approximately 350 gpm of supplies to meet the standard scenario and 1,200 gpm for the redundancy scenario. It is anticipated that projects to address the MDD Ability to Pump deficiencies, which occur earlier in the planning period, will also address the ADD Ability to Pump deficiencies. To meet the City's reliability goals, all sources will require backup power by the end of the planning period.

Table 8.7 ADD Ability to Pump Analysis

Year	ADD (gpm)	Existing ADD Ability to Pump (gpm)	Surplus/ Deficiency (gpm)	Redundancy	Surplus/ Deficiency (gpm)	Reliability	Surplus/ Deficiency (gpm)
2021	3,790	4,860	1,070	4,010	220	4,020	230
2025	4,170	4,860	690	4,010	-160	4,020	-150
2035	5,210	4,860	-350	4,010	-1,200	4,020	-1,190



ADD ABILITY TO PUMP

FIGURE 8.2

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

8.3 INTERTIES

Interties provide a tool that water utilities use to move water between systems to meet supply needs, increase reliability, and respond to emergencies. The City has interties with the City of Vancouver and the City of Washougal. The City of Vancouver Intertie, located at SE 192nd Ave and 41st Drive, provides service to the River Gateway development. The Washougal Interties provide emergency supply to the City.

In the future, the City plans to develop the Steigerwald Regional Supply Source jointly with the City of Washougal. The City anticipates there will be opportunities for future wholesale and/or emergency interties with the City of Washougal as part of the project.

8.4 WATER SUPPLY STRATEGY

The City requires additional supplies to provide the sought level of service during the planning period, where deficiencies occur starting in 2018 for the redundancy MDD scenario. The City will need to provide a minimum additional supply of 5,040 gpm MDD Ability to Pump by the end of the planning period. The City's water supply strategy has four parts:

- Washougal Wellfield Renewal.
- Construct Wells for Existing Water Rights.
- Secure Additional Water Sources.
- Continue a Water Use Efficiency (WUE) Program.

The improvements are grouped by planning horizons: short-term (2017-2021), medium-term (2022-2025), and long-term (2026-2035).

8.4.1 Washougal Wellfield Renewal

Improved pumping from existing well facilities to achieve their full water right can provide additional future supply. The Ability to Pump Analysis identified that 1,175 gpm (1.7 mgd) of MDD supply can be obtained through improved pumping from Well 6, as well as minor increases from Well 7 and Well 8. While the pumping capacity will increase, the improved wells will not increase the ADD Ability to Pump due to water right restrictions. The Washougal Wellfield Renewal effectively delays the need for Steigerwald Regional Supply Source.

Potential improvements to these existing supply faculties may include the following.

- The City is currently upsizing the pipeline between Well 6 and Well 14, which resolves an existing transmission deficiency that restricts Well 6 pumping. This project was assumed to be complete in all analyses.
- Increase the yield of Well 6 to 1,500 gpm (an additional 500 gpm) to make full use of its instantaneous water right. This may require a hydrogeological study to determine the most cost-effective approach to well redevelopment.

- The City may improve pumping capacity of Well 7 and Well 8 as part of future regular pump maintenance/replacement. This will provide an additional 75 gpm of MDD Ability to Pump.
- Install backup power for Wells 5, 6, 7, 9, and 10 to increase reliability of the wellfield.

It is anticipated that all new supplies will have backup power available. Installation of backup power at the Washougal Wellfield will make the City's supplies fully reliable.

The City's supply sources are in good condition. To maintain the supply facilities, the City has an ongoing operation and maintenance (O&M) program. Repair and replacement (R&R) activities will be triggered by components reaching the end of their usable life. Additional information on the City's O&M and R&R programs is presented in Chapter 4.

8.4.2 Construct Wells for Existing Water Rights

City has existing water right permits for wells at Parkers Landing and Treatment Plant. Construction of these wells is anticipated in the 2020 and the medium-term planning horizon, respectively, to meet customer demand. The completion of these water rights will increase the Ability to Pump buy 2,000 gpm during the MDD and 1,092 gpm during the ADD. The hydraulic analysis, presented in Chapter 9, indicates that distribution system improvements will be needed to convey the new supplies to the wider system.

8.4.3 Secure Additional Water Sources

The City is actively pursuing new water sources to meet future deficiencies and to improve supply redundancy. During the planning period, the City plans to develop its existing water rights (Treatment Plant Well and Parkers Landing Well) and is designing Well 17 (Water Right Application G2-30019) near the North Shore area to better serve this area of future growth. Well 17 is expected to yield 500 gpm. The City has recently purchased the Owahou Water Rights to help offset in-stream impacts from this future water right. Additionally, the City has applied for a new well near Fire Station # 42 - 4321 NW Parker St - (Water Right Application G2-30018, Well 18) in the 544 Pressure Zone. The Fire Station Well water right application provides for 350 gpm of instantaneous supply and 300 AFY of annual supply from an 12-inch well. Hydrogeological investigations indicate that Well 18 is not viable; therefore, he City is exploring alternate locations for this well.

In the long-term, the City anticipates obtaining supply from the future Steigerwald Regional Supply Source (Water Right Application G2-30528), as discussed in the Detailed Implementation Plan (Lower Columbia Fish Recovery Board 2008) for the Salmon-Washougal and Lewis Watershed Water Resource Inventory Areas (WRIAs). Under Washington Administrative Code (WAC) 173-500-040, WRIAs were formalized and the DOE was given responsibility for the development and management of these planning boundaries. The Salmon-Washougal and Lewis Watershed Management Plan WRIAs 27 and 28 (Lower Columbia Fish Recovery Board 2006) and subsequent Detailed Implementation Plan were created to address a range of issues related to water resources, including water supply, stream flow management, water quality, and fish habitat. The City of Camas and the Jones and Boulder Creek surface water supply watersheds reside within WRIA 28.

The completion of WRIA 27 and 28 watershed plans in 2008 eliminated the water rights reservation established by WAC 173-592 and replaced them with regional water supply areas and some stream allocations in WAC 173-527 for the Lewis River Basin (WRIA 27) and WAC 173-528 for the Salmon Creek-Washougal River Basin (WRIA 28).

The Watershed Management Plan discusses the regional water supply areas for Camas, which was designated as the Steigerwald area near Washougal. DOE has designated water supplies near the City as "Instream Flow with Closures and Reserves." This designation limits the ability of the City to obtain new water rights outside of the regional water source.

The Steigerwald Regional Supply Source will be jointly developed with the City of Washougal. The Cities have applied for a joint water right (Water Right Application G2-30528) for 17,213 gpm of instantaneous water rights and 13,555 AFY of annual water right. The Place of Use has been designated as both the City's and Washougal's water service area. It is anticipated that the supply source will include ten 20-inch diameter wells with individual well yields of 2,000 gpm or more. As an entirely new supply source, the City's will need to permit, design, and construction the proposed wells and related facilities, such as disinfection, auxiliary power, and potentially treatment. To convey the water, the City will need several miles of transmission main.

Additionally, the City may consider purchasing water rights from Georgia Pacific, if available, to develop an additional future water source closer to the City's water system.

8.4.4 Continue a Water Use Efficiency Program

The final element of the City's supply strategy is to continue to reduce demand through its water use efficiency program. The City has observed declining per account water use for over a decade. The observed drop in the water use and MDD peaking factor can be attributed in part to the City's water use efficiency program, which is summarized in Chapter 6. WUE gains, including reductions in distribution system leakage, may delay the need for new supplies presented below.

8.4.5 Summary of Improvements

The City water supply strategy largely continues previously planned water supply projects. These new water sources will be required in the planning period to provide redundant supply to its customers. In addition to previously planned projects, the City anticipates completing the Washougal Wellfield Renewal Project to increase the ability to pump and reliability of the wellfield. These projects include:

1. Well 17 (CIP Project SR-6).
2. Well 15 - Parkers Landing Site (CIP Project SR-7).
3. Well 16 - Treatment Plant Site (CIP Project SR-9).
4. Well 18 - Fire Station Site at a new location (CIP Project SR-9).

5. Washougal Wellfield Renewal Project: Full use of Well 6. Backup power will be added to Wells 5, 6, 7, 9, and 10.

6. Steigerweld Regional Supply (CIP Project SR-11).

Tables 8.2 and 8.3 describe each improvement, timing, increase in supply, and resulting Ability to Pump after project completion. By the end of the planning period, the proposed new wells and Washougal Wellfield Renewal Project are expected to effectively make full use of the City's existing and proposed water rights. The addition of the Washougal Wellfield Renewal Project delays the City's need for new regional supplies from the Steigerweld Regional Supply until approximately 2030. It is anticipated the supplies will be constructed in phases to meet expected demand growth and spread out the significant capital costs. For planning purposes, it was assumed that Steigerwald supplies would be developed one well at a time, where the City’s portion of each well would be 1,000 gpm (half of the proposed 2,000 gpm well). Water rights were assumed to be proportional to the pending water right.

The increase in ability to pump for these improvements are shown in Figure 8.3 and 8.4 for MDD and ADD, respectively. To maintain redundant MDD Ability to Pump, the City will need to develop up to 5 new wells (Wells 6, 15, 16, 17, and 18) in the next decade. Therefore well development is anticipated to be a major element of the City's CIP. Note, the ADD Ability to Pump does not increase from the Washougal Wellfield Renewal project due to water right restrictions.

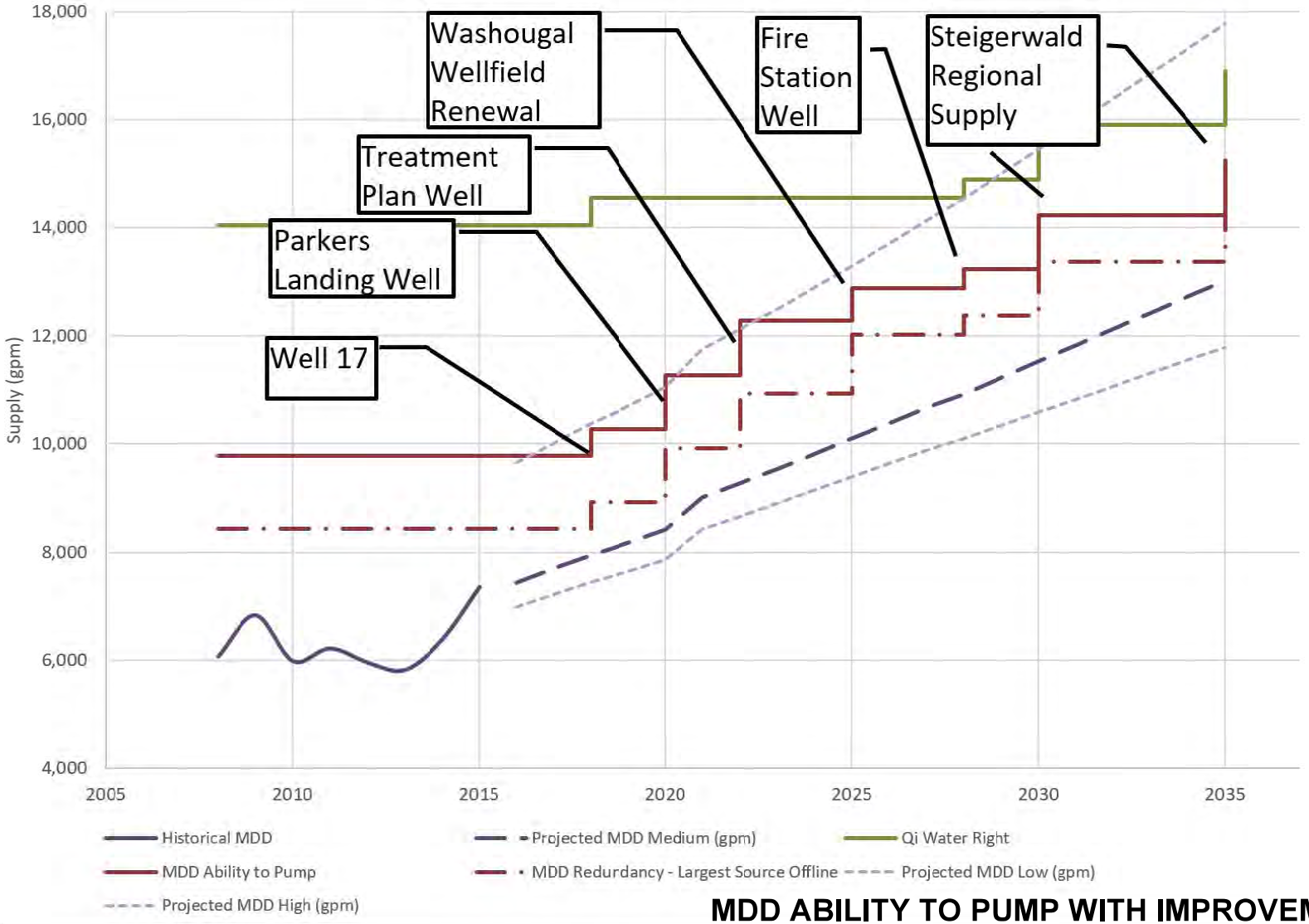
The supply improvements allow the City to meet the high ADD projection; however, the City cannot reasonably meet the high MDD projections, which conservatively reflects both unusually high base and peak water use. Therefore, it is recommended that they continue its water use efficiency program efforts to reduce the risk of very high peak demands.

Table 8.8 Supply Improvements - ADD Ability to Pump

Improvement	Timing	Additional Supply (gpm)	ADD Ability to Pump (gpm)	Reliable ADD Ability to Pump (gpm)	Redundant ADD Ability to Pump (gpm)
	Existing		4,860	4,020	4,010
Construct Well 17	2018	275	5,135	4,295	4,285
Construct Parkers Landing Well	2020	546	5,681	4,841	4,831
Construct Treatment Plant Well	Medium-term	546	6,227	5,387	5,377
Washougal Wellfield Renewal	Medium-term	-	6,227	6,227	6,209
Construct Fire Station Well	Long-term	186	6,413	6,413	6,395
Steigerwald Phase 1	Long-term	489	6,903	6,903	6,885
Steigerwald Phase 2	Long-term	489	7,392	7,392	7,374

Table 8.9 Supply Improvements - MDD Ability to Pump

Improvement	Timing	Additional Supply (gpm)	MDD Ability to Pump (gpm)	Reliable MDD Ability to Pump (gpm)	Redundant MDD Ability to Pump (gpm)
	Existing		9,775	5,775	8,425
Construct Well 17	2018	500	10,275	6,275	8,925
Construct Parkers Landing Well	2020	1,000	11,275	7,275	9,925
Construct Treatment Plant Well	Medium-term	1,000	12,275	8,275	10,925
Washougal Wellfield Renewal	Medium-term	610	12,885	11,925	12,025
Construct Fire Station Well at a new location	Long-term	350	13,235	12,275	12,375
Develop Steigerwald Phase 1	Long-term	1,000	14,235	13,275	13,375
Develop Steigerwald Phase 2	Long-term	1,000	15,235	14,275	14,375

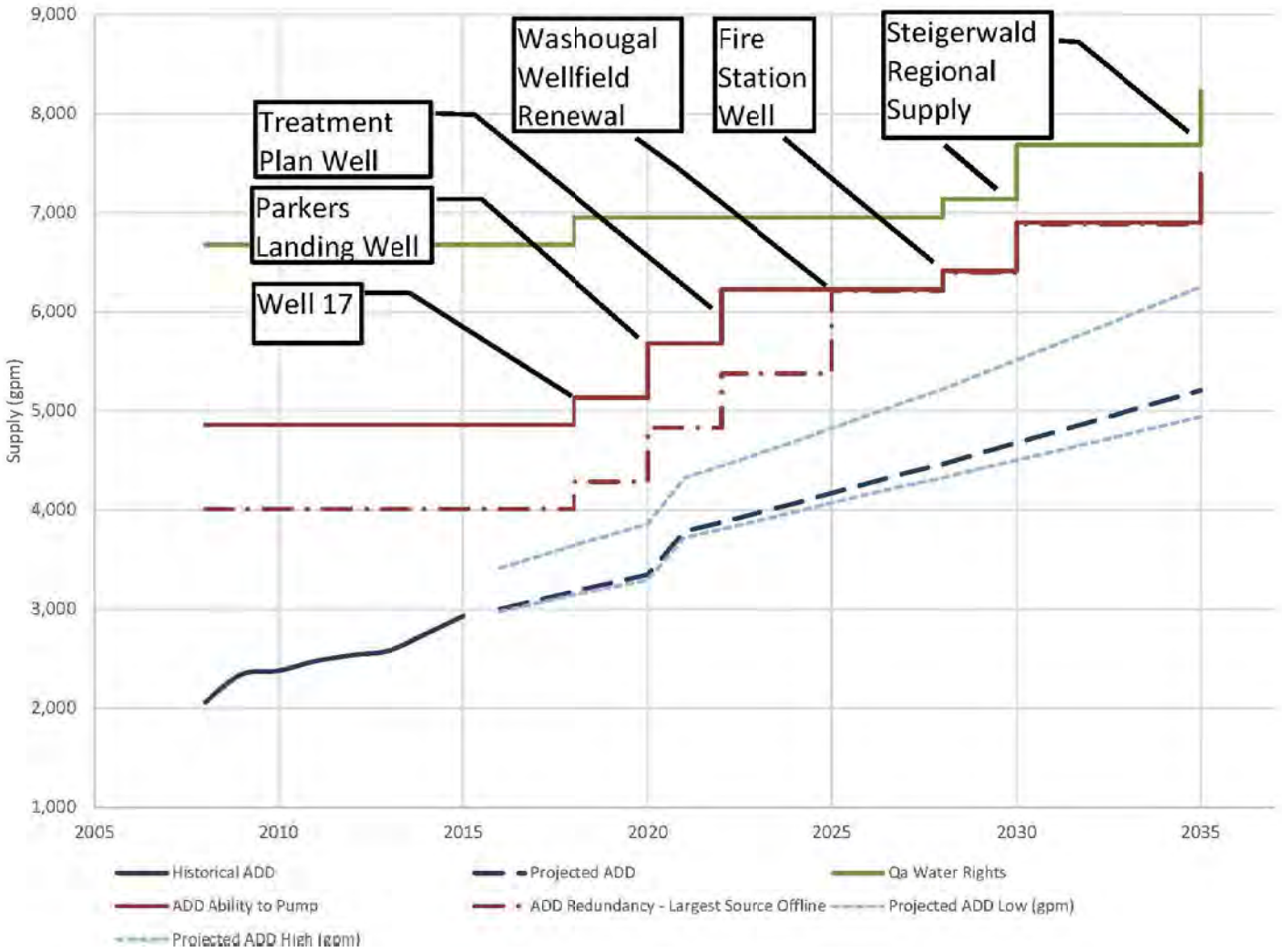


MDD ABILITY TO PUMP WITH IMPROVEMENTS

FIGURE 8.3

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo



ADD ABILITY TO PUMP WITH IMPROVEMENTS

FIGURE 8.4

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

p:\m\Carollo\Documents\Client\WA\Camas\10116A00\Deliverables\WSPU\Ch 08 – Water Res.\Figure 8.4.docx

8.5 GROUNDWATER MANAGEMENT

The City's wellhead protection plan was updated as part of the Plan. Section 1428 of the 1986 Amendments to the Federal Safe Drinking Water Act (SDWA) mandates that each state develop a wellhead protection program and that all federally defined public water systems (in Washington, Group A systems) using groundwater as its source implement a wellhead protection plan. In July 1994, the WAC addressed requirements for Group A public water systems (WAC 246-290) and was modified to include mandatory wellhead protection measures. The legislative authority to require wellhead protection (WHP) planning can be found in the Revised Code of Washington (RCW) Chapters 43.20.050, 70.119A.060, and 70.119A.080.

8.5.1 Wellhead Protection Program

The overall goal of the state WHP program is to prevent the contamination of groundwater used by Group A public water systems. This is to be accomplished by providing management zones around public wells, identifying existing groundwater contamination sources, and managing potential sources of groundwater contamination prior to their entry into the drinking water system. Under the WAC, local public water systems have the primary responsibility for developing and implementing local wellhead protection plans (WHPP). However, due to the limited jurisdictional and regulatory authority afforded most purveyors, coordination with other local, State, and Federal agencies is essential to the successful implementation of a WHPP.

The DOH has developed regulations that require Group A water systems using groundwater sources to develop and implement the WHPP (WAC 246-290-135). The objective is to prevent releases of contaminants to groundwater in areas that contribute water to the public supply systems. The City's Well Head Protection Report is included in Appendix I.

The basic elements of a WHPP include:

- Assessment of initial groundwater susceptibility for each water supply source.
- Delineation of the WHP area that directly contributes groundwater to each water supply well.
- Inventory of land uses and identification of potential sources of contamination within each wellhead protection area (WHPA).
- Documentation of notification to owner/operators of known or potential hazards.
- Development of spill prevention plans and water contingency plans that minimize or eliminate the possibility of contamination to the groundwater supply and also development of options for maintaining water supply in the event the aquifer contributing to a source is contaminated.

The State of Washington WHPP applies to the City's wells.

8.5.2 Wellhead Protection Area

The updated WHPP developed WHPA using the City's wells, including the recent Well #14 and future Parkers Landing and Treatment Plant wells. Capture zones for the Lower Washugal Wellfield

were estimated using a calibrated groundwater flow model, MODFLOW. The model simulations assumed that the City would exercise all of their existing and two future wells. This assumption provides for a fairly conservative assessment of the capture zone extent. In addition, a high-end pumping was assumed for the nearby Georgia Pacific Wellfield.

8.5.3 Existing and Potential Contamination Hazard Identification

The City performed a risk assessment within the modeled capture zones. The inventory of potential contamination sources within the WHPA was performed according to the DOH publication: "*Inventory of Potential Contaminant Sources in Washington's Wellhead Protection Areas (1993)*." Potential contaminant risks that lie within the vicinity of Camas' Lower Washougal Well-field were investigated and mapped using data from two sources. The first, a parcel data-base that contains information on land use and zoning, was provided by Clark County 2016. The second contains data from the DOE's Facility / Site database, including state cleanup sites, federal superfund sites, hazardous waste generators, solid waste facilities and underground storage tanks. The information from these sources were classified and plotted on GIS coverages to assess whether existing and potential contaminant sources were located within the vicinity of Camas' production wells and WHPA delineations2.

Table 3 in Appendix A of the Wellhead Protection Plan summarizes known environmental sites of potential concern within the Lower Washougal Wellfield wellhead protection capture zones. Thirty-six contaminant sources of potential concern to the water supply were identified within the Lower Washougal wellfield capture zone.

8.5.4 Protection Strategies and Implementation Tasks

As described in the WHPP, the nine shallow wells within the Lower Washougal wellfield are most susceptible to contaminant risks given the hydrogeology and land surface activities. The capacity of the most productive wells in the Lower Washougal wellfield is about 1,300 gpm. If the supply from one of these wells was lost or compromised, the City would have to rely on a combination of the other sources to meet summer time peak demands (other wells, interties, and emergency use of surface water sources).

Additional risks to the City's supply arises from the fact that five of the City's wells (Wells 7, 8, 10, 11, and 12) are clustered in close proximity to each other (Figure 5). Several, if not all, of these wells could be impacted by a single contaminant release, such as a major railroad spill. Depending on the nature of impact to the wells, the City could perform immediate mitigation with changes in well pumping, treatment, blending of waters between wells, and other operational changes to meet demands; however, should multiple wells become impacted, the City may not be able to support the City's entire water demand on a sustainable basis, particularly during the high demand summer months. If multiple wells are impacted, the City may need to institute short-term rationing and pursue expedited drilling of additional wells.

Chapter 9

SYSTEM ANALYSIS

9.1 INTRODUCTION

The City of Camas' (City) water distribution system was evaluated for its ability to meet the City's performance criteria under 2021, 2025, and 2035 future conditions using the medium demand projection scenario described in Chapter 5. The distribution system was evaluated for its pumping reliability and redundancy and the availability of storage using a desktop system analysis. Service pressures and available fire flows for both maximum day demand (MDD) and average day demand (ADD) conditions were evaluated using the City's updated hydraulic model.

This chapter presents the results of the system analysis and discusses in detail recommended improvements to meet the City's level of service goals. These recommendations form the basis of the City's capital improvement program (CIP) outlined in Chapter 10. Many supply, pumping, storage, and pipeline improvements will be necessary during the planning horizon to meet the City's projected substantial growth in water demand. The recommended supply, pumping, and storage improvements are summarized graphically on Figure 9.7. Pipe improvements as well as the location of supply, pumping, and storage improvements are shown on Figure 9.12 through Figure 9.13. All recommended improvements are summarized in Table 9.11 through Table 9.15.

9.2 SERVICE AREAS

For the pumping and storage analyses, the City's distribution system was divided into five sections referred to as "service areas". Each service area has its own supply and storage facilities and was evaluated against the City's pumping and storage criteria independently. The five service areas, which are shown on Figure 9.1 are:

1. 343 Service Area. Consists of the Butler, Cemetery, and Downtown 343 pressure zones.

2. 455 Service Area. Consists of the 455 Pressure Zone.

3. 542 Service Area. Consists of the 542 Pressure Zone. By 2025 the City intends to connect the 542 Pressure Zone and 544 Pressure Zone with a new transmission main around the north end of Lacamas Lake. Therefore, starting in 2025, the 542 Service Area will become part of the 544 Service Area. This combined service area is referred to as the 542/544 Service Area in this chapter.

4. 544 Service Area. Consists of the 544 Pressure Zone and its pressure reducing valve (PRV)-fed 440 subzone. Starting in year 2025 it will become part of the 542/544 Service Area.

5. 852 Service Area. Consists of the 852 Zone and its many PRV-fed subzones.

The existing supply, pumping, and storage infrastructure and their capacities are shown for each service area in Figure 9.2. This figure also indicates the total well capacity (Q_{IN}) and booster pump station (BPS) capacity (BPS_{IN}) for each service area.

9.3 PUMPING ANALYSIS

9.3.1 Pumping Criteria

For this water system plan update, the City updated its pumping reliability and redundancy criteria as described below. The capacity of pumping into each of the City's service areas was evaluated against the following criteria.

1. Pumping Reliability. Wells and booster pumps with back-up power should be capable of supplying MDD for the water system while concurrently replenishing fire suppression storage within 72 hours.

2. Pumping Redundancy. With the largest pump in each booster pump station out of service, the remaining pumps should provide MDD whole concurrently replenishing fire suppression storage within 72 hours.

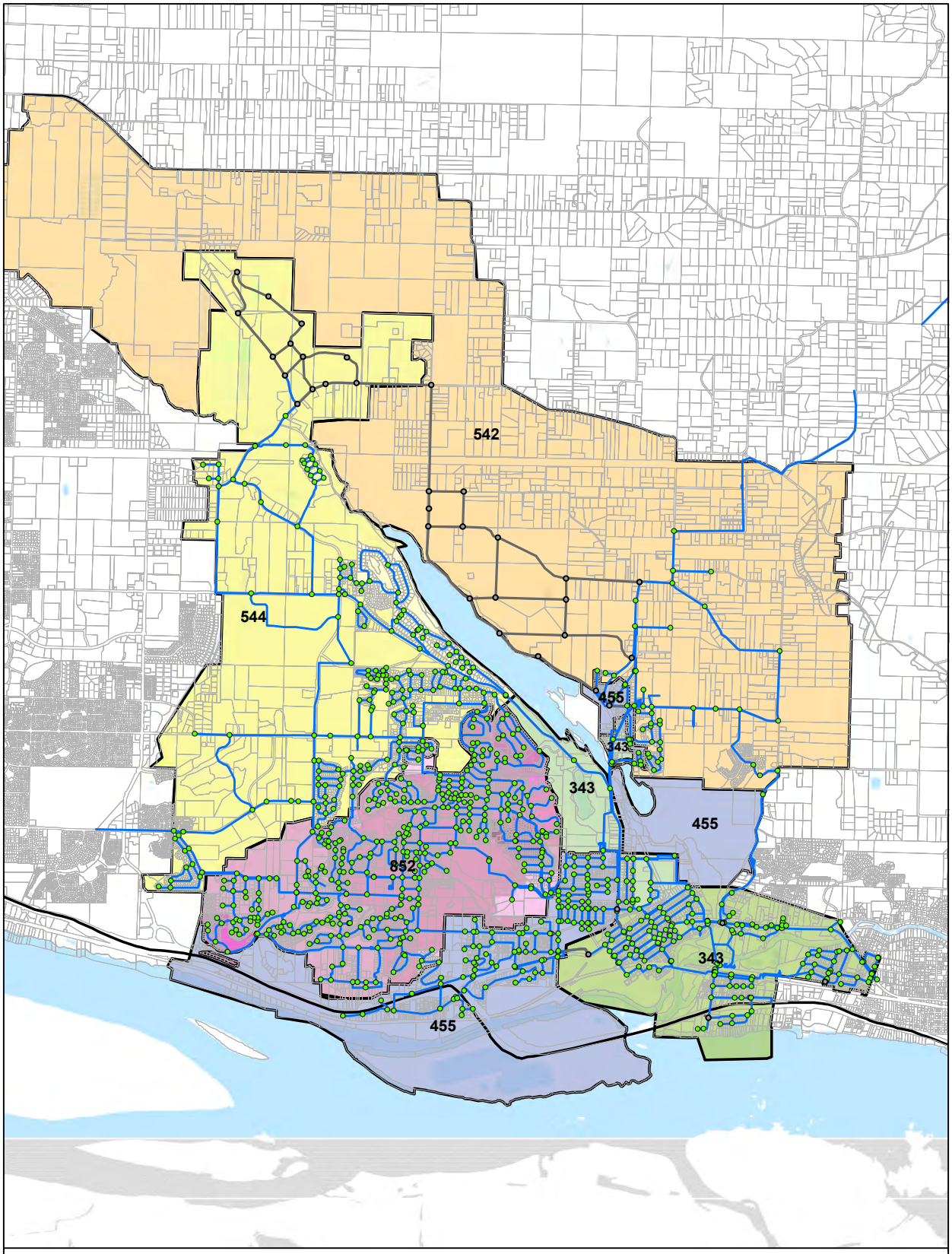
The City’s pumping criteria only address MDD conditions. During the winter and average day demand (ADD) conditions, the City operates their slow sand filter that supplies the 542 Zone, offering increased supply redundancy. If the City meets their MDD pumping reliability and redundancy goals, they will by default also be able to supply ADD reliably and redundantly.

9.3.2 Pumping Reliability

The City's water system was evaluated against its pumping reliability criterion for each of the service areas and each planning year. The results of this analysis are presented in Table 9.1 where the surplus/(deficit) reliable supply is the difference between the total pumping requirement, and the net service area supply. Results for year 2035 are shown graphically in Figure 9.3. Four of the City's wells (6, 7, 9, and 10), and two of its booster pump stations (Forest Home and Butler) do not have backup power. These pumps are shown as red in Figure 9.3. As indicated by orange in Figure 9.3, the Angelo BPS has backup power, but not enough to run at full capacity. The capacities shown next to each well or BPS in Figure 9.3 are their reliable capacities.

With only its reliable pumps in operation, the City can only meet 2021 MDD in the 542 and 852 service areas. Demands in the other three service areas cannot be met. By 2035, all service areas are deficient.

In order to meet the pumping reliability criteria, back-up power sources able to provide full capacity are needed at all existing wells and BPSs as well as all future wells and BPSs.



Legend

- Highway 14
- Parcels
- Waterbody
- Existing Water Main
- Future Pipelines
- Existing Junction
- Future Junctions
- Service Area

Pressure Zones

- 343
- 455
- 542
- 544
- 852

N

0 0.25 0.5 Miles

SERVICE AREAS

FIGURE 9.1

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlowServiceAreas.mxd

Figure 9.2 Existing System Pumping and Storage Capacities

Excel graphic of system showing pumping capacities

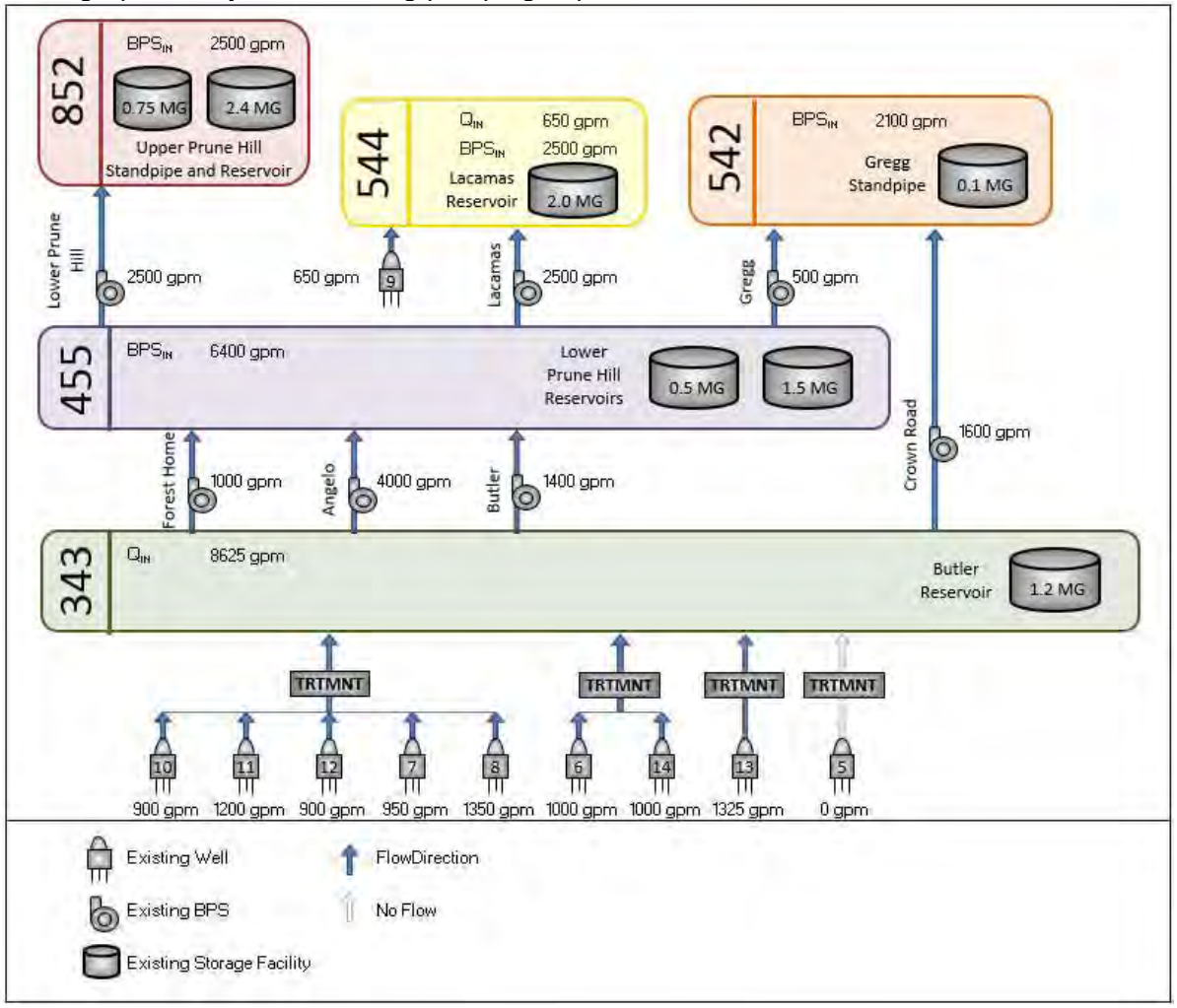
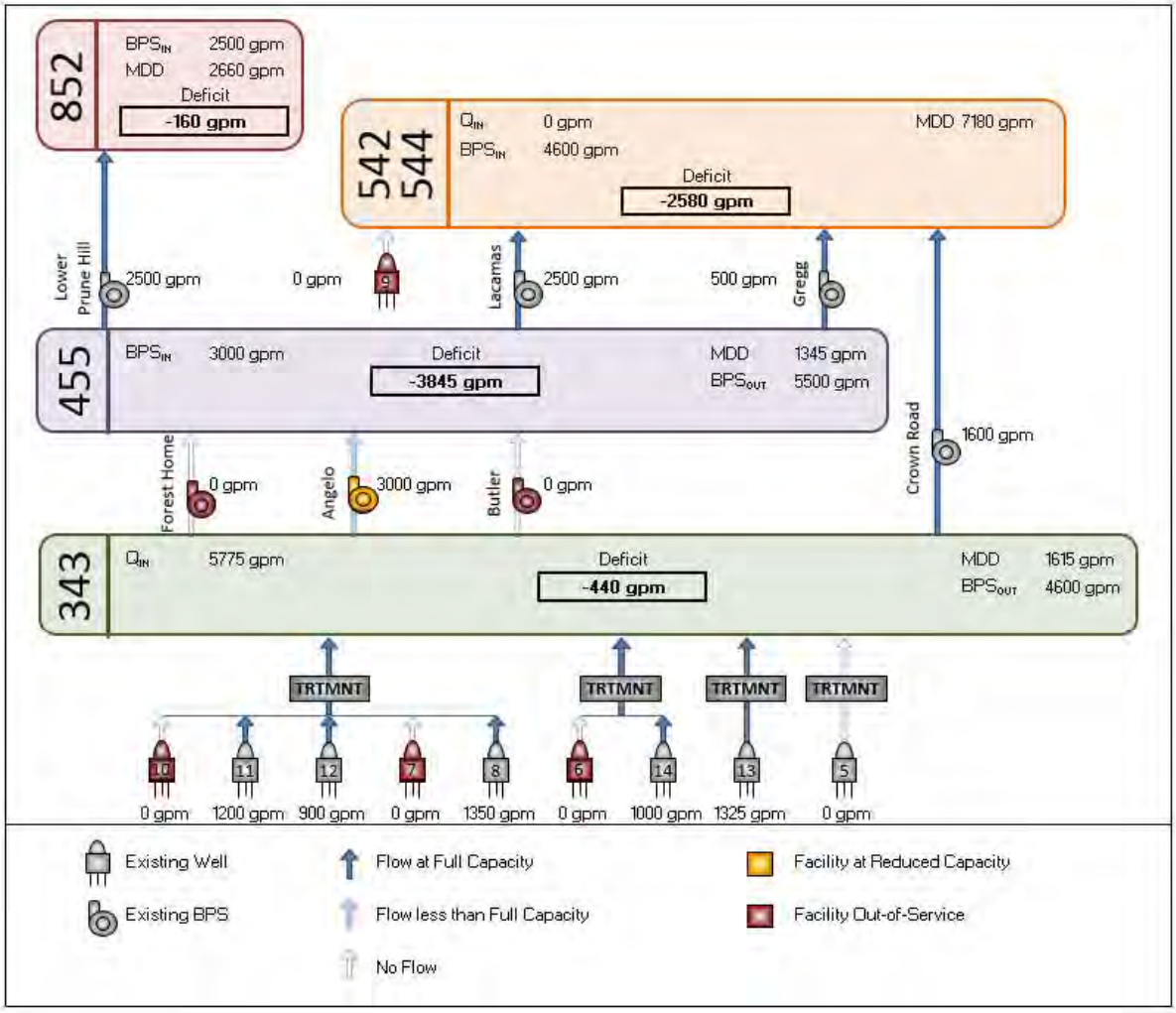


Table 9.1 Pumping Reliability Analysis
Water System Plan
City of Camas

Service Area	**343**			**455**			**542**	**544**	**542/544[1]**	**542/544**	**852**		
Year	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**	**2021**	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**
MDD of Service Area (gpm)	1,265	1,305	1,395	1,040	1,130	1,290	1,165	2,415	4,405	6,900	2,290	2,425	2,590
Fire Storage Volume (gal)	960,000	960,000	960,000	240,000	240,000	240,000	960,000	1,200,000	1,200,000	1,200,000	300,000	300,000	300,000
Fire storage Replenishment Flow (gpm)	220	220	220	55	55	55	220	280	280	280	70	70	70
Total Pumping Requirement	**1,485**	**1,525**	**1,615**	**1,095**	**1,185**	**1,345**	**1,385**	**2,695**	**4,685**	**7,180**	**2,360**	**2,495**	**2,660**
Reliable Well Capacity (gpm)	5,775	5,775	5,775	0	0	0	0	0	0	0	0	0	0
Reliable BPS Capacity	0	0	0	3,000	3,000	3,000	2,100	2,500	4,600	4,600	2,500	2,500	2,500
Booster Pumping Into Service Area to meet MDD (gpm)	0	0	0	3,000	3,000	3,000	1,385	2,500	4,595	4,600	2,360	2,495	2,500
Booster Pumping Out of Service Area (gpm)	4,385	4,600	4,600	4,845	5,490	5,500	0	0	0	0	0	0	0
Net Service Area Reliable Supply	**1,390**	**1,175**	**1,175**	**(1,860)**	**(2,490)**	**(2,500)**	**1,385**	**2,500**	**4,595**	**4,600**	**2,360**	**2,495**	**2,500**
Surplus/(Deficit) Reliable Supply (gpm)	**95**	**(350)**	**(440)**	**(2,955)**	**(3,675)**	**(4,005)**	**0**	**(195)**	**(90)**	**(2,580)**	**0**	**0**	**(160)**

Notes:
(1) By 2025 the City intends to connect the 542 Pressure Zone and 544 Pressure Zone with a new transmission main around the north end of Lacamas Lake creating a combined 542/544 Pressure Zone.

Figure 9.3 2035 Pumping Reliability Deficits



9.3.3 Pumping Redundancy

The City's water system was also evaluated against its pumping redundancy criterion for each of the service areas and each planning year. The City's policy is to supply MDD and replenish fire suppression storage within 72 hours with its firm BPS capacity (largest pump in each booster station out of service). The results of this analysis are presented in Table 9.2, where the surplus (deficit) supply is the net service area firm supply minus the total pumping requirement. Figure 9.4 shows the 2035 results graphically, and the firm capacity of each BPS.

As shown in Table 9.2, by 2021 none of the service areas have adequate firm BPS capacity to meet MDD. The City will need to increase its BPS capacity to all service areas in order to meet its pumping redundancy criteria.

9.3.4 Pumping Recommendations

In addition to the supply improvements described in Chapter 8, to meet its pumping reliability and redundancy goals, the City needs to increase its reliable and redundant pumping capacities to each service area.

Figure 9.4 shows that the 852 and 455 service areas each have a deficit of approximately 1,000 gallons per minute (gpm) by 2035. As shown in Figure 9.5 1,000 gpm of additional firm pump capacity is needed for the 852 Service Area, but a total of 2,000 gpm of additional firm pump capacity is required for the 455 Service Area because in addition to the 1,000 gpm of unmet demand in the 455 Service Area, the 1,000 gpm deficit for the 852 Service Area must be pumped up from the 343 Zone to the 455 Zone before being pumped into the 852 Zone.

Due to its condition, the City intends to replace the existing Forest Home BPS with a new pump station. This new pump station should have a firm capacity of approximately 2,000 gpm. The additional 1,000 gpm flow of the new Forest Home BPS will wheel the 1,000 gpm of additional flow needed for the 852 Zone through the 455 Zone. Approximately 1,000 gpm of additional firm booster pumping capacity will need to be built at Angelo BPS or a new BPS to the 455 Zone. Additionally, as shown in Figure 9.5, the City intends to construct the 500-gpm Well 17 in the 544 Zone by 2021.

In 2021 the 542 Zone is less than 100 gpm deficient, therefore it is recommended that improvements to this zone can be pushed out until 2025 when the combined 542/544 Service Area will require an additional 1,200 gpm of booster pumping capacity after the installation of Well 17 to meet MDD. The Crown Road Pump Station was designed to accommodate two future pumps. It is recommended that the Crown Road Pump Station's capacity is expanded by 1,600 gpm before 2025. Further expansions of approximately 2,000 gpm will be necessary at Crown Road or at a new BPS supplying the 542/544 Service Area by 2035. It is recommended that this BPS be located in a place like Crown Road where it can pump directly from the Butler 343 Zone to the 542 Zone to avoid having to construct multiple pump stations to pump to the 455 Zone and then to the 542/544 Zone.

Table 9.2 Pumping Redundancy Analysis
Water System Plan
City of Camas

Service Area	**343**			**455**			**542**	**544**	**542/544[1]**	**542/544**	**852**		
Year	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**	**2021**	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**
MDD of Service Area (gpm)	1,265	1,305	1,395	1,040	1,130	1,290	1,165	2,415	4,405	6,900	2,290	2,425	2,590
Fire Storage Volume (gal)	960,000	960,000	960,000	240,000	240,000	240,000	960,000	1,200,000	1,200,000	1,200,000	300,000	300,000	300,000
Fire storage Replenishment Flow (gpm)	220	220	220	55	55	55	220	280	280	280	70	70	70
Total Pumping Requirement	**1,485**	**1,525**	**1,615**	**1,095**	**1,185**	**1,345**	**1,385**	**2,695**	**4,685**	**7,180**	**2,360**	**2,495**	**2,660**
Well Capacity (gpm)	8,625	8,625	8,625	0	0	0	0	650	650	650	0	0	0
Firm BPS Capacity				3,600	3,600	3,600	1,300	1,000	2,300	2,300	1,750	1,750	1,750
Booster Pumping Into Service Area (gpm)	0	0	0	3,600	3,600	3,600	1,220	1,000	2,300	2,300	1,750	1,750	1,750
Booster Pumping Out of Service Area (gpm)	4,400	4,400	4,400	3,250	3,250	3,250	0	0	0	0	0	0	0
Net Service Area Firm Supply	**4,225**	**4,225**	**4,225**	**350**	**350**	**350**	**1,220**	**1,650**	**2,950**	**2,950**	**1,750**	**1,750**	**1,750**
Surplus/(Deficit) Supply (gpm)	**2,740**	**2,700**	**2,610**	**(745)**	**(835)**	**(995)**	**(85)**	**(1,045)**	**(1,735)**	**(4,230)**	**(610)**	**(745)**	**(910)**

Notes:
(1) By 2025 the City intends to connect the 542 Pressure Zone and 544 Pressure Zone with a new transmission main around the north end of Lacamas Lake creating a combined 542/544 Pressure Zone.

Figure 9.4 2035 Pumping Redundancy Deficits

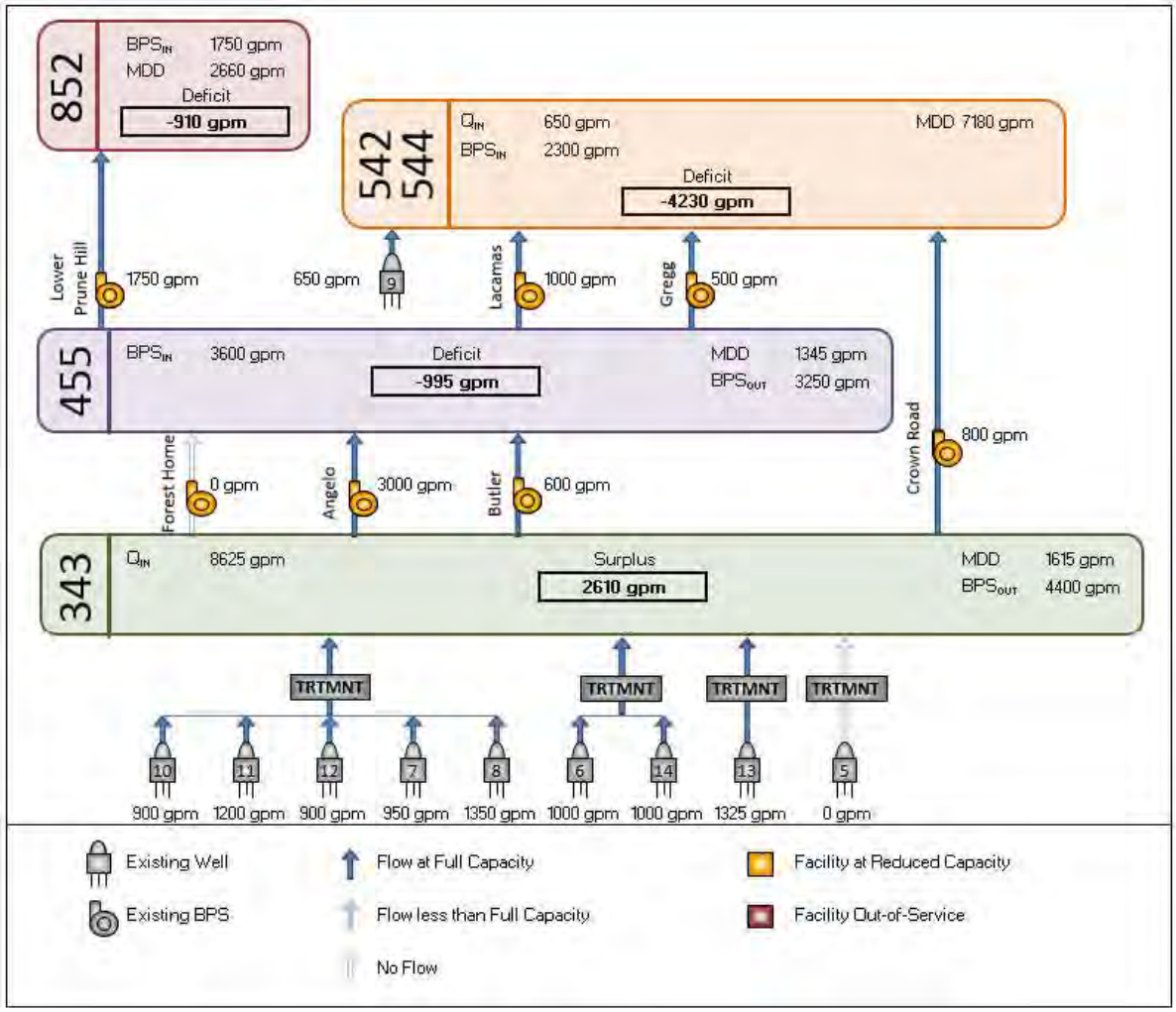
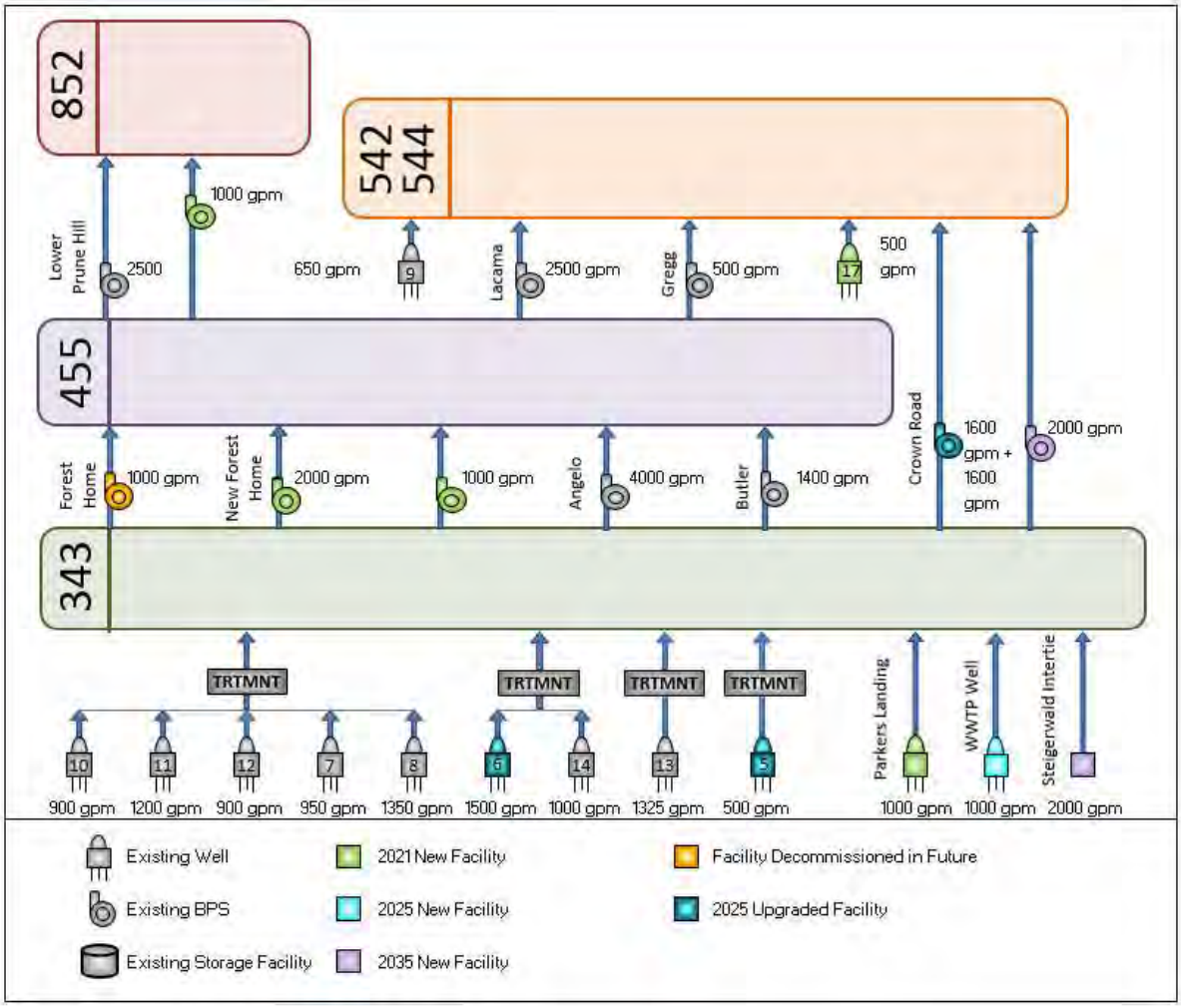


Figure 9.5 BPS Improvement Recommendations



9.4 STORAGE ANALYSIS

The City's storage system was evaluated based on their criteria. The City's storage requirements are dependent on the City's supply capacity, booster pump operation, water demands, fire flow requirements, and pressure requirements. The following sections summarize the available storage of the water system, describe the required storage components, and present recommendations to address identified storage deficits.

9.4.1 Storage Components and Governing Criteria

Following the Washington State Department of Health (DOH) storage volume requirements (WAC 246-290-235(3)) and the Water System Design Manual, Chapter 9, the five components of storage listed below and illustrated in Figure 9.6 must be considered for any water system:

1) Operational storage.

2) Equalizing storage.

3) Standby storage.

4) Fire Suppression storage.

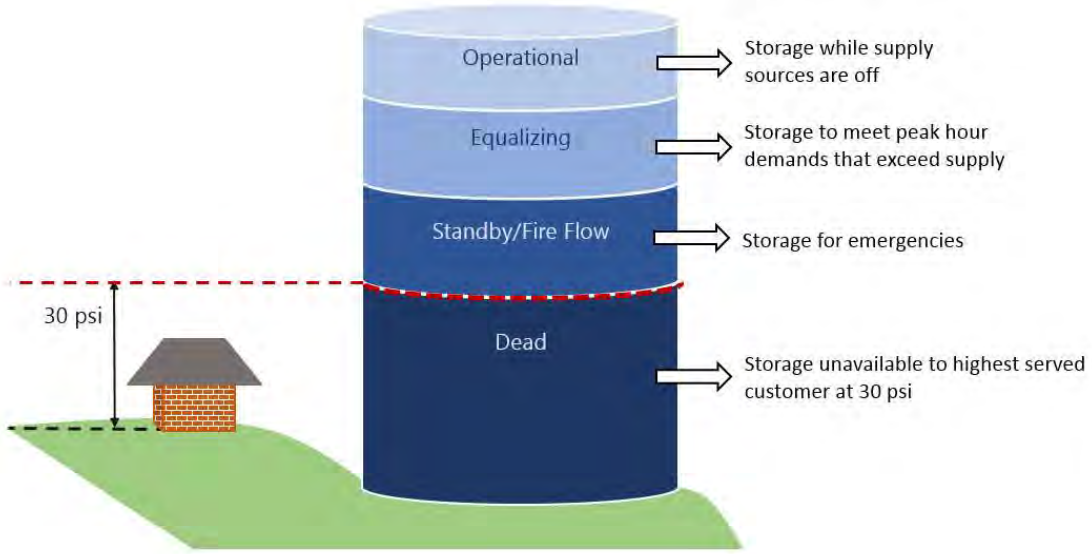
5) Dead storage.

DOH requires that operational and equalizing storage are available to all customers at a residual pressure of at least 30 pounds per square inch (psi) under peak hour demand (PHD) flow conditions. The City has an increased level of service goal to provide standby and fire suppression storage to all customers at a residual pressure of at least 30 psi under MDD, which is above the DOH requirement of 20 psi. Therefore, all tank volumes above the 30 psi hydraulic grade line (HGL) are considered available storage. Dead storage is the volume in the tank that cannot be used to serve the highest customer in the water system with a pressure of at least 30 psi.

9.4.1.1 Operational Storage

Operational storage is the band of storage within each reservoir that is utilized during periods of average demand. It is typically estimated based on the volume of water each reservoir drops prior to calling on the supply sources, and is measured as the volume of water stored between the pump call-off and pump call-on levels.

Figure 9.6 Storage Components



9.4.1.2 Equalizing Storage

Equalizing storage is the volume needed to satisfy PHD. It should be available at 30 psi to all service connections. Equalizing storage volume requirements can be calculated using the following equation from the DOH Water System Design Manual:

$$ES = (PHD - MDD)*150 \text{ minutes, but in no case less than zero}$$

Where: *ES* = Equalizing Storage component, in gallons

PHD = Peak hourly demand, in gpm

MDD = Sum of all installed and active source of supply capacities, except emergency sources of supply, in gpm

9.4.1.3 Fire Suppression Storage

Storage for emergencies is comprised of fire suppression storage and standby storage. For the City's water system, these two components of storage are nested, which means that the volume of storage reserved for emergencies consists of whichever requirement is greater between fire suppression storage or standby storage.

Fire suppression storage is the volume of storage required to deliver fire flows as prescribed by local fire protection authorities. Since a fire can occur at any time during the day, the fire suppression storage must be in addition to the equalizing and operational storage. City policy states that fire suppression storage should be available at 30 psi.

The maximum fire flow requirements and durations for each service area are provided in Table 9.3.

Table 9.3 Fire Suppression Storage Requirements Water System Plan City of Camas

Service Area	Largest Fire Flow Requirement (gpm)	Fire Flow Duration (minutes)	Fire Suppression Storage Required (MG)
343	4,000	240	0.96
455	2,000	120	0.24
542	4,000	240	0.96
544	5,000	240	1.2
852	2,500	120	0.3

9.4.1.4 Standby Storage

Standby storage is the volume of storage required to supply reasonable system demands during a system emergency, such as disruption of the water supply. Disruptions could be caused by transmission pipeline or equipment failure, power outage, valve failure, or other system interruptions. The computation of emergency/standby storage requirements

includes consideration of reasonable system disruptions that can be expected to occur within normal planning contingencies, and does not consider major system emergencies, such as earthquakes, that result in shutdown of water supplies and multiple distribution system breaks. These types of emergencies should be covered under emergency system operation planning.

The City's standby storage policy is that the reservoirs in the water system should have enough standby storage to supply 200 gallons per equivalent residential units (ERU). City policy states that this storage should be available to the highest customer in the service area at 30 psi.

9.4.2 Available Storage

The Camas Water System has seven storage tanks with a total capacity of 8.45 MG. However, the available storage excluding dead storage is 6.64 MG as shown in Table 9.4 and described below.

The dead storage corresponds to the volume of the tank that is effectively unusable. The storage volume is considered dead if it is located below the outlet pipe and cannot be withdrawn, due to dynamic losses in the distribution system, or if it is located below the lowest water surface elevation that meets the minimum design pressure of 30 psi.

The available storage in each service area is controlled by the elevation of the highest customer in the system and the HGL required to serve that customer with a pressure of at least 30 psi. Table 9.4 shows the highest service elevation and the amount of available storage in each service area.

9.4.3 Required Storage

The operational, equalizing, fire suppression, and standby storage requirements are summarized in Table 9.4 for each service area and each planning year. The total required storage is the sum of operational, equalizing and the maximum between fire suppression and standby storage.

The 343 Service Area has a small (0.1 MG) storage deficit in all planning years. The 455 and 852 service areas both have storage surpluses throughout the planning period. The 542 and 544 service areas have storage deficits in all planning years with a storage deficit of approximately 3 MG for the combined 542/544 service area in 2035.

Table 9.5, Table 9.6, and Table 9.7 list the parameters used in the calculations of operational, equalizing, and standby storage, respectively.

Table 9.4 Storage Analysis Results
Water System Plan
City of Camas

Service Area	343			455			542	544	542/544[1]		852		
Planning Year	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**	**2021**	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**
Available Storage													
Total Storage (MG)	1.20	1.20	1.20	2.00	2.00	2.00	0.10	2.00	2.10	2.10	3.15	3.15	3.15
Highest Customer	239	239	239	362	362	362	440	450	450	450	756	756	756
Available Storage above 30 psi (MG)	**1.20**	**1.20**	**1.20**	**2.00**	**2.00**	**2.00**	**0.05**	**1.03**	**1.08**	**1.08**	**2.36**	**2.36**	**2.36**
Required Storage Components													
Operational Storage (MG)	0.24	0.24	0.24	0.22	0.22	0.22	0.01	0.25	0.26	0.26	0.32	0.32	0.32
Equalizing Storage (MG)	0.13	0.14	0.14	0.11	0.12	0.14	0.13	0.23	0.43	0.66	0.23	0.24	0.25
Fire Suppression Storage (MG)	0.96	0.96	0.96	0.24	0.24	0.24	0.96	1.20	1.20	1.20	0.30	0.30	0.30
Standby Storage (MG	0.58	0.61	0.67	0.41	0.44	0.51	0.41	1.51	2.21	3.07	0.90	0.94	1.00
Total Required Storage (MG)	**1.33**	**1.34**	**1.34**	**0.74**	**0.78**	**0.86**	**1.10**	**2.00**	**2.91**	**4.00**	**1.44**	**1.50**	**1.57**
Storage Surplus/(Deficit) (MG)	**(0.1)**	**(0.1)**	**(0.1)**	**1.3**	**1.2**	**1.1**	**(1.1)**	**(1.0)**	**(1.8)**	**(2.9)**	**0.9**	**0.9**	**0.8**

Notes:
(1) By 2025 the City intends to connect the 542 Pressure Zone and 544 Pressure Zone with a new transmission main around the north end of Lacamas Lake creating a combined 542/544 Pressure Zone.

Table 9.5 Operational Storage Calculations
Water System Plan
City of Camas

Service Area	343	455			542	544	852		
Storage Facility	**Butler Reservoir**	**Lower Prune Hill Reservoir #1**	**Lower Prune Hill Reservoir #2**	**Total**	**Gregg Reservoir**	**Lacamas Reservoir**	**Upper Prune Hill Standpipe**	**Upper Prune Hill Reservoir**	**Total**
Storage Capacity (MG)	1.2	0.5	1.5	2.0	0.1	2.0	0.75	2.4	3.15
Elevation of Overflow (ft)	343	455	455		542	544	852	798	
Base of Tank (ft)	328	432	432		472	496	752	748	
Nominal Diameter (ft)	117	61	105		16	84	36	90	
Operating Band	3.0	2.5	2.5		10.0	6.0	10.0	5.0	
Operating Volume (gal)	240,000	54,000	163,000	217,000	14,000	250,000	75,000	240,000	315,000
Percent of Total Storage	20%	11%	11%	11%	14%	13%	10%	10%	10%

Table 9.6 Equalizing Storage Calculations
Water System Plan
City of Camas

Service Area	343			455			542	544	542/544[1]		852		
Planning Year	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**	**2021**	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**
MDD (gpm)	1,265	1,305	1,395	1,040	1,130	1,290	1,165	2,415	4,405	6,900	2,290	2,425	2,590
PHD (gpm)	2,140	2,205	2,345	1,800	1,945	2,200	2,015	3,955	7,285	11,285	3,800	4,010	4,280
Equalizing Storage (gal)	131,000	135,000	143,000	114,000	122,000	137,000	128,000	231,000	432,000	658,000	227,000	238,000	254,000

Notes:
(1) By 2025 the City intends to connect the 542 Pressure Zone and 544 Pressure Zone with a new transmission main around the north end of Lacamas Lake creating a combined 542/544 Pressure Zone.

Table 9.7 Standby Storage Calculations
Water System Plan
City of Camas

Service Area	343			455			542	544	542/544[1]		852		
Planning Year	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**	**2021**	**2021**	**2025**	**2035**	**2021**	**2025**	**2035**
ERUs	2,900	3,025	3,325	2,045	2,215	2,530	2,045	7,570	11,050	15,370	4,495	4,710	4,990
Standby Storage (gal)	580,000	605,000	665,000	409,000	443,000	506,000	409,000	1,514,000	2,210,000	3,074,000	899,000	942,000	998,000

Notes:
(1) By 2025 the City intends to connect the 542 Pressure Zone and 544 Pressure Zone with a new transmission main around the north end of Lacamas Lake creating a combined 542/544 Pressure Zone.

9.4.4 Storage Recommendations

The most immediate storage need is in the 544 Service Area. The City is in the process of siting and designing a new 2.0 MG tank. An ideal location for this tank is near the corner of NW 18th Ave and Tidland St.

The City's next storage priority will be to replace the Butler Reservoir. Although the 343 Service Area has only a small storage deficit, the City plans to decommission the Butler Reservoir within the 20-year planning period due to its condition. It is recommended that a slightly larger tank with a capacity of 1.5 MG be constructed on Cemetery Hill. This is a hydraulically advantageous location due to its proximity to the Washougal Well Field wells. If the City cannot locate the tank at the cemetery, installing a new tank at the Crown Road BPS site or at the Butler site should be considered.

Finally, by 2035 additional storage will be required for the North Shore Area. We recommend a 1.0 MG storage facility be constructed at the site of the existing Gregg Standpipe. This location is hydraulically ideal due to its proximity to the Crown Road and Gregg BPSs.

9.4.5 Summary of Recommended Supply, Pumping and Storage Improvements

All of the recommended supply, pumping, and storage improvement projects are summarized in Figure 9.7.

9.5 HYDRAULIC MODEL UPDATE

The City's hydraulic model is the primary tool for evaluating the City's distribution system. The model evaluates how the City's water infrastructure handles future demands and verifies that recommended improvements will eliminate system deficiencies.

The City maintains the hydraulic model of their distribution system in InfoWater by Innovyze. For the purpose of the system analysis, the City's model was updated using data provided by the City.

9.5.1 Physical Features Update

City staff to verified pressure zone boundaries. The pressure zone boundaries were updated in the model by permanently closing or opening pipes to match the correct pressure zone configuration of the water system. Also, corrections were made to pressure zone assignments for all pipes and junctions.

Pipe diameters and PRV settings were verified and corrected in the model to match a map provided by the City. The piping configuration at Well 6 and 14 was updated to match drawings of system improvements that the City is currently undertaking.

9.5.1.1 Butler/Gregg Booster Pump Station Site Updates

The model configuration at the site of the Butler and Gregg BPSs was updated to match record drawings of the pipe and valve configuration. A valve was added to the model to represent the PRV within the Old Gregg BPS building that supplies water to the 455 Zone from the 542 Zone. This PRV will be in operation when the City's slow sand filter that supplies the 542 Zone is online during the winter.

9.5.1.2 Upper Prune Hill Reservoir Site Updates

The original model was not configured to run in extended period simulation at the Upper Prune Hill Reservoir site. The Upper Prune Hill Reservoir altitude valve and pipes were added to the model to match the site's configuration as shown on the City's SCADA system.

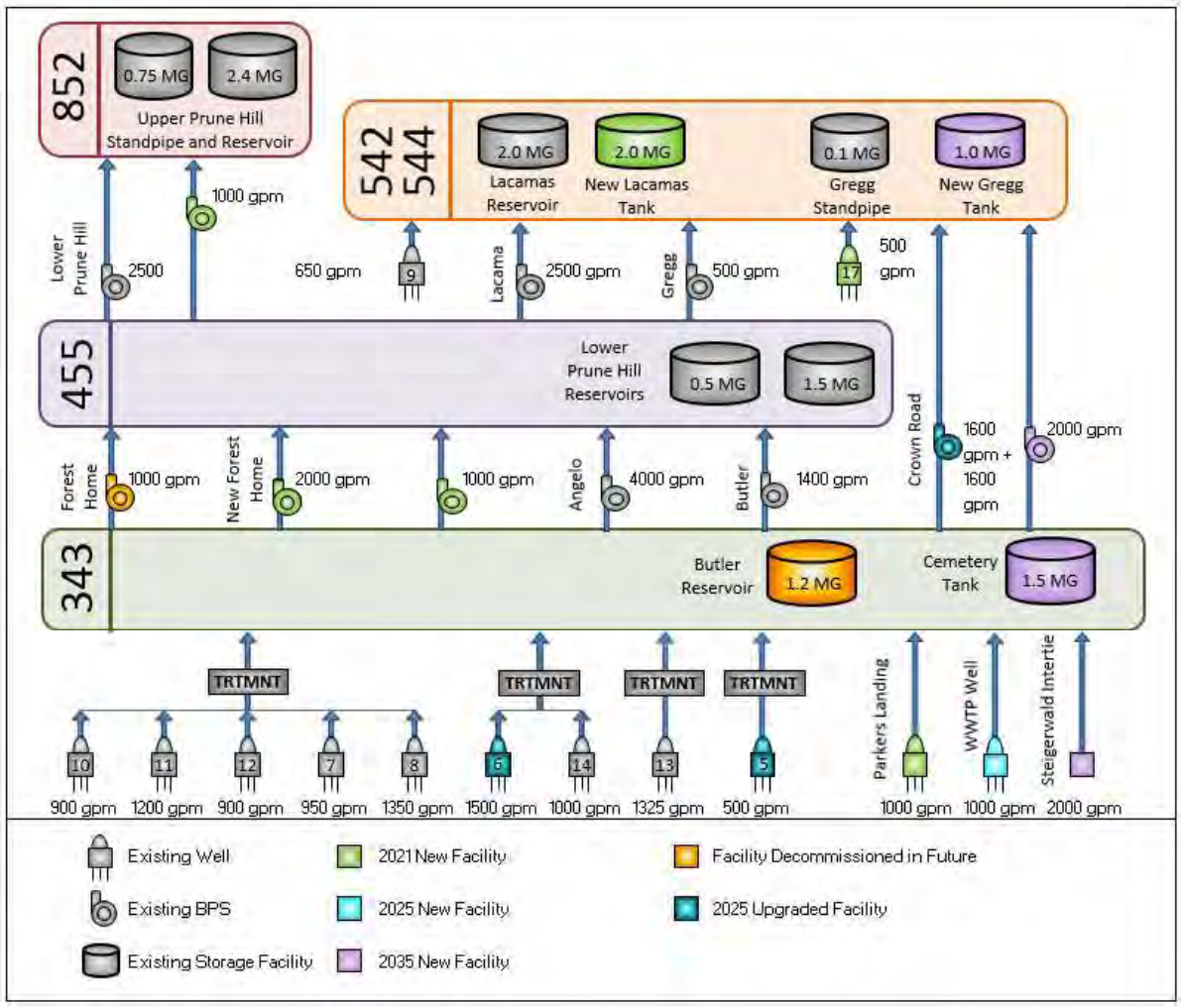
9.5.1.3 Reservoir Levels

For the fire flow scenarios, reservoir levels in the model were set to match the bottom of the fire suppression storage component as determined by the storage analysis.

9.5.1.4 Operational Settings

Summer and winter operational settings for wells, pump stations, and valves were updated to reflect the latest information provided by the City.

Figure 9.7 Recommended Supply, Pumping, and Storage Improvements



9.5.2 Future Expansion

Within the planning period the City expects significant expansion of the water system in the North Shore area. Future pipelines were added to the model in the North Shore area to match the transportation corridors delineated on a map provided by the City. The future Green Mountain development was already included in the model before this update began.

In the future the City wants to connect the 542 and 544 zones and combine them as one pressure zone. In past planning documents two methods were identified for connecting the two zones.

1. The first method is to construct a transmission main along the north side of Lacamas Lake that connects the two zones.

2. The alternative method consisted of connecting the two zones hydraulically by converting the existing 455 Zone transmission mains along NE Everett St and NW Lake Rd to 544 Zone mains and bypassing the Gregg and Lacamas BPSs.

The second method would require the NE Everett St and NW Lake Rd transmission mains to be operated as a 544 Zone main in the winter when supply comes from the City's slow sand filter in the 542 Zone, and as a 455 Zone main in the summer when supplies come predominantly from the 343 Zone wells. For the sake of operational simplicity, the City has decided to move forward with the first method of connecting the 542 and 544 zones through a transmission main around the north side of Lacamas Lake. The City plans to construct the transmission mains needed to connect these two zones by 2025.

Despite a wide range of elevations in the North Shore area, the City plans to serve all North Shore customers through the 542/544 Pressure Zone. As a result, many customers will require individual or community PRV stations to provide adequate service pressures.

9.5.3 Demand Allocation

The medium scenario future demand requirements for years 2021, 2025, and 2035, as presented in Chapter 5, were allocated to the model. First, large user demands for each planning year were allocated to the model nodes located closest to the large users. City of Camas and Camas School District demands were divided up and allocated to model nodes representing City facilities and City schools. The proportion of the demand assigned to each node was based on 2015 metered billing data.

To assign demands representing the remainder of the City's customers, demand factors were developed for each customer class based on 2015 billing data. The demand factors are shown in Table 9.8. Using GIS, each meter was assigned a demand based on its customer class and then this demand was assigned to the closest node in the model using GIS geocoding software.

All non-large user 2015 demands in the model were grown by a multiplication factor unique to each pressure zone to represent the demand for future planning years. The only exception to this method was the 542/544 Zone where growth is expected to occur by water system expansion in the North Shore area, rather than development infill. For the North Shore area, demand projections were allocated to model nodes based on land use.

Table 9.8 Customer Class Demand Factors
Water System Plan
City of Camas

Customer Class	Demand per Meter (gpd)	Demand per Meter (gpm)
Single-family	260	0.181
Multi-family	350	0.243
Commercial	502	0.349
Industrial	3,112	2.161
Irrigation	767	0.532

9.5.4 Calibration Verification

The City's hydraulic model was most recently updated and calibrated in 2013. A full recalibration of the model was not included in the water system plan development scope, however, hydrant flow tests were performed at six locations throughout the City's distribution system and model calibration was verified using this data. Details on the model calibration verification can be found in Appendix J.

9.5.5 Fire Flows

The City has three general levels of fire flow requirements that are listed in Table 9.9. All new residential buildings within the City are required to have sprinklers. Residential buildings with sprinklers require a fire flow of 500 gpm. Residential buildings without sprinklers must have fire flows of at least 1,000 gpm. Non-residential buildings require 1,500 gpm of fire flow.

Note: City utility is responsible for dictating the general fire flows for future land use planning which had been developed in collaboration with the Fire Marshal. The Fire Marshal is responsible for dictating the specific fire flow requirements at the time of development. The City evaluates the ability to serve each new connect before utility permit is issued, where the developer is responsible for making improvements to meet site specific fire flows, as necessary.

Table 9.9 Fire Flow Requirements Water System Plan City of Camas	
Customer Class	**Fire Flow Demand (gpm)**
Residential with Sprinklers	500
Residential without Sprinklers	1,000
Non-residential	1,500

The City does not have a record of which houses have sprinklers and which do not. Therefore, for the purpose of the system analysis all existing residential areas were assumed to require 1,000 gpm of fire flow. Future residential neighborhoods such as Green Mountain were assigned a fire flow of 500 gpm, because all of those homes will have sprinklers. Two neighborhoods that were identified as receiving less than 1,000 gpm of fire flow were confirmed by City staff as having sprinklers and requiring 500 gpm of fire flow.

Fire flow requirements above 1,500 gpm for specific facilities such as schools, industrial facilities, and churches were identified and assigned fire flow requirements by City staff. The City's fire flow requirements as they were assigned to each node in the model are shown in Figure 9.8.

9.6 DISTRIBUTION SYSTEM ANALYSIS

The updated model was used to evaluate the distribution system under future demand conditions. The distribution system was evaluated against two performance criteria: minimum pressure and minimum fire flow. Areas not meeting the criteria are considered deficient and system improvements are identified to achieve the required level of service.

9.6.1 Evaluation Criteria

The distribution system was evaluated for the following criteria, which match the requirements of the DOH Design Manual and WAC 246-290.

1. PHD Pressure. Minimum allowed pressure is 30 psi during PHD.
2. Available Fire Flow. While delivering the required fire flow during MDD conditions, system pressures must remain above 20 psi.

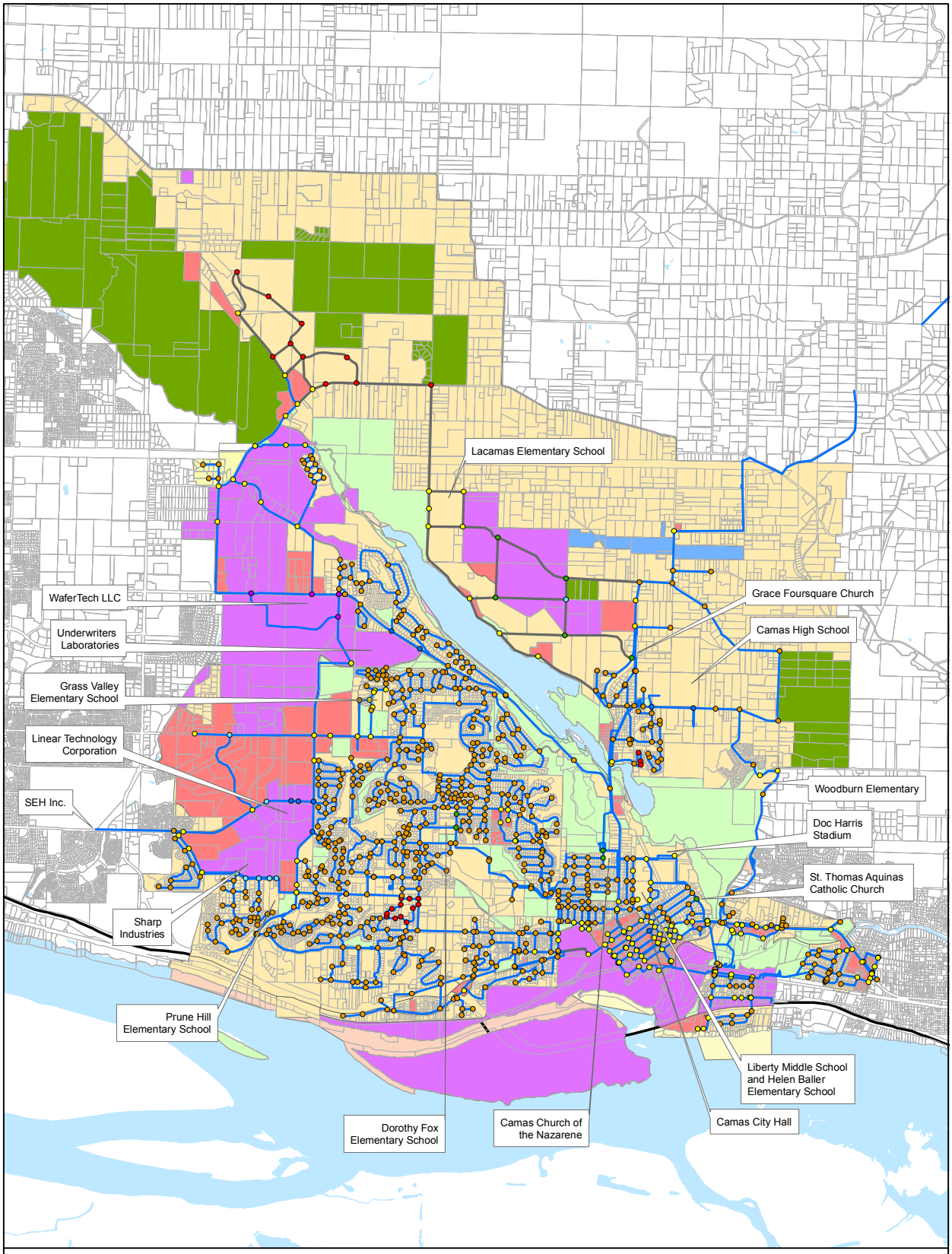
9.6.2 Supply Improvements

Because the City expects significant growth, the City's existing supplies do not have enough capacity to meet projected future demands. The hydraulic model will not run in a condition where demands exceed supply. Therefore, it was necessary to add future supply improvements to the model before the model could be run to identify pressure and fire flow deficiencies. All of the supply and booster pumping improvement projects identified by the water resource analysis in Chapter 8 and pumping analysis in Section 9.3 of this chapter as

well as required transmission main improvements associated with these supply projects were added to the model before identifying pressure and fire flow deficiencies. These supply projects were included in the model with their capacity and timing dictated by what was recommended in the supply and pumping analyses. However, the City may choose to implement other projects recommended in Section 9.6.4 to reach the same level of service.

9.6.2.1 2021 Supply Improvements

The supply improvements recommended to be implemented before the year 2021 include development of Well 17 (S-1 on Figure 9.9) with a capacity of 500 gpm in the 544 Zone near NW Lake Road and development of Parkers Landing Well (S-2 on Figure 9.9) with a capacity of 1,000 gpm near SE 11th Ave and Front Street. Additional supply from Parkers Landing Well requires transmission main upsize projects S-2 and D-2.



FIRE FLOW REQUIREMENTS

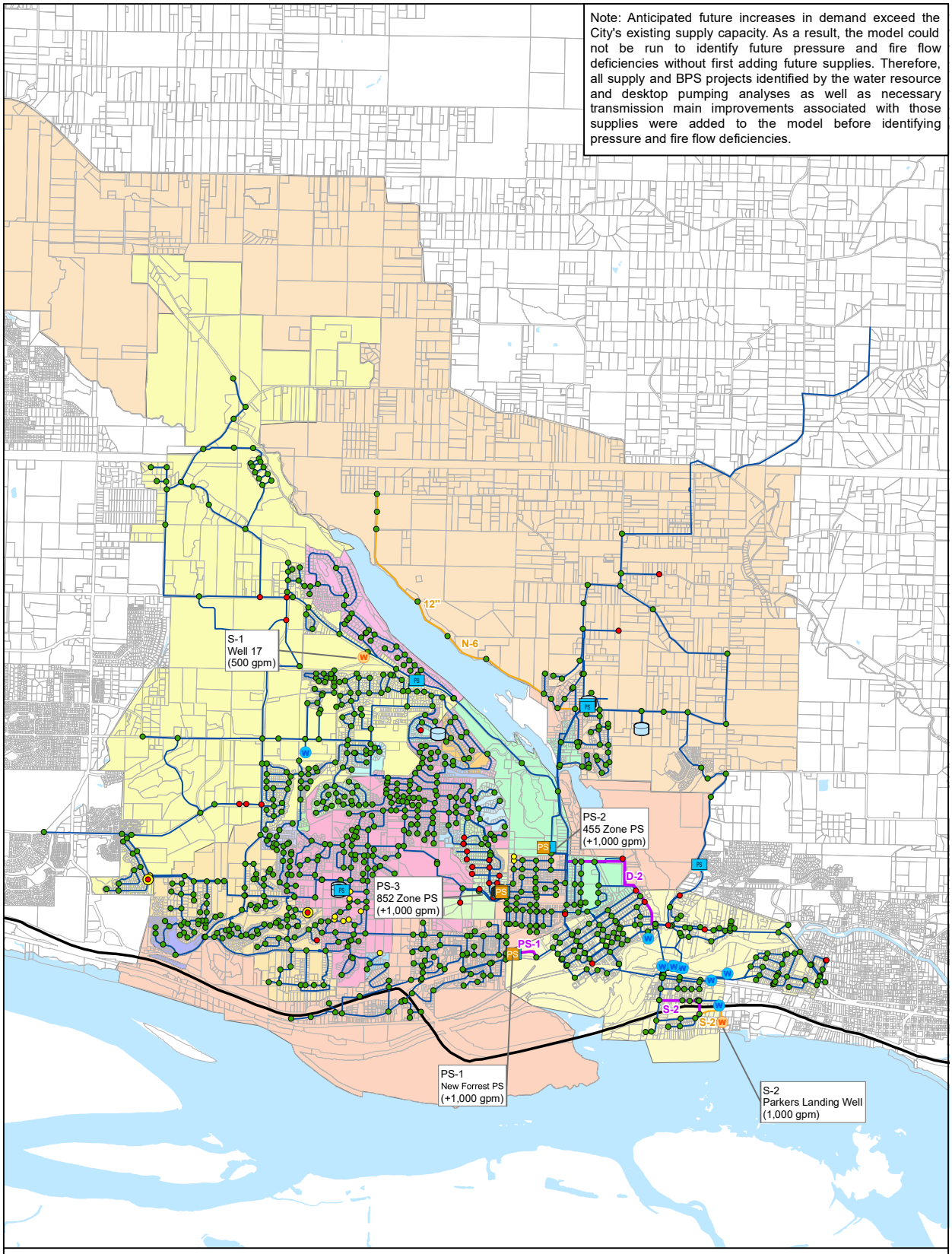
FIGURE 9.8

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlow_20170414.mxd

Note: Anticipated future increases in demand exceed the City's existing supply capacity. As a result, the model could not be run to identify future pressure and fire flow deficiencies without first adding future supplies. Therefore, all supply and BPS projects identified by the water resource and desktop pumping analyses as well as necessary transmission main improvements associated with those supplies were added to the model before identifying pressure and fire flow deficiencies.



Legend

- Highway 14
- Parcels
- Waterbody
- Upsized Pipelines
- Future Pipelines
- Existing Pipelines
- Existing Potable Wells
- Existing Pump Station
- Existing Water Tank
- Pump Station Capacity Improvements
- Well Improvements
- Fire Flow Residual Pressure (< 20 psi)
- PHD Minimum Pressure (< 30 psi)
- Fire Flow Residual Pressure < 20 psi and PHD Minimum Pressure < 30 psi
- Fire Flow Residual Pressure (> 20 psi) and PHD Minimum Pressure (> 30 psi)

Primary Pressure Zones

343	Downtown 343
455	Nuga 542
544	
852	

Sub Pressure Zones

440	666	711
542	674	738
547	675	745
581	694	760
612	697	782
625	710	800

N

0 0.25 0.5 Miles

2021 PHD PRESSURE AND FIRE FLOW DEFICIENCIES

FIGURE 9.9

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlow_20170414.mxd

The pumping analysis identified the need for additional pumping capacity to the 455 and 852 zones by 2021 to meet redundancy criteria. PS-1 is a project to replace the 1,000 gpm Forest Home Pump Station with a new 2,000 gpm pump station. This improvement should coincide with upsizing the pipe feeding the pump station. Additional pumping to the 455 Zone was modeled as a 1,000-gpm expansion to the Angelo BPS. For 2021, the model includes an additional pump in the Lower Prune Hill BPS with a 1,000-gpm capacity.

9.6.2.2 2025 Supply Improvements

Additional supply improvements required by 2025 according to the redundancy criteria of the water resources and pumping analyses include the 1,000-gpm Wastewater Treatment Plant (WWTP) Well (S-3 on Figure 9.10) and associated transmission main improvements, and the project to increase the yield of Well 6 from 1,000 gpm to 1,500 gpm (S-4 on Figure 9.10).

By 2025 an additional 2,000 gpm of pumping capacity is required for the 542/544 Zone. This can be accomplished by expanding the capacity of the Crown Road Booster Pump Station (PS-4 on Figure 9.10).

9.6.2.3 2035 Supply Improvements

Between 2025 and 2035 the Steigerwald Regional Water Source that will be supplied through an intertie in the southwest corner of the City's water system is planned to be brought online to supply an additional 2,000 gpm. The intertie and corresponding transmission main improvements are labelled on Figure 9.11 as S-5.

The 542/544 Zone requires an additional 2,000 gpm of pumping into the zone over 2025 levels. It is recommended that a new BPS be constructed at the Crown Road site. In order to convey the additional supply, the transmission main along Woodburn Drive and SE 277th Ave will need to be upsized from 12 inches to 24 inches in diameter.

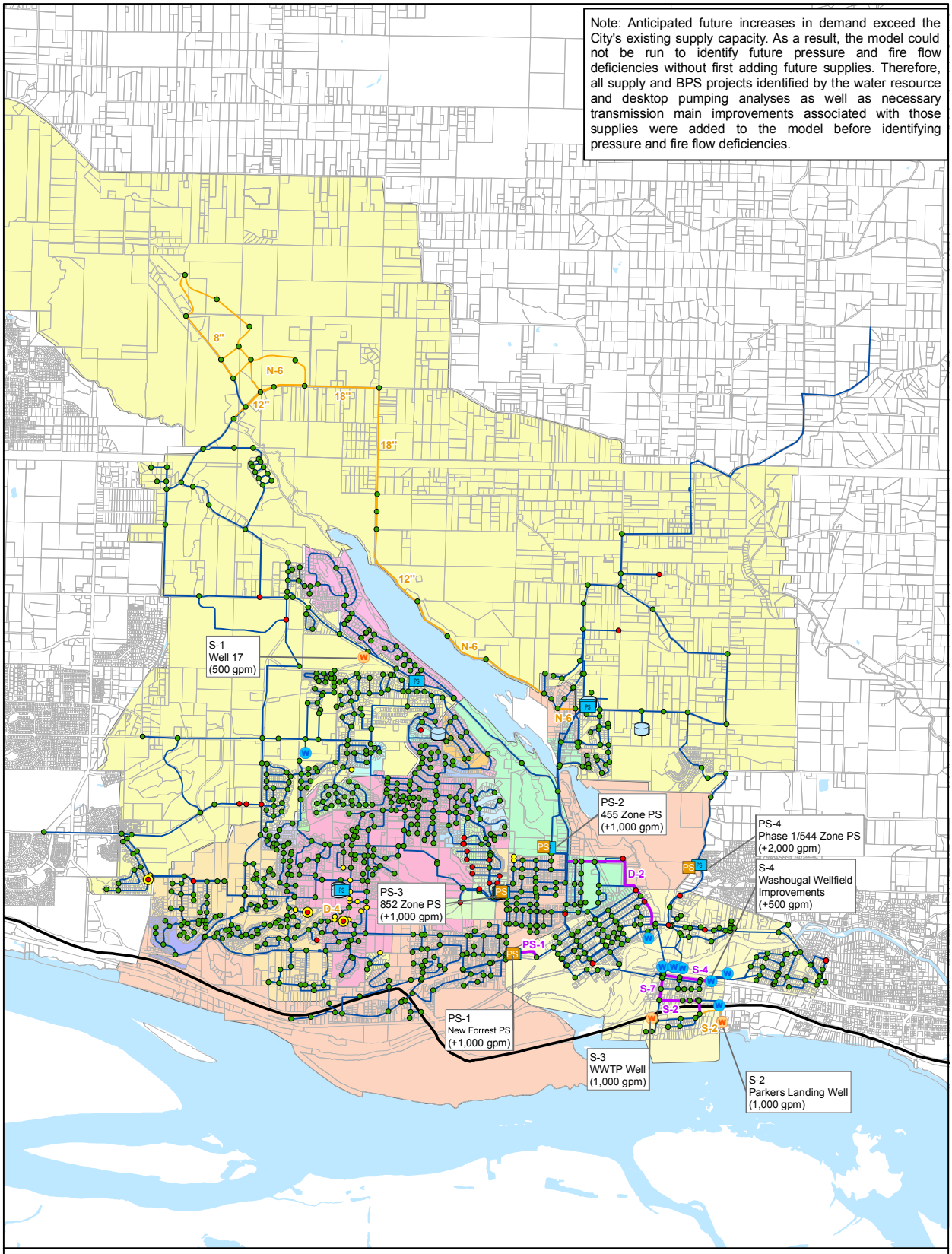
9.6.3 Identified Deficiencies

Peak hour pressure and max day fire flow deficiencies are displayed on Figure 9.9 through Figure 9.11 organized by planning year. Pressure deficiencies are identified by yellow nodes and fire flow deficiencies are identified by red nodes.

9.6.3.1 2021 Deficiencies

For the 2021 peak hour demand scenario, the model identifies four areas with low pressures. Going from east to west in Figure 9.9, the first area consists of residential customers on the north end of Couch St that experience low pressures due to their elevation. Next, several high elevation nodes near the Upper Prune Hill Standpipe experience pressures below 30 psi during peak demand periods. Additionally, a single high elevation node in the 697 Zone and two nodes directly downstream of a PRV from the 697 Zone to the 544 Zone stand out for low pressure.

Note: Anticipated future increases in demand exceed the City's existing supply capacity. As a result, the model could not be run to identify future pressure and fire flow deficiencies without first adding future supplies. Therefore, all supply and BPS projects identified by the water resource and desktop pumping analyses as well as necessary transmission main improvements associated with those supplies were added to the model before identifying pressure and fire flow deficiencies.



Legend

- Highway 14
- Parcels
- Waterbody
- Upsized Pipelines
- Future Pipelines
- Existing Pipelines
- Existing Potable Wells
- Existing Pump Station
- Existing Water Tank
- New Supply Intertie
- Pump Station Improvements
- Well Improvements
- Fire Flow Residual Pressure (< 20 psi)
- PHD Minimum Pressure (< 30 psi)
- Fire Flow Residual Pressure < 20 psi and PHD Minimum Pressure < 30 psi
- Fire Flow Residual Pressure (> 20 psi) and PHD Minimum Pressure (> 30 psi)

Primary Pressure Zones

343	Downtown 343
455	
544	
852	

Sub Pressure Zones

440	666	711
542	674	738
547	675	745
581	694	760
612	697	782
625	710	800

N

0 0.25 0.5 Miles

2025 PHD PRESSURE AND FIRE FLOW DEFICIENCIES

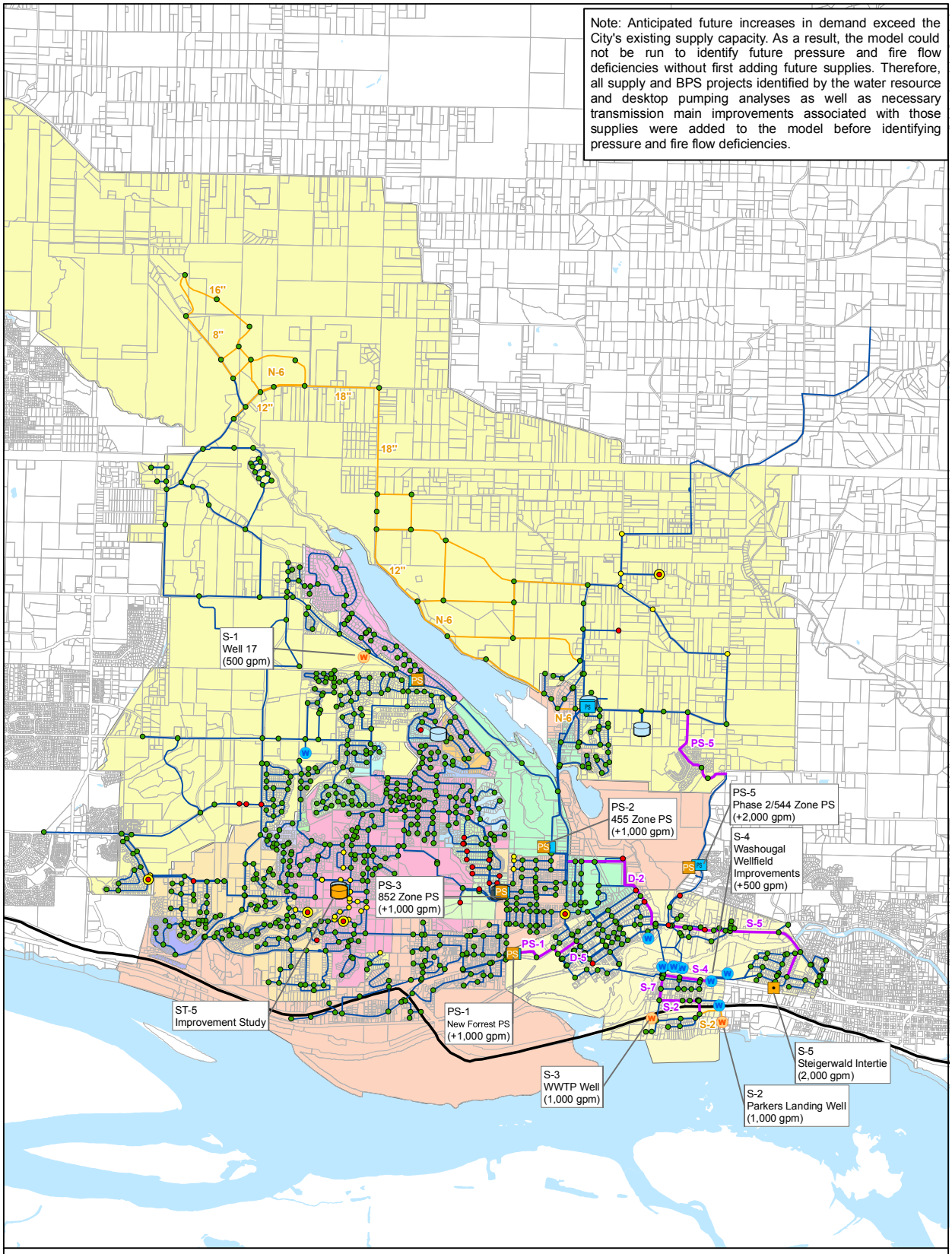
FIGURE 9.10

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlow_20170414.mxd

Note: Anticipated future increases in demand exceed the City's existing supply capacity. As a result, the model could not be run to identify future pressure and fire flow deficiencies without first adding future supplies. Therefore, all supply and BPS projects identified by the water resource and desktop pumping analyses as well as necessary transmission main improvements associated with those supplies were added to the model before identifying pressure and fire flow deficiencies.



Legend

- Highway 14
- Parcels
- Waterbody
- Upsized Pipelines
- Future Pipelines
- Existing Pipelines
- Existing Potable Wells
- Existing Pump Station
- Existing Water Tank
- New Supply Intertie
- Pump Station Improvements
- Well Improvements
- Fire Flow Residual Pressure (< 20 psi)
- PHD Minimum Pressure (< 30 psi)
- Fire Flow Residual Pressure < 20 psi and PHD Minimum Pressure < 30 psi
- Fire Flow Residual Pressure (> 20 psi) and PHD Minimum Pressure (> 30 psi)

Primary Pressure Zones

343	Downtown 343
455	
544	
852	

Sub Pressure Zones

440	666	711
542	674	738
547	675	745
581	694	760
612	697	782
625	710	800

N

0 0.25 0.5 Miles

2035 PHD PRESSURE AND FIRE FLOW DEFICIENCIES

FIGURE 9.11

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlow_20170414.mxd

Figure 9.9 also shows fire flow deficiencies where the required fire flows cannot be met while maintaining system pressures above 20 psi. Some of the fire flow deficiencies occur where industrial customers require elevated fire flows. Many fire flow deficiencies are also shown occurring in small zones that are fed by PRVs. These can likely be resolved by adjusting the settings of the PRVs that feed the zones. Many other fire flow deficiencies that appear on Figure 9.9 occur at the end of dead-end mains where looping can improve fire flow availability.

9.6.3.2 2025 Deficiencies

Model results for the 2025 scenario are presented on Figure 9.10. Compared to the 2021 scenario, very few new deficiencies emerge as a result of increasing demands. A few more Upper Prune Hill nodes appear as having low pressure and one node in this area experiences low fire flow. The only other fire flow deficiency that appears in 2025 is along NW 18th Ave.

Connecting the 542 and 544 pressure zones with a new 18-inch transmission main around the north side of Lacamas Lake improves available fire flow at the intersection of NW Lake Rd and NW Parker St.

9.6.3.3 2035 Deficiencies

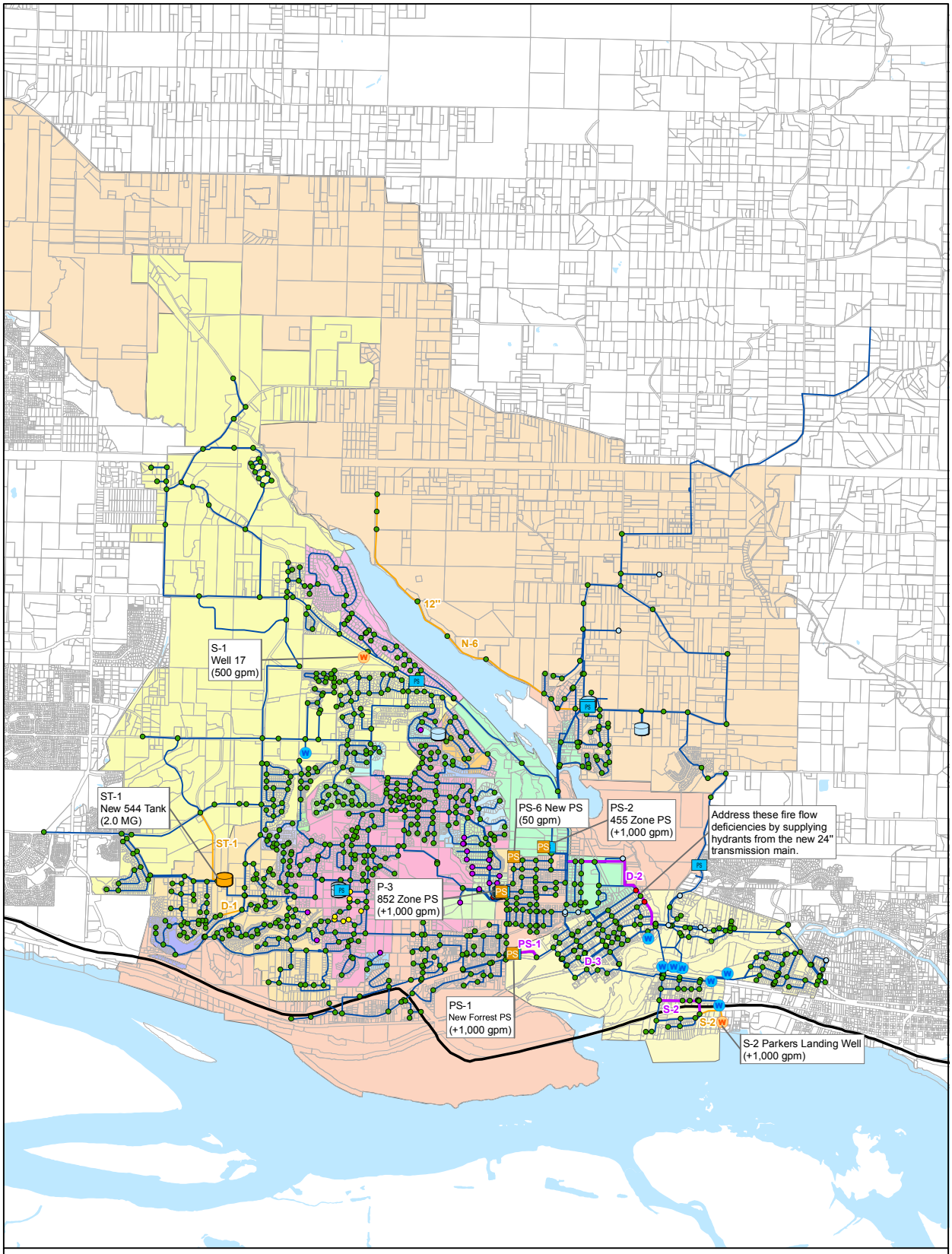
For the 2035 scenario, on Figure 9.11 we see an expansion of the Prune Hill area experiencing low pressure. Also customers in the NE part of the system along SE Robinson Rd begin experiencing low pressures due to increasing demands in the North Shore.

9.6.4 Recommended Distribution System Capacity Improvements

This section describes the capacity improvements recommended to address pressure and fire flow deficiencies. Programmatic improvements are described first, followed by a description of the individual projects required for each of the planning years. The recommended improvements are shown on Figure 9.12 through Figure 9.14. These figures also show the pressure and fire flow results after implementation of the improvement projects. Each recommended improvement is also listed in Table 9.11 through Table 9.14.

9.6.4.1 Upper Prune Hill Pressure Improvements Study

The area surrounding the Upper Prune Hill Standpipe experiences pressure deficiencies due to high elevation. According to the model, with the current operational settings of the Lower and Upper Prune Hill Pump Stations, the Upper Prune Hill Standpipe does not provide sufficient pressure to the surrounding customers. These junctions will not meet the 30 psi minimum pressure criteria regardless of what kind of pipeline improvements are added. It is recommended that a study be performed to evaluate solutions to these pressure deficiencies.



Legend

- Highway 14
- Parcels
- Waterbody
- Upsized Pipelines
- Future Pipelines
- Existing Pipelines
- Existing Potable Wells
- Existing Pump Station
- Existing Water Tank
- Future Storage
- Pump Station Improvements
- Well Improvements
- Fire Flow Residual Pressure (< 20 psi)
- PHD Minimum Pressure (< 30 psi)
- Fire Flow Residual Pressure (> 20 psi) and PHD Minimum Pressure (> 30 psi)
- Deficiency Addressed by Dead-end Looping Program
- Deficiency Addressed by PRV Zone Study Program

Primary Pressure Zones

343	Downtown 343
455	Nuga 542
544	
852	

Sub Pressure Zones

440	666	711
542	674	738
547	675	745
581	694	760
612	697	782
625	710	800

N

0 0.25 0.5 Miles

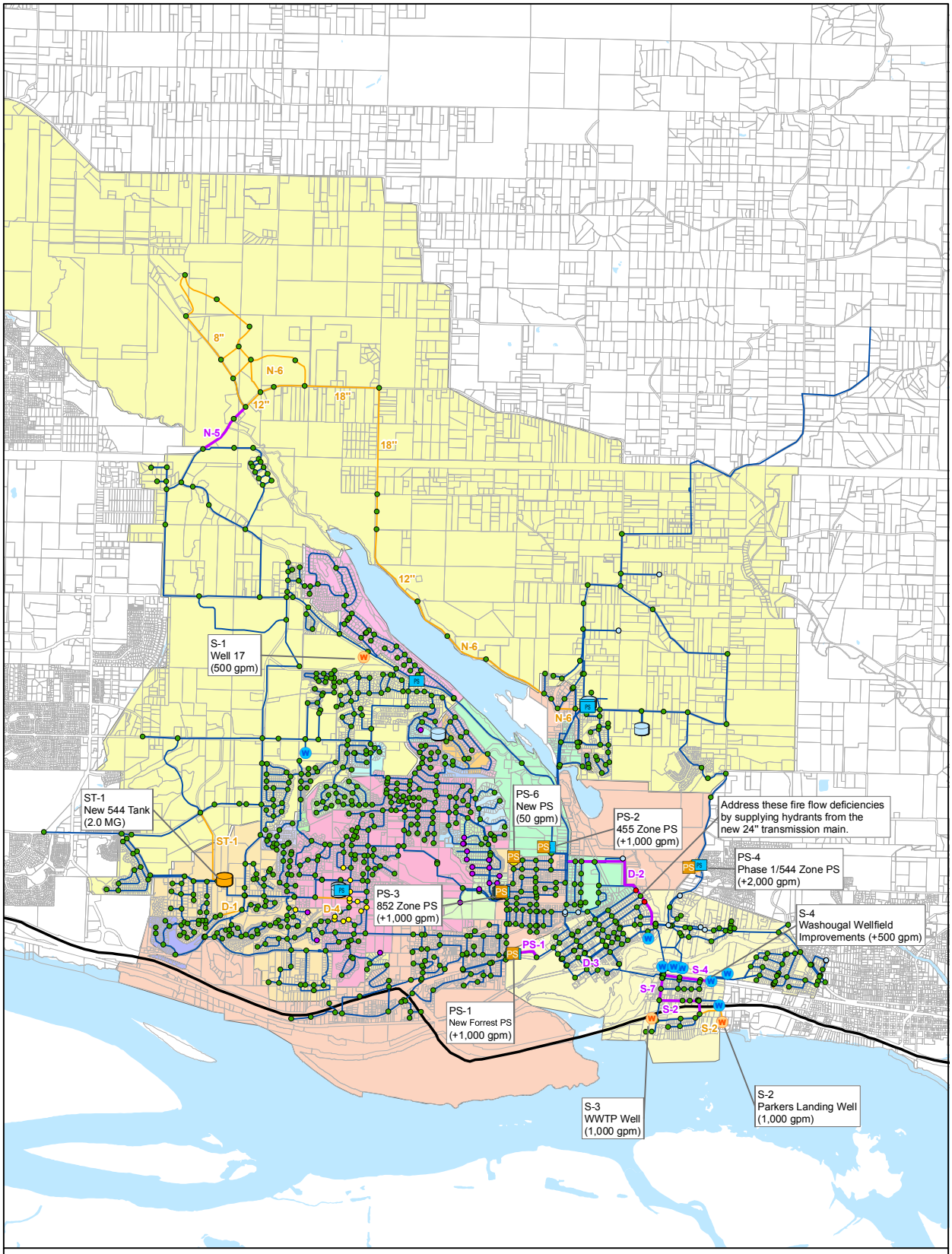
2021 PHD PRESSURE AND FIRE FLOW RESULTS WITH RECOMMENDED IMPROVEMENTS

FIGURE 9.12

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlow_20170414.mxd



Legend

- Highway 14
- Parcels
- Waterbody
- Upsized Pipelines
- Future Pipelines
- Existing Pipelines
- Existing Potable Wells
- Existing Pump Station
- Existing Water Tank
- New Supply Intertie
- Future Storage
- Pump Station Improvements
- Well Improvements
- Fire Flow Residual Pressure (< 20 psi)
- PHD Minimum Pressure (< 30 psi)
- Fire Flow Residual Pressure < 20 psi and PHD Minimum Pressure < 30 psi
- Fire Flow Residual Pressure (> 20 psi) and PHD Minimum Pressure (> 30 psi)
- Deficiency Addressed by Dead-end Looping Program
- Deficiency Addressed by PRV Zone Study Program

Primary Pressure Zones

343	Downtown 343
455	
544	
852	

Sub Pressure Zones

440	666	711
542	674	738
547	675	745
581	694	760
612	697	782
625	710	800

N

0 0.25 0.5 Miles

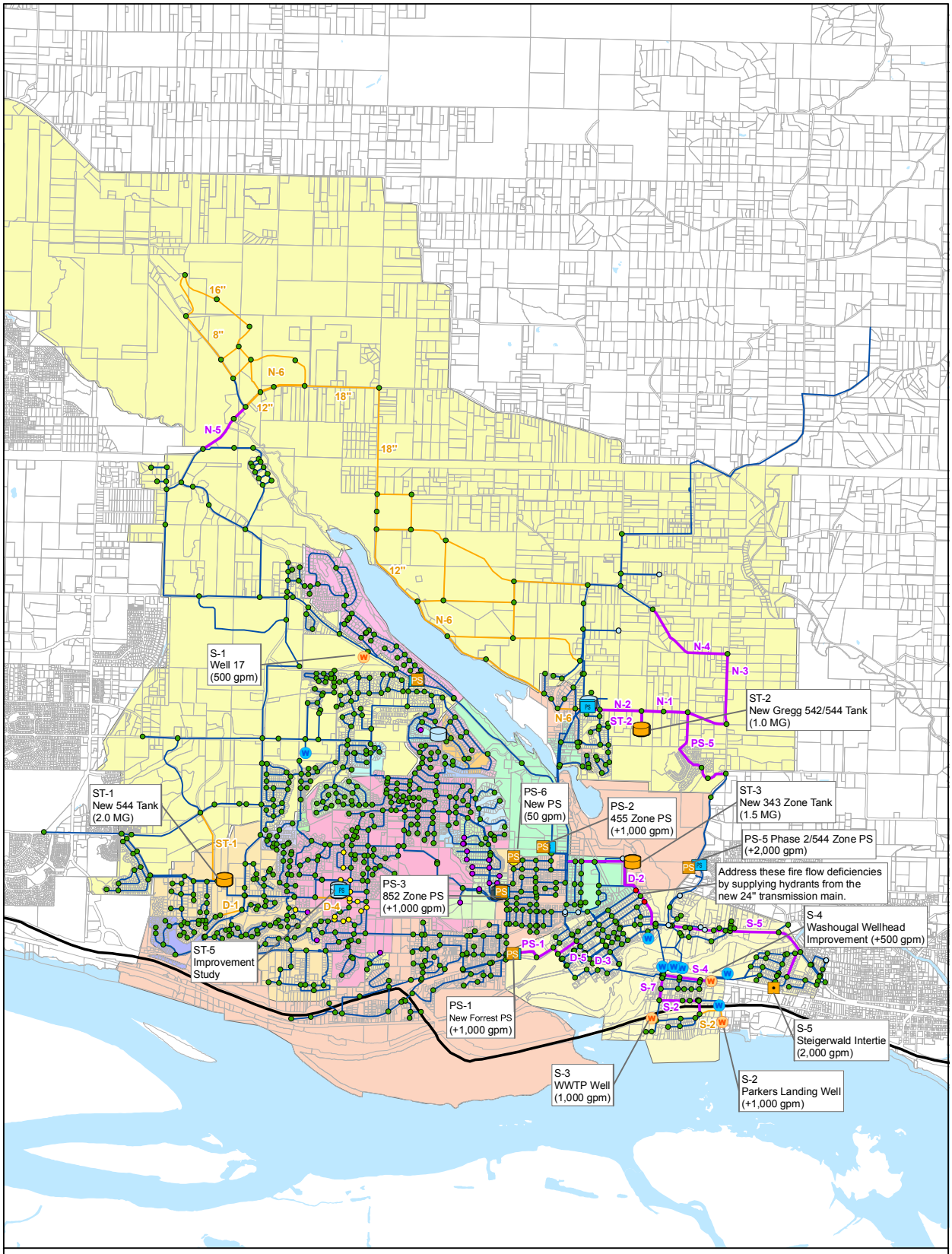
2025 PHD PRESSURE AND FIRE FLOW RESULTS WITH RECOMMENDED IMPROVEMENTS

FIGURE 9.13

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlow_20170414.mxd



Legend

- Highway 14
- Parcels
- Waterbody
- Upsized Pipelines
- Future Pipelines
- Existing Pipelines
- Existing Potable Wells
- Existing Pump Station
- Existing Water Tank
- New Supply Intertie
- Future Storage
- Pump Station Improvements
- Well Improvements
- Fire Flow Residual Pressure (< 20 psi)
- PHD Minimum Pressure (< 30 psi)
- Fire Flow Residual Pressure < 20 psi and PHD Minimum Pressure < 30 psi
- Fire Flow Residual Pressure (> 20 psi) and PHD Minimum Pressure (> 30 psi)
- Deficiency Addressed by Dead-end Looping Program
- Deficiency Addressed by PRV Zone Study Program

Primary Pressure Zones

343	Downtown 343
455	
544	
852	

Sub Pressure Zones

440	666	711
542	674	738
547	675	745
581	694	760
612	697	782
625	710	800

N

0 0.25 0.5 Miles

2035 PHD PRESSURE AND FIRE FLOW RESULTS WITH RECOMMENDED IMPROVEMENTS

FIGURE 9.14

CITY OF CAMAS
WATER SYSTEM PLAN UPDATE

carollo

Document Path: E:\KRC D DRIVE\CAMAS\Fire Flow Analysis\FireFlow_20170414.mxd

There are several feasible options to address this issue:

1. Optimize pump and valve controls so that the Upper Prune Hill Standpipe level does not fall below that required by the surrounding area to provide 30 psi of pressure. This will likely require having the pumps operate within a smaller and higher operating band.
2. Create a small pressure zone with a booster pump station (with appropriate surge controls) to serve the few streets with low pressures. Possibly include a check valve to deliver fire flow into the region (so the booster pump doesn't need to be sized to handle fire demands).
3. Install individual pumps for each service connection. The individual booster pump will be owned and operated by the City allowing for close management and control. The City has extensive experience in operating and maintaining facilities on customer properties from its over 5,000 wastewater septic tank effluent pump stations.

9.6.4.2 PRV Zone Study Program

Many of the nodes experiencing fire flow deficiencies are in sub-zones served by PRV. To address these deficiencies, it is recommended that the City conduct a PRV zone study to optimize their PRV settings to allow fire flows to enter the zones at adequate pressure. Areas that should be included in the PRF zone study are marked by purple nodes.

9.6.4.3 Dead-end Looping Program

Many other fire flow deficiencies occur on dead-end mains. Additional flows can be supplied to these nodes by looping or by upsizing the single pipe feeding the node. These nodes are identified on Figure 9.12 by their light blue color. It is recommended that the City investigate each of these areas individually to determine if looping or pipe upsizing is the best alternative to address the deficiency.

9.6.4.4 2021 Improvements

As recommended by the storage analysis, a new 544 Zone tank was added to the model for the 2021 scenario. The City is looking into locating this tank near the corner of NW 18th Ave and NW Tidland St. Installing a new storage tank at this location with its supply main routed through the Sharp Industries utility corridor and connecting to the distribution system at NW Pacific Rim Blvd as shown on Figure 9.12, eliminates all fire flow and pressure deficiencies in the existing 544 Zone.

The City also considered locating the new 544 Zone tank near Green Mountain. However, modeling results showed that the system would not be able to keep a Green Mountain tank full due to headlosses between the 544 Zone supplies and the tank. The model showed that there would be approximately 10 feet of difference in water level between the existing Lacamas Reservoir and the Green Mountain Tank during MDD.

Projects D-1, PS-6, and D-3 as shown on Figure 9.12 eliminate 2021 pressure and fire flow deficiencies. Installing D-1 increases looping to provide additional fire flow along NW 18th Ave. Project PS-6, which was also listed in the City's 2010 Plan, involves installing a 50-gpm pump to supply high elevation customers along Couch St. D-3 consists of upsizing 200 feet of pipe from 2-inch diameter to 8-inch diameter to eliminate the downtown fire flow deficiency.

The hydrants serving customers with large fire flow requirements along NE Oak St in the 343 Zone should be supplied by the new 24" transmission main that passes through that area to better meet the City's criteria.

9.6.4.5 2025 Improvements

Improvement D-4 consists of a new pipe along NW 16th Ave to resolve the fire flow deficiency in upper prune hill. This project should be reviewed in conjunction with the Upper Prune Hill pressure improvements study.

N-5 improves transmission between the 544 Zone and the North Shore area. This project contributes to increased fire flow at NW Lake Rd and NW Parker St.

9.6.4.6 2035 Improvements

By 2035 two storage facility projects are recommended. The first is a new tank for the 343 Zone to replace the Butler Reservoir (ST-3 on Figure 9.13). The City has discussed locating this tank near the cemetery. The cemetery is an ideal location for this tank because it would not require any additional transmission main improvements. If the City cannot locate the tank at the cemetery, installing a new tank at the Crown Road BPS site or at the Butler site should be considered. Installing a new tank at the Butler site will likely require over 6,000 feet of transmission main improvements along NE Everett St.

An additional 1 MG of storage is required for the 544/542 Zone in 2035 beyond what the New Lacamas Tank provides Constructing a new 1.0 MG reservoir next to the 0.1 MG Gregg Standpipe (ST-2 on Figure 9.13) is recommended due to its location near the Crown Road BPS, which will supply the majority of the summer 542/544 Zone demands.

Project D-5 is recommended to improve transmission of supply from the SE portion of the system to the 455 Zone and help to avoid over-pressurizing the downtown area.

Projects N-1 through N-4 in the NE corner of the water system are required to address low pressures along SE Robinson Rd and convey flows from the expanded Crown Road PS to the North Shore expansion area.

9.6.5 Average Day Demand Simulation

The City's supply strategy varies seasonally. Surface water rights for their Boulder and Jones intakes can only be used during the winter months. These supplies are treated at the

City's slow sand filtration plant and conveyed to the 542 Zone. However, during the summer most of the City's supply comes from wells in the 343 Zone.

Model scenarios for both MDD and ADD were built to simulate both summer and winter supply strategies. During the winter, the Old Gregg BPS PRV conveys excess supply from the 542 Zone to the 455 Zone and the Butler PRV conveys excess supply in the 455 Zone to the 343 Zone. The model parameters for these valves are list in Table 9.10.

Table 9.10 Butler Site PRV Settings
Water System Plan
City of Camas

Valve	Control Reservoir	Reservoir Condition	Valve Setting
Old Gregg PRV	Gregg Standpipe	Above 65 ft	66 psi
Old Gregg PRV	Gregg Standpipe	Below 62 ft	40 psi
Butler PRV	Lower Prune Hill Reservoir 1	Above 22 ft	106 psi
Butler PRV	Lower Prune Hill Reservoir 1	Below 19.5 ft	80 psi

With implementation of the recommended improvements described previously in this chapter, no deficiencies were identified for the ADD scenario.

Table 9.11 Supply Improvements
Water System Plan
City of Camas

Project No.	Year	Project Description	Capacity/ Length	Location	Purpose
S-1	2021	Well 17	500 gpm	NW Lake Rd and NW Leadbetter Dr	To meet 2021 Demands
S-2	2021	Parkers Landing Well Transmission main upsize for Parkers Landing Well	1,000 gpm 3,240 ft of 16-in pipe	Front St and SE 11th Ave	To meet 2021 Demands
S-3	2025	WWTP Well Transmission main upsize for WWTP Well	1,000 gpm 1,160 ft of 16-in pipe	SE Polk St and SE 11th Ave	To meet 2025 Demands
S-4	2025	Well 6 capacity upgrades	+500 gpm	Along SE 6th Ave	To meet 2025 Demands
S-5	2035	Steigerwald Intertie Transmission main upsize for Steigerwald Intertie	2,000 gpm 6,190 ft of 16-in pipe	NE 3rd Ave	To meet 2035 Demands

Table 9.12 North Shore Transmission Main Improvements
Water System Plan
City of Camas

Project No.	Year	Project Description	Capacity/ Length	Location	Purpose
N-1	2035	SE 15th St. transmission main upsize.	1,730 ft of 24-in pipe	From Gregg Reservoir to SE 283rd Ave	Improve conveyance through 544 Zone
N-2	2035	NE 43rd Ave transmission main upsize	1,560 ft of 18-in pipe	From Gregg Reservoir to NE Garfield St	Improve conveyance through 544 Zone
N-3	2035	SE 283rd Ave transmission main upsize	2,640 ft of 18-in pipe	From SE 15th St to SE 7th St	Improve conveyance through 544 Zone

Table 9.12 North Shore Transmission Main Improvements
Water System Plan
City of Camas

Project No.	Year	Project Description	Capacity/ Length	Location	Purpose
N-4	2035	SE Robinson/SE 7th St transmission main upsize	3,620 ft of 18-in pipe	From SE 271st Ct to SE 283rd Ave	Improve conveyance through 544 Zone
N-5	2035	NE Goodwin Road	2,270 ft of 18-in pipe	From NE Ingle Rd to NW Camas Meadows Dr	Improve conveyance through 544 Zone

Table 9.13 Distribution System Improvements
Water System Plan
City of Camas

Project No.	Year	Project Description	Capacity/ Length	Location	Purpose
D-1	2021	New transmission main connecting NW 11 Cir to NW Brady Rd.	830 ft of 8-in pipe	From NW 11 Cir to NW Brady Rd.	Provide fire flow along NW 18th Ave
D-2	2021	Transmission main upsize for Washougal wellfield.	5,110 ft of 24-in pipe	Along NE Oak St and NE 22nd Ave	To meet 2021 Demands
D-3	2021	NE Birch St upsized transmission main	200 ft of 8-in pipe	From NE 3rd Ave to Railroad	Provide fire flow
D-4	2025	New transmission main along NW 16th Ave	1,300 ft of 12-in pipe	From NW Hood St to NW Cascade St.	Provide Prune Hill fire flow
D-5	2035	Phase II of Transmission main upsize for new Forest Home PS	2,120 ft of 16-in pipe	Along NE 5th and NE 4th Ave	To convey flow and prevent over-pressurization of 343 Zone

Table 9.13 Distribution System Improvements
Water System Plan
City of Camas

Project No.	Year	Project Description	Capacity/ Length	Location	Purpose
D-6	2021	Dead-end Looping Program	N/A	N/A	Address dead0end pressure and fire flow deficiencies
D-7	2021	PRV Zone Study Program	N/A	N/A	Address PRV Zone fire flow deficiencies
D-8	2025	Transmission main upsize for Well 6 capacity upgrades	1,940 ft of 18-in pipe	Along SE 6th Ave	To meet 2025 Demands

2351

Item 8.

Table 9.14 Pumping Improvements
Water System Plan
City of Camas

Project No.	Year	Project Description	Capacity/ Length	Location	Purpose
PS-1	2021	New Forest Home PS Transmission main upsize for new Forest Home PS	+1,000 gpm 1,220 ft of 16-in pipe	Along NW 74th Ave	**To meet Pumping Redundancy Criterion**
PS-2	2021	New 455 Zone PS Capacity.	+1,000 gpm		**To meet Pumping Redundancy Criterion**
PS-3	2021	New 852 Zone PS Capacity.	+1,000 gpm		**To meet Pumping Redundancy Criterion**
PS-4	2025	New 544 Zone PS Capacity Phase I	+2,000 gpm		**To meet 2025 Demands**
PS-5	2035	New 544 Zone PS Capacity Phase II Transmission main upsize for new 544 Zone PS Capacity Phase II	+4,000 gpm above existing 3,870 ft of 24-in pipe	NE Woodburn Dr	**To meet 2035 Demands**
PS-6	2021	NW Couch St 50 gpm PS and check features to allow 455 Zone to provide fire flow		NW Couch St and NW 21st Ave	**Provide service pressure**

Table 9.15 Storage Improvements
Water System Plan
City of Camas

Project No.	Year	Project Description	Capacity/ Length	Location	Purpose
ST-1	2021	New 544 Zone Tank New 544 Zone Tank transmission main	2 MG 3,060 ft of 16-in pipe	Corner of NW 18th Ave and NW Tidland St.	Address 544 Zone storage deficit
ST-2	2035	New Gregg Tank New Gregg Tank transmission main	3 MG 580 ft of 24-in pipe	At Gregg Tank Site	Address 544 Zone storage deficit
ST-3	2035	343 Zone Tank	1.4 MG	At the Cemetery	Replace Butler Reservoir
ST-5	2021	Upper Prune Hill Pressure Improvements Study	N/A	Near Upper Prune Hill Standpipe	Address 852 Zone pressure deficiencies

9.7 LIMITING CAPACITY ANALYSIS

As described in above sections, to meet 2021 demands the City requires additional supply (S-1 and S-2), transmission capacity (D-2), and additional storage (ST-1). Further supply, booster pump station, and piping projects will be needed to meet projected growth beyond 2021. With these improvements, the limiting capacity of the physical water system was determined for 2035. The limiting capacity analysis used the mythology described in DOH Water System Design Manual (2009) Worksheet 6-1 and Table 6-1.

The limiting capacity considers ERUs for both MDD and ADD, which are shown in Table 9.16. The ERUs were calculated based on the projected residential customer class 2035 MDD and ADD in Chapter 5 – Water Requirements.

The physical capacity of each of the systems components were calculated: storage, sources, and pumping. The “Capacity-Related Storage” was calculated based on Equation 6-8 for each storage operating area and is shown in Table 9.17. The 542/544 will have little remaining storage capacity by 2035. Source capacity was evaluated for system overall for both the ADD and MDD per Equation 6-3 and Equation 6-4, respectively. The system will have sufficient supply through 2035, as shown in Table 9.18; however, the City will likely need to develop supplies shortly after the end of the planning period. As previously stated, these supplies are anticipated to come from the Steigerwald Regional Supply. The majority of supplies will be pumped from the 343 PZ to higher PZ; therefore, limiting booster pump station capacity was analyzed. Shortly after 2035, the City will likely need to provide additional pumping capacity for all pressure zones, as shown in Table 9.19. Transmission capacity was assumed to be addressed as part of source and pumping capacity. Note, distribution was not considering capacity limited, as the City has planned projects to address all identified deficiencies and design standards ensure all new development meets City standards.

The limiting capacity for the system is summarized in Table 9.20. In 2035, the City will be limited by booster pump station capacity and storage in the 542/544. While not limiting, the City will likely need to be actively pursuing additional ADD source capacity by 2035 due to the potentially lengthy process of developing new supplies.

Table 9.16 Limiting Capacity Demand Parameters
Water System Plan
City of Camas

Demand Parameters	gpm/ERU	gpd/ERU
ADD/ERU	0.20	286
MDD/ERU	0.46	662

Table 9.17 Storage Limiting Capacity Analysis Water System Plan City of Camas					
Planning Year		2035	2035	2035	2035
Equalizing Storage duration (min)		150	150	150	150
MDD/ERU (gpm/ERU)		0.46	0.46	0.46	0.46
C (demand factor)		1.6	1.6	1.6	1.6
F (demand factor)		225	225	225	225
Standby Requirement (gal/ERU)		200	200	200	200
ERUs that can be Served (DOH Eq 6-8)		4,588	6,309	15,373	7,782
Storage Surplus/(Deficit) (ERUs)		1,263	3,779	3	2,792

Table 9.18 Source Capacity Limiting Capacity Analysis Water System Plan City of Camas	
ADD/ERU (gpm/ERU)	0.20
ERUs that can be Served (DOH Eq 6-3)	26,780
Total System ERUs	26,216
ADD Source Surplus/(Deficit) (ERUs)	564
MDD/ERU (gpm/ERU)	0.46
ERUs that can be Served (DOH Eq 6-4)	27,772
Total System ERUs	26,216
MDD Source Surplus/(Deficit) (ERUs)	1,555
* Assumes largest source (Steigerwald Intertie) out-of-service	

Table 9.19 Booster Pump Station Limiting Capacity Analysis Water System Plan City of Camas			
Service Area	455	542/544	852
Planning Year	2035	2035	2035
Firm BPS Capacity (gpm)	5,600	6,030	2,750
BPS Required (gpm)	5,505	6,030	2,660
Unutilized Pumping (gpm)	95	0	90
MDD/ERU (gpm/ERU)	0.46	0.46	0.46
Unutilized Pumping (ERUs)	207	0	196

Table 9.20 Limiting Capacity Analysis Summary Water System Plan City of Camas						
Service Area		343	455	544/542	852	542/544
Storage - Additional Capacity		1,263	3,779	0	2,792	3
Supply - Additional ADD Capacity		564				
Supply - Additional MDD Capacity		1,555				
Pumping - Additional Capacity		0	207	0	196	0

Chapter 10

CAPITAL IMPROVEMENTS PLAN

10.1 INTRODUCTION

This chapter summarizes the City of Camas's (City's) comprehensive capital improvements program (CIP) for the water system that is based on the analyses presented in previous Chapters. The purpose of the CIP is to provide the City with a guideline for planning and budgeting of its water system. The CIP consists of schedule and cost estimates in present dollars (December 2016) for each project.

This Plan contains time fames that are the intended framework for future funding decisions. However, these timeframes are estimates and may change depending on factors involved in the growth, project implementation, and availability of funding. The framework does not represent actual commitments by the City. The City has prepared design standards for the replacement and installation of new water infrastructure, which are provided in Appendix K.

10.1.1 Capital Project Categories

Capital projects can be categorized by the nature of infrastructure. These included:

- Supply (S)
- Distribution System Improvements (DS)
- Pump Station (PS)
- Storage (ST)
- General (G)
- Repair and Replacement (R)
- North Shore Expansion (NS)

The above abbreviations were used as the initial letter in the Project ID and aid in delineating the project category. Repair and Replacement (R&R) includes projects for the existing supply, storage, pumping, and distribution system. North Shore Expansion (NS) category includes the distribution piping for the North Shore Area. Supply, pumping, and storage to serve these customers are included in the respective category.

10.1.2 Capital Project Types

Projects can be allocated into three types to support development of rates and standard development charge (SDC) charges:

1. Capacity – Provides additional system capacity to meet future demand growth.

2. Upgrade – Increases level-of-service (i.e., redundant pumping, backup power, seismic retrofits, upgraded Supervisory Control and Data Acquisition [SCADA] controls, etc.) of existing infrastructure.
3. Non-Capacity – Repair and Replacement of system.

Project types were defined as a percent of the total costs. Projects may include elements of multiple types. The allocation between multiple types were made based on professional judgement.

10.1.3 Capital Planning Periods

CIP projects were allocated into one of three planning periods referenced in previous chapters:

1. Short-term (2017-2022).
2. Medium-term (2023-2026).
3. Long-term (2027-2036).

The short-term planning horizon is allocated to individual years to be consistent with the City's CIP planning. Projects in medium- and long-term planning horizons do not provide the same level of specificity, reflecting the uncertainty in future needs and City resources. The project timing in this Chapter is subject to change, as the City regularly reviews and updates its CIP based on changing conditions and priorities.

10.1.4 Standard Development Charges

SDC, also known as connection charges, are differentiated by South and North Shore areas. The City charges different SDCs rates for the areas. SDCs are calculated for each area based on the Capacity CIP costs that contribute to the respective area. Costs for common CIP projects, shared by both areas, are identified as "common".

10.1.5 Developer Share

Projects costs anticipated to be funded in whole or in part by developers are indicated for each CIP project.

10.2 COST ESTIMATING ASSUMPTIONS

10.2.1 Cost Estimate Level

The CIP cost estimates presented in this chapter are American Academy of Cost Engineers (AACE) Class 4 estimates. Class 4 estimates are budget level estimates. Actual costs may vary from these estimates by -30 percent to +50 percent. These costs were determined based on the City's and Consultant's perception of current conditions at the project locations.

All costs are in December 2016 dollars. The Engineering New Report (ENR) U.S. 20-City Construction Cost Index for December 2013 is 10,530. The estimates are subject to change as the project design matures. Cost of labor, materials, and equipment may vary in the future.

10.2.2 Cost Estimates Elements

The total CIP cost estimates were based on construction costs that are inflated using cost factors to account for non-construction project elements. The cost factors for the Plan are shown in Table 10.1. For a typical project, the cost factors would increase the construction costs by 85 percent to represent the total project cost.

Table 10.1 Cost Factors
Water System Plan Update
City of Camas

Adjustment Factors	Description	Factor
Contingency	Costs that may occur due to uncertainty in project scope and conditions.	30%
General Conditions & Overhead	Contractor costs indirectly related to construction.	25%
Engineering/Planning	Cost for planning and design of project.	20%
City Admin	Cost to administer the project.	10%

10.2.3 Pipeline Unit Costs

Pipeline unit cost assumptions are shown in Table 10.2. These costs were developed from recent construction costs from the City and typical cost adjustments for various diameter sizes. To be conservative, these unit costs assume open-trench construction in improved areas. If trenchless construction is possible for some projects, the cost estimates may need to be modified. Costs include pavement cutting, excavation, hauling, shoring, pipe materials and installation, backfill material and installation, and pavement replacement. The unit costs are for construction in stable soil at a depth ranging between 3 to 5 feet. Costs reflect increased effort to construct on shallow bedrock that overlays large areas of the City and its Urban Growth Area (UGA). Steep slopes, extensive permitting, or acquisition of right of way may result in additional costs. These costs are construction costs only and do not reflect the Contingency, General Conditions & Overhead, Engineering/Planning, and City Admin.

10.2.4 Pump Station Costs

Pump station project costs were developed based on typical pump station costs. Pump station costs were estimated based on pump station horsepower (hp), rather than flow, which allowed consistent costs to be calculated for both new pump stations and expansion

of existing stations. Unit costs are per hp, as shown in Table 10.3, and should be applied to all new pumps in the station, including backup (redundant) pumps.

Table 10.2 Pipeline Unit Costs
Water System Plan Update
City of Camas

Pipe Size (Inches)	Pipeline Unit Cost ($/Linear Foot)(1)
8	$175
10	$186
12	$216
16	$236
18	$243
24	$265
48	$417

Note:
(1) Pipeline unit costs are for construction only.

Table 10.3 Pump Station Unit Costs
Water System Plan Update
City of Camas

Pump Size	Cost per hp per Pump ($/hp)
0 to 199 hp	$4,000
200 to 349 hp	$3,200
350 to 649 hp	$2,400
> 650 hp	$1,600

Note:
(1) Pump station unit costs are for construction only.

10.2.5 Well Costs

New well project costs were developed based on the City's Well 17 project and general costs from past projects. Well costs were estimated based on capacity in gallons per minute (gpm), as presented in Table 10.4.

Table 10.4 Well Unit Costs Water System Plan Update City of Camas	
Well Capacity (gpm)	**Cost per gpm ($/gpm)**
0 to 500 gpm	$1,800
Greater than 500 gpm	$1,500
Note: (1) Well unit costs are for construction only.	

10.2.6 Reservoir Costs

New reservoir project costs were developed based typical costs from past projects. Conceptual costs for reservoirs vary by type: ground, standpipe, and elevated. Costs are estimates based on reservoir volume in gallons, as presented in Table 10.5. Reservoir costs are sensitive to site-specific geotechnical and seismic considerations; therefore, it is recommended that a reservoir siting study that addresses these issues be conducted at the initiation of a new reservoir project.

Table 10.5 Reservoir Unit Costs Water System Plan Update City of Camas	
Reservoir Type	**Cost per gallon ($/gal)**
Ground	$1
Standpipe	$2
Elevated	$4
Note: (1) Reservoir unit costs are for construction only.	

10.2.7 Additional Costs

Other common costs for the CIP included: onsite generators, pressure reducing valve (PRV) stations, and land. Conceptual costs were estimates based past projects, as presented in Table 10.6.

Table 10.6 Additional Reservoir Costs Water System Plan Update City of Camas	
Reservoir Type	**Cost ($)**
Onsite Generator	$200,000 per generator installation
PRV Station	$150,000 per station
Land	$500,000 per 0.5 acres
Note: (1) Other costs are for construction only.	

10.3 CIP PROJECT SHEETS AND COST SUMMARY

CIP projects are based on analyses in previous chapters. The CIP Projects summarized in Table 10.7 are in December 2016 dollars and have not been escalated. The table presents the costs for the short-, medium-, and long-term planning horizons. Additionally, it allocates projects between areas (South, North Shore, Common) used in SDC evaluations and project type (i.e., Capacity, Upgrade, and R&R). Where developer contributions to the project are anticipated, the developer's share is noted as a percentage. The table provides a total cost and average annual cost for all CIP items.

An individual Project Sheet was generated for each CIP project and includes project identifiers, description, costs, project type, and comments to aid in future implementation. To aid in finding individual projects, Project Sheets have been separated by sections, by project category. A summary of costs by project category and type is presented at the end of the Chapter.

Table 10.7 CIP Project Summary
Water System Plan Update
City of Camas

Capital Improvement Program Summary

Project No.	SDC Area	Project Name	Developer Share	Total CIP Cost Estimate	CIP Phasing										Project Type		
					2017	2018	2019	2020	2021	2022	2023	Short-term (2017-2022)	Mid-term (2023-2026)	Long-term (2027-2036)	Capacity	Upgrade	R&R
Supply				**$28,937,000**	**$2,852,000**	**$2,296,000**	**$759,000**	**$3,595,000**	**$440,000**	**$723,000**	**$2,813,250**	**$10,665,000**	**$7,684,000**	**$10,588,000**			
S-1	Common	Well 17	0%	$1,815,000	$150,000	$1,665,000	$ -	$ -	$ -	$ -	$ -	$1,815,000	$ -	$ -	100%	0%	0%
S-2	Common	Parkers Landing Well	0%	$4,560,000	$ -	$456,000	$684,000	$3,420,000	$ -	$ -	$ -	$4,560,000	$ -	$ -	100%	0%	0%
S-3	Common	Wastewater Treatment Plant (WWTP) Well	0%	$3,651,000	$ -	$ -	$ -	$ -	$365,100	$547,650	$2,738,250	$912,750	$2,738,250	$ -	100%	0%	0%
S-4	Common	Washougal Wellfield Improvements	0%	$4,446,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$4,446,000	$ -	100%	0%	0%
S-5	Common	Steigerwald Regional Source	0%	$10,823,000	$60,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$435,000	$300,000	$10,088,000	100%	0%	0%
S-6	Common	Watershed Forest Management	0%	$1,070,000	$70,000	$100,000	$ -	$100,000	$ -	$100,000	$ -	$370,000	$200,000	$500,000	0%	0%	100%
S-7	Common	544 Zone Watershed Source Improvements	0%	$2,572,083	$2,572,083	$ -	$ -	$ -	$ -	$ -	$ -	$2,572,083	$ -	$ -	0%	0%	100%
Distribution System Improvements				**$7,874,000**	**$515,000**	**$55,000**	**$861,000**	**$2,064,000**	**$778,000**	**$55,000**	**$55,000**	**$4,328,000**	**$2,070,000**	**$1,476,000**			
D-1	South	Transmission main from NW 11 Cir to NW Brady Rd	0%	$269,000	$ -	$ -	$ -	$ -	$269,000	$ -	$ -	$269,000	$ -	$ -	0%	0%	100%
D-2	Common	343 Zone Supply Transmission Upsizing	0%	$2,505,000	$ -	$ -	$626,250	$1,878,750	$ -	$ -	$ -	$2,505,000	$ -	$ -	50%	50%	0%
D-3	South	NE Birch St upsized transmission main	0%	$65,000	$ -	$ -	$ -	$ -	$65,000	$ -	$ -	$65,000	$ -	$ -	0%	0%	100%
D-4	South	New transmission main along NW 16th Ave	0%	$519,000	$ -	$ -	$ -	$129,750	$389,250	$ -	$ -	$519,000	$ -	$ -	0%	0%	100%
D-5	South	New Distribution along NW 6th Ave/ NE Adams St	0%	$926,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$926,000	100%	0%	0%
D-6	South	Dead-end Looping Program	0%	$1,045,000	$ -	$55,000	$55,000	$55,000	$55,000	$55,000	$55,000	$275,000	$220,000	$550,000	0%	0%	100%
D-7	Common	PRV Adjustment Study	0%	$180,000	$ -	$ -	$180,000	$ -	$ -	$ -	$ -	$180,000	$ -	$ -	0%	0%	100%
D-8	Common	Well 6/14 Transmission Line	0%	$515,050	$515,050	$ -	$ -	$ -	$ -	$ -	$ -	$515,050	$ -	$ -	0%	0%	100%
D-9	Common	Parallel Boulder Creek Intake	0%	$1,850,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,850,000	$ -	100%	0%	0%

Table 10.7 CIP Project Summary
Water System Plan Update
City of Camas

Capital Improvement Program Summary

Project No.	SDC Area	Project Name	Developer Share	Total CIP Cost Estimate	CIP Phasing										Project Type		
Pump Station				**$11,526,000**	$ -	**$925,000**	**$463,000**	**$28,000**	$ -	$ -	**$544,500**	**$1,416,000**	**$4,141,000**	**$5,969,000**			
PS-1	South	New Forest Home PS	0%	$3,117,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$779,250	$2,337,750	0%	50%	50%
PS-2	Common	New 455 Zone PS Capacity	0%	$1,258,000	$ -	$ -	$ -	$ -	$ -	$ -	$314,500	$ -	$1,258,000	$ -	0%	50%	50%
PS-3	Common	Lower Prune Hill PS Expansion	0%	$1,388,000	$ -	$925,000	$463,000	$ -	$ -	$ -	$ -	$1,388,000	$ -	$ -	0%	50%	50%
PS-4	25% South/75% North Shore	North Shore PS Capacity Phase I	75%	$1,184,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$1,184,000	$ -	100%	0%	0%
PS-5	25% South/75% North Shore	North Shore PS Capacity Phase II	75%	$3,631,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,631,000	100%	0%	0%
PS-6	South	NW Couch St PS	0%	$920,000	$ -	$ -	$ -	$ -	$ -	$ -	$230,000	$ -	$920,000	$ -	0%	0%	100%
PS-7	South	NW 10th Ave Study	0%	$28,000	$ -	$ -	$ -	$28,000	$ -	$ -	$ -	$28,000	$ -	$ -	0%	0%	100%
Storage				**$21,087,000**	**$2,947,000**	**$4,289,000**	$ -	**$711,000**	**$1,205,000**	**$5,331,000**	$ -	**$14,483,000**	$ -	**$6,604,000**			
ST-1	Common	New 544 Zone Reservoir	0%	$7,236,000	$2,946,660	$4,289,340	$ -	$ -	$ -	$ -	$ -	$7,236,000	$ -	$ -	100%	0%	0%
ST-2	Common	New Gregg Tank	75%	$3,984,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$3,984,000	100%	0%	0%
ST-3	South	343 Zone Reservoir	0%	$7,108,000	$ -	$ -	$ -	$710,800	$1,066,200	$5,331,000	$ -	$7,108,000	$ -	$ -	25%	0%	75%
ST-4	Common	Lower Prune Hill Reservoir Rehabilitation	0%	$2,620,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$2,620,000	0%	25%	75%
ST-5	Common	Upper Prune Hill Pressure Improvements Study	0%	$139,000	$ -	$ -	$ -	$ -	$139,000	$ -	$ -	$139,000	$ -	$ -	0%	50%	50%
General				**$550,000**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$275,000**	**$275,000**			
G-1	Common	Water System Plan Update	0%	$550,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$275,000	$275,000	0%	0%	100%
Repair and Replacement				**$44,327,000**	**$320,000**	**$470,000**	**$470,000**	**$470,000**	**$1,164,000**	**$390,000**	**$1,951,750**	**$3,284,000**	**$7,807,000**	**$33,236,000**			
R-1	South	Supply R&R Projects	0%	$1,256,000	$120,000	$ -	$ -	$ -	$148,000	$ -	$93,500	$268,000	$374,000	$614,000	0%	0%	100%
R-2	South	Pump R&R Projects	0%	$1,505,000	$ -	$ -	$ -	$ -	$546,000	$ -	$145,750	$546,000	$583,000	$376,000	0%	0%	100%
R-3	South	Pipeline R&R Projects	0%	$40,266,000	$ -	$195,000	$195,000	$195,000	$195,000	$390,000	$1,712,500	$1,170,000	$6,850,000	$32,246,000	0%	0%	100%
R-4	South	Meter Replacement Program	0%	$1,300,000	$200,000	$275,000	$275,000	$275,000	$275,000			$1,300,000	$ -	$ -			
North Shore Expansion				**$25,353,000**	**$3,100,000**	$ -	**$2,225,000**	**$2,225,000**	**$2,225,000**	**$2,225,000**		**$12,000,000**	**$4,450,000**	**$8,903,000**			
NS-1	North Shore	Annual North Shore Distribution Program	75%	$22,253,000	$ -	$ -	$2,225,000	$2,225,000	$2,225,000	$2,225,000		$8,900,000	$4,450,000	$8,903,000	100%	0%	0%
NS-2	North Shore	Leadbetter Road Transmission Main	75%	$3,100,000	$3,100,000	$ -	$ -	$ -	$ -	$ -	$ -	$3,100,000	$ -	$ -			
CIP Total				**$139,654,067**	**$9,733,897**	**$8,035,170**	**$4,778,125**	**$9,092,650**	**$5,812,275**	**$8,723,825**	**$5,364,500**	**$46,175,942**	**$26,427,250**	**$67,050,875**	**$69,388,500**	**$4,858,500**	**$61,007,133**
Annual Cost				**$6,983,000**	$9,734,000	$8,035,200	$4,778,100	$9,092,700	$5,812,300	$8,723,800	$5,364,500	$7,696,000	$6,606,800	$6,705,100			

10.3.1 Supply Project Sheets

Supply projects were identified in Chapter 8 – Water Resources and Chapter 9 – System Analysis. To meet future demand, the City will need to rehabilitate existing wells, develop new City owned wells, and participate in the development of the Steigerwald Regional Well Field. The majority of supply projects will be in the 343 Pressure Zone:

- S-1 Well 17.
- S-2 Parkers Landing Well.
- S-3 Wastewater Treatment Plant (WWTP) Well.
- S-4 Washougal Wellfield Improvements.
- S-5 Steigerwald Regional Source.
- S-6 Watershed Forest Management.
- S-7 544 Zone Watershed Source Improvements.

General notes on the supply projects include:

- Supply projects do not include costs for property, right-of-way, or easements.
- S-1 Well 17 was based on the City's existing project budget that has been established from independent efforts.
- S-5 Steigerwald Regional Source costs reflect anticipated costs for the City's portion of the supply. A cost allowance for transmission main development/ improvements, was included and should be revisited when more information is available.
- S-6 Watershed Forest Management and S-7 544 Zone Watershed Source Improvements were estimated by the City based on prior studies.

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	S-1	**SDC Area**	Common
Project Name:	Well 17		
Facility Type:	Supply		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 1,665,000	
Upgrade:	0%	$ -	**$ 1,665,000**
Non-capacity:	0%	$ -	

Project Description:

Design and construct Well 17 near NW Lake Rd and NW Leadbetter Dr. The well is anticipated to provide 500 gpm of new supply in the 544 Pressure Zone. The City has applied for a new water right for Well 17.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
New Well 17	500	gpm	$ 1,800	$ 270,000	$ 225,000	$ 180,000	$ 90,000	$ 1,665,000	
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	S-1	**SDC Area**	Common
Project Name:	Well 17		
Facility Type:	Supply		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 1,665,000	
Upgrade:	0%	$ -	**$ 1,665,000**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Cost based on 2013 CFP

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	MDD	10.2 MGD	2018

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: S-2 **SDC Area** Common
Project Name: Parkers Landing Well
Facility Type: Supply

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 4,559,584	
Upgrade:	0%	$ -	$ 4,559,584
Non-capacity:	0%	$ -	

Project Description:

Design and construct Parkers Landing Well at Front St and SE 11th Ave, which is currently permitted (G2-30146) for 1,000 gpm peak production and an annual withdrawal of 880 acre-feet per year. As part of design, conduct a hydrogeological investigation to size the well and pump. Approximately 3,240 feet of 16-inch water main will be required to convey the new supply. From the well site, the main will travel north on Front St, turning west on Frontage Rd. Upsize the existing 8-inch main on SE Union St to 16-inch, between Frontage Rd and SE 8th Ave. Upsize the 16-inch main along SE 8th Ave to 16-inch, from Union St to SE Polk St.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
Design and Construct Parkers Landing Well		1,000	gpm	$ 1,500	$ 450,000	$ 375,000	$ 300,000	$ 150,000	$ 2,775,000	
Backup Power Generator		1	LS	$ 200,000	$ 60,000	$ 50,000	$ 40,000	$ 20,000	$ 370,000	
Upsize Distribution Main:	16-inch	3,240	ft	$ 236	$ 229,392	$ 191,160	$ 152,928	$ 76,464	$ 1,414,584	

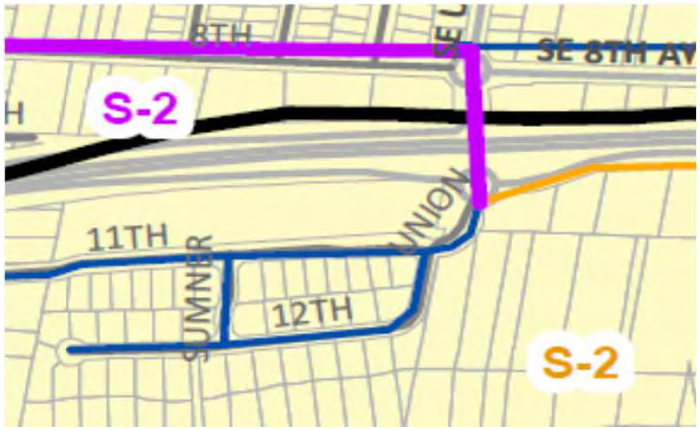
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	S-2	**SDC Area**	Common
Project Name:	Parkers Landing Well		
Facility Type:	Supply		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 4,559,584	
Upgrade:	0%	$ -	**$ 4,559,584**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Redundant Supply	System MDD	10.9 MGD	2020

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	S-3	**SDC Area**	Common
Project Name:	WWTP Well		
Facility Type:	Supply		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 3,651,456	
Upgrade:	0%	$ -	**$ 3,651,456**
Non-capacity:	0%	$ -	

Project Description:

Design and construct a Treatment Plant Well at SE Polk St and SE 11th Ave, which is currently permitted (G2-30147) for 1,000 gpm peak production and an annual withdrawal of 880 acre-feet per year. As part of design, conduct a hydrogeological investigation to size the well and pump. Approximately 1,160 feet of 16-inch water main will be required to convey the new supply. Upsize the 6-inch and 8-inch mains along SE Polk St. to 16-inch, from SE 8th Ave to SE 6th Ave.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
Design and Construct Treatment Plant Well	1,000	gpm	$ 1,500	$ 450,000	$ 375,000	$ 300,000	$ 150,000	$ 2,775,000	
Backup Power Generator	1	LS	$ 200,000	$ 60,000	$ 50,000	$ 40,000	$ 20,000	$ 370,000	
Upsize Distribution Main: 16-inch	1,160	ft	$ 236	$ 82,128	$ 68,440	$ 54,752	$ 27,376	$ 506,456	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	S-3	**SDC Area**	Common
Project Name:	WWTP Well		
Facility Type:	Supply		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 3,651,456	
Upgrade:	0%	$ -	**$ 3,651,456**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	System MDD	12.2 MGD	2022

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: S-4 **SDC Area** Common
Project Name: Washougal Wellfield Improvements
Facility Type: Supply

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 4,446,105	
Upgrade:	0%	$ -	**$ 4,446,105**
Non-capacity:	0%	$ -	

Project Description:

Maximize use of existing water rights in the Washougal Wellfield. Increase yield of Well 6 from 1,000 gpm to 1,500 gpm and address issues with Well 5. As part of design, conduct a hydrogeological investigation to determine the preferred improvements. Approximately 1,940 feet of 18-inch water main will be required to convey the new supply from Well 6. Upsize approximately 1,160 ft of 12-inch main, along SE 6th Ave, to 18-inch, from SE 8th Ave to SE 6th Ave.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
Washougal Wellfield Improvements		1,100	gpm	$ 1,500	$ 495,000	$ 412,500	$ 330,000	$ 165,000	$ 3,052,500	
Transmission Main:	18-inch	1,940	ft	$ 243	$ 141,426	$ 117,855	$ 94,284	$ 47,142	$ 872,127	
Upsize Distribution Main:	18-inch	1,160	ft	$ 243	$ 84,564	$ 70,470	$ 56,376	$ 28,188	$ 521,478	
					$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	S-4	**SDC Area**	Common
Project Name:	Washougal Wellfield Improvements		
Facility Type:	Supply		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 4,446,105	
Upgrade:	0%	$ -	**$ 4,446,105**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	System MDD	13.3 MGD	2025

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: S-5 **SDC Area** Common
Project Name: Steigerwald Regional Source
Facility Type: Supply

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 10,822,554	
Upgrade:	0%	$ -	$ 10,822,554
Non-capacity:	0%	$ -	

Project Description:

In the long-term, the City anticipates obtaining supply from the future Steigerwald Regional Wellfield (Water Right Application G2-30528), which will be developed jointly with the City of Washougal. As an entirely new supply source, the Cities will need to permit, design, and construct the proposed wells and related facilities, such as disinfection, auxiliary power, and, potentially, treatment. The conveyance from the regional wellfield, near Steigerwald Wildlife Refuge, to the City has not been determined. A $2M transmission cost allowance is provided and should be revised when additional information is available. To convey the new supplies: upsize the 8-inch water main on SE James St to 16-inch, from the Intertie to NE 2nd Ave; upsize the 8-inch water main on NE 2nd Ave to 16-inch, from SE James St to NE 3rd Ave; and upsize the 8-inch water main on NE 3rd Ave to 16-inch, from NE 2nd Ave to SE Crown Rd.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
Steigerwald Regional Water Source Phase I		1,000	gpm	$ 1,500	$ 450,000	$ 375,000	$ 300,000	$ 150,000	$ 2,775,000	
Steigerwald Regional Water Source Phase II		1,000	gpm	$ 1,500	$ 450,000	$ 375,000	$ 300,000	$ 150,000	$ 2,775,000	
Backup Power Generator		1	LS	$ 200,000	$ 60,000	$ 50,000	$ 40,000	$ 20,000	$ 370,000	
Steigerwald Transmission		1	LS	$ 2,000,000	$ -	$ -	$ -	$ 200,000	$ 2,200,000	
Upsize Distribution Main:	16-inch	6,190	ft	$ 236	$ 438,252	$ 365,210	$ 292,168	$ 146,084	$ 2,702,554	

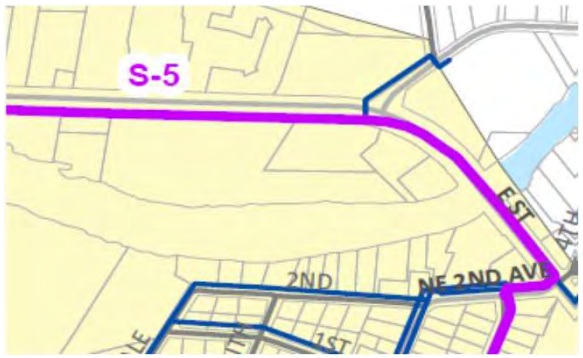
City of Camas
Water System Plan Update
Capital Improvement Program

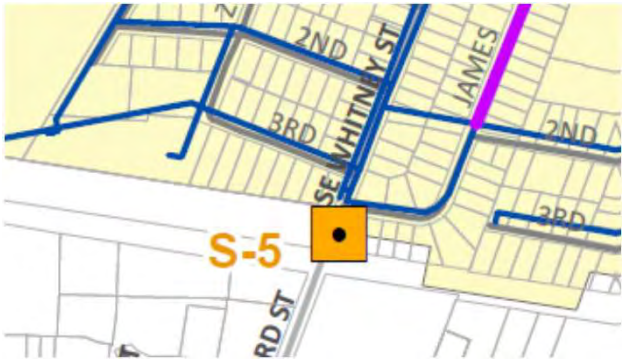
Project Identification:	S-5	**SDC Area**	Common
Project Name:	Steigerwald Regional Source		
Facility Type:	Supply		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 10,822,554	
Upgrade:	0%	$ -	**$ 10,822,554**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Project Location:





Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	System MDD	13.8 MGD	2030

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: S-6 **SDC Area** Common
Project Name: Watershed Forest Management
Facility Type:

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	
Upgrade:	0%	$ -	$ 1,070,000
Non-capacity:	100%	$ -	

Project Description:

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: S-6 **SDC Area** Common
Project Name: Watershed Forest Management
Facility Type:

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	
Upgrade:	0%	$ -	$ 1,070,000
Non-capacity:	100%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: S-7 **SDC Area** Common
Project Name: 544 Zone Watershed Source Improvements
Facility Type:

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	$ 2,572,083
Upgrade:	0%	$ -	
Non-capacity:	100%	$ -	

Project Description:

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: S-7 **SDC Area** Common
Project Name: 544 Zone Watershed Source Improvements
Facility Type:

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	
Upgrade:	0%	$ -	$ 2,572,083
Non-capacity:	100%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need

10.3.2 Distribution System Improvements Project Sheets

Distribution system improvements to resolve system deficiencies were identified in Chapter 9 – System Analysis. Projects are spread throughout the system:

- D-1 Transmission main from NW 11 Cir to NW Brady Rd.
- D-2 343 Zone Supply Transmission Upsizing.
- D-3 NE Birch St upsized transmission main.
- D-4 New transmission main along NW 16th Ave.
- D-5 New Distribution along NW 6th Ave/ NE Adams St.
- D-6 Dead-end Looping Program.
- D-7 PRV Adjustment Study.
- D-8 Well 6/14 Transmission Line.
- D-9 Parallel Boulder Creek Intake.

General notes on the distribution system projects include:

- Distribution system improvement projects do not include costs for property, right-of-way, or easements.
- D-6 Dead-end Looping Program provides funding for an annual program, where the City will typically address one to two dead-end mains per year. Actual Individual dead-end main project costs vary widely based on site specific conditions.
- D-7 PRV Adjustment Study includes a cost allowance for PRV improvements that should be revisited when the initial PRV study is complete.
- D-8 Well 6/14 Transmission Line costs are based on the City's existing budget.
- D-9 Parallel Boulder Creek Intake costs were provided by the City.

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: D-1 **SDC Area** South
Project Name: Transmission main from NW 11 Cir to NW Brady Rd
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	$ 268,713
Non-capacity:	100%	$ 268,713	

Project Description:
To increase fire flow on NW 18th Ave, construct 830 feet of 8-inch pipe to connect NW 11th Cir to NW Brady Rd.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
					30%	25%	20%	10%		
New Distribution Main:	8-inch	830	ft	$ 175	$ 43,575	$ 36,313	$ 29,050	$ 14,525	$ 268,713	
					$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	D-1	**SDC Area**	South
Project Name:	Transmission main from NW 11 Cir to NW Brady Rd		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 268,713**
Non-capacity:	100%	$ 268,713	

Notes on Cost Estimation:

Cost does not include obtaining easements for the new pipe.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Fire Flow	City Resources	When	Short-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	D-2	**SDC Area**	Common
Project Name:	343 Zone Supply Transmission Upsizing		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	50%	$ 1,252,589	
Upgrade:	50%	$ -	**$ 2,505,178**
Non-capacity:	0%	$ -	

Project Description:

Approximately 5,110 feet of 24-inch water main will be required to convey the new supply from new supplies in the 343 Pressure Zone. Upsize the existing 18-inch transmission main along NE Oak St, NE 19th Ave, NE Ione St, and NE 22nd St. Note, the pipe diameter is sized to convey future Steigerwald Regional Water Supply.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
					30%	25%	20%	10%		
Upsize Distribution Main:	24-inch	5,110	ft	$ 265	$ 406,245	$ 338,538	$ 270,830	$ 135,415	$ 2,505,178	
					$ -	$ -	$ -	$ -	$ -	
					$ -	$ -	$ -	$ -	$ -	

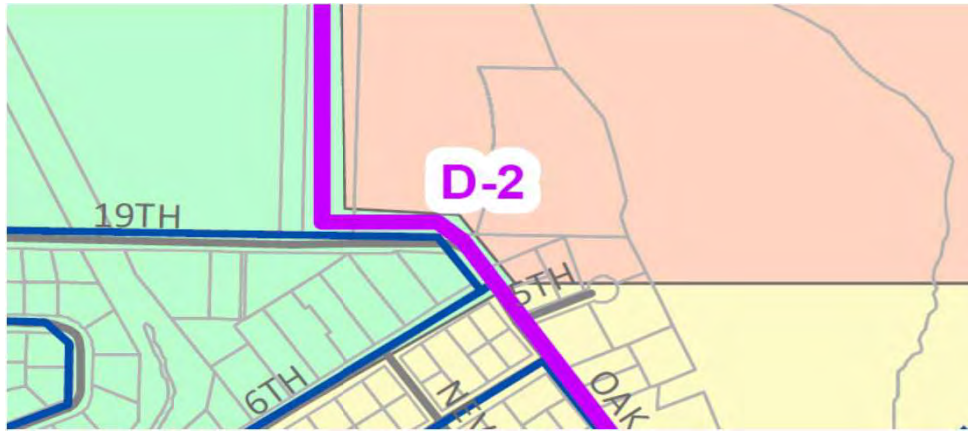
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	D-2	**SDC Area**	Common
Project Name:	343 Zone Supply Transmission Upsizing		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	50%	$ 1,252,589	
Upgrade:	50%	$ -	**$ 2,505,178**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	New Supply	New Supply in 343 PZ	0

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	D-3	**SDC Area**	South
Project Name:	NE Birch St upsized transmission main		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 64,750**
Non-capacity:	100%	$ 64,750	

Project Description:

To increase fire flow, upsize the 2-inch water main on NE Birch St to 8-inch, from NE 3rd Ave to the Railroad tracks.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
New Distribution Main:	8-inch	200	ft	$ 175	$ 10,500	$ 8,750	$ 7,000	$ 3,500	$ 64,750	
					$ -	$ -	$ -	$ -	$ -	
					$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	D-3	**SDC Area**	South
Project Name:	NE Birch St upsized transmission main		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 64,750**
Non-capacity:	100%	$ 64,750	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Fire Flow	City Resources	When	Short-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: D-4 **SDC Area** South
Project Name: New transmission main along NW 16th Ave
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	$ 519,480
Non-capacity:	100%	$ 519,480	

Project Description:
To increase distribution system capacity from the Upper Prune Hill Reservoir, construct a new 12-inch transmission main along NW 16th Ave, from NW Hood St to NW Cascade St.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
New Distribution Main:	12-inch	1,300	ft	$ 216	$ 84,240	$ 70,200	$ 56,160	$ 28,080	$ 519,480	
					$ -	$ -	$ -	$ -	$ -	
					$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

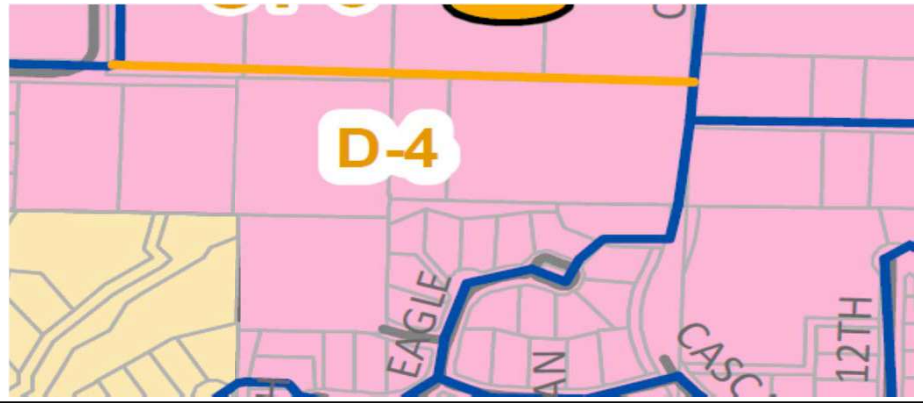
Project Identification:	D-4	**SDC Area**	South
Project Name:	New transmission main along NW 16th Ave		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 519,480**
Non-capacity:	100%	$ 519,480	

Notes on Cost Estimation:

Costs do not include purchase of land or easements.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Fire Flow	City Resources	When	Short-term

City of Camas
Water System Plan
Capital Improvement Program

Project Identification: D-5 **SDC Area** South
Project Name: New Distribution along NW 6th Ave/ NE Adams St
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 925,592	
Upgrade:	0%	$ -	$ 925,592
Non-capacity:	0%	$ -	

Project Description:

Upsize distribution main to convey future supplies from the Steigerwald Intertie to the Forest Home BPS; preventing over-pressurization of 343 Zone. Upsize the 6-inch water main on NW 6th Ave to 16-inch, from NW 7th Ave to NE Adams St. Upsize the 8-inch water main on NE Adams St to 16-inch, from NW 6th Ave to NE 3rd Ave.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
Upsize Distribution Main:	16-inch	2,120	ft	$ 236	$ 150,096	$ 125,080	$ 100,064	$ 50,032	$ 925,592	
					$ -	$ -	$ -	$ -	$ -	
					$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan
Capital Improvement Program

Project Identification:	D-5	**SDC Area**	South
Project Name:	New Distribution along NW 6th Ave/ NE Adams St		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 925,592	
Upgrade:	0%	$ -	**$ 925,592**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	Related Infrastructure	Construction of Steigerwald Intertie (S-11)	0

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	D-6	**SDC Area**	South
Project Name:	Dead-end Looping Program		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 1,045,000**
Non-capacity:	100%	$ 1,045,000	

Project Description:

Address dead-end mains through an annual program to improve water quality and fire flow. Mains, which may be looped or upsized, as determined on a case by case basis, are typically constructed through small works contracts and/or developer improvements. An annual budget of $50,000 has been allocated for this work.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				0%	0%	0%	10%		
Dead-end Main Program	1	LS	$ 50,000	$ -	$ -	$ -	$ 5,000	$ 55,000	
Dead-end Main Program	1	LS	$ 50,000	$ -	$ -	$ -	$ 5,000	$ 55,000	
Dead-end Main Program	1	LS	$ 50,000	$ -	$ -	$ -	$ 5,000	$ 55,000	
Dead-end Main Program	1	LS	$ 50,000	$ -	$ -	$ -	$ 5,000	$ 55,000	
Dead-end Main Program	1	LS	$ 50,000	$ -	$ -	$ -	$ 5,000	$ 55,000	
Dead-end Main Program	4	LS	$ 50,000	$ -	$ -	$ -	$ 20,000	$ 220,000	
Dead-end Main Program	10	LS	$ 50,000	$ -	$ -	$ -	$ 50,000	$ 550,000	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: D-6 **SDC Area** South
Project Name: Dead-end Looping Program
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	$ 1,045,000
Non-capacity:	100%	$ 1,045,000	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Fire Flow	City Resources	When	Short-term
Water Quality	City Resources	When	Short-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: D-7 **SDC Area** Common
Project Name: PRV Adjustment Study
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	$ 180,000
Non-capacity:	100%	$ 180,000	

Project Description:

Optimize service pressures and address fire flow deficiencies in PRV feed pressure zones. It is anticipated that the study will require a combination of field investigation and desktop hydraulic modeling. A general allowance of $100,000 has been provided to implement minor maintenance and improvements that may be recommended by the study.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
PRV Study	1	LS	$ 50,000	$ 15,000	$ -	$ -	$ 5,000	$ 70,000	
PRV Improvement Allowance	1	LS	$ 100,000	$ -	$ -	$ -	$ 10,000	$ 110,000	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: D-7 **SDC Area** Common
Project Name: PRV Adjustment Study
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 180,000**
Non-capacity:	100%	$ 180,000	

Notes on Cost Estimation:
Study does not include costs to repair or replace PRVs. Allowance for minor maintenance and improvements to existing PRV and vaults.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Fire Flow	City Resources	When	Short-term

City of Camas
Water System Plan
Capital Improvement Program

Project Identification: D-8 **SDC Area** Common
Project Name: Well 6/14 Transmission Line
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	
Upgrade:	0%	$ -	$ 515,050
Non-capacity:	100%	$ 515,050	

Project Description:
Upsize Well 6/14 trasmission main to provide increased capacity when both wells are pumping.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency 0%	GC & Overhead 0%	Engineering/ Planning 0%	City Admin 0%	Total Project Cost	Developer Share
Well 6/14 Transmission Line	1	LS	$ 515,050	$ -	$ -	$ -	$ -	$ 515,050	0%
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	

Notes on Cost Estimation:
Total cost of $515,050 was provided by the City.

Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Not Applicable			

City of Camas
Water System Plan
Capital Improvement Program

Project Identification: D-9 **SDC Area** Common
Project Name: Parallel Boulder Creek Intake
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 1,800,000	
Upgrade:	0%	$ -	**$ 1,800,000**
Non-capacity:	0%	$ -	

Project Description:
Install a parallel line to the Boulder Creek Intake to increase the available supply capacity from 1,150 gpm to the full water right of 1,570 gpm. This project will allow full use of the surface water rights and Slow Sand WTP. Additional investigation is needed to refine project costs.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				0%	0%	0%	0%		
Parallel Boulder Creek Intake	1	LS	$ 1,800,000	$ -	$ -	$ -	$ -	$ 1,800,000	0%
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	

Notes on Cost Estimation:
Total cost of $1.8M provided by the City.

Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Not Applicable			

10.3.3 Pump Station Project Sheets

Pump Station projects to resolve system deficiencies and meet future growth were identified in Chapter 9 – System Analysis. Projects are anticipated in conjunction with, or occur near, existing infrastructure:

- PS-1 New Forest Home PS.
- PS-2 New 455 Zone PS Capacity.
- PS-3 Lower Prune Hill PS Expansion.
- PS-4 North Shore PS Capacity Phase I.
- PS-5 North Shore PS Capacity Phase II.
- PS-6 NW Couch St PS.
- PS-7 NW 10th Ave Study.

General notes on the pump station projects include:

- Pump Station costs are estimated using the anticipated hp of the existing City pump stations performing to/from the same pressure zone. Relocation of pumps stations may require additional hp or transmission and distribution improvements.
- Where a new pump station is anticipated a land allowance has been provided.
- PS-7 NW 10th Ave Study is intended to provide an alternative analysis and does not include construction costs.

City of Camas
Water System Plan
Capital Improvement Program

Project Identification:	PS-1	**SDC Area**	South
Project Name:	New Forest Home PS		
Facility Type:	Pump Station		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	50%	$ 892,292	**$ 3,116,584**
Non-capacity:	50%	$ 1,558,292	

Project Description:

Replace the existing Forest Home BPS with a 2,000 gpm station to provide redundant supply from the 343 Pressure Zone to the 455 Pressure Zone. The new BPS is anticipated to include three (3) 75 hp variable speed pumps that will produce 1,000 gpm each, where one pump is redundant. On-site backup power is included for station reliability. Upsize the 6-inch water main on NW 7th Ave to 16-inch, from NW 6th Ave to the new BPS. BPS is required to transfer supply from the 455 Pressure Zone to higher Pressure Zones (544, 852, etc.).

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
					30%	25%	20%	10%		
New Forest Home BPS		225	hp	$ 3,200	$ 216,000	$ 180,000	$ 144,000	$ 72,000	$ 1,332,000	
Backup Power Generator		1	LS	$ 200,000	$ 60,000	$ 50,000	$ 40,000	$ 20,000	$ 370,000	
Upsize Distribution Main:	16-inch	3,240	ft	$ 236	$ 229,392	$ 191,160	$ 152,928	$ 76,464	$ 1,414,584	
					$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan
Capital Improvement Program

Project Identification:	PS-1	**SDC Area**	South
Project Name:	New Forest Home PS		
Facility Type:	Pump Station		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	50%	$ 892,292	**$ 3,116,584**
Non-capacity:	50%	$ 1,558,292	

Notes on Cost Estimation:

The portion of the project on NW 6th AVE was been upsized to 12" in 2017/2018. An additional analysis should be conducted during pre-deisgn to update the distribution upsizing that is required. Costs were not adjusted to provide budget for changes in scope.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	Peak Pumping	All BPS pumps required to maintain reservoir levels	Near-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: PS-2 **SDC Area** Common
Project Name: New 455 Zone PS Capacity
Facility Type: Pump Station

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	50%	$ 185,000	$ 1,258,000
Non-capacity:	50%	$ 629,000	

Project Description:

Add an additional 1,000 gpm of pumping, from the 343 Pressure Zone to the 455 Pressure Zone, as required to supply the future pumping to the 852 Pressure Zone (S-6). It is anticipated that the additional pumping will be added through a new 1,000 gpm station with a redundant pump or an addition to the Angelo BPS.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
343 to 455 Pumping Capacity	150	hp	$ 3,200	$ 144,000	$ 120,000	$ 96,000	$ 48,000	$ 888,000	
Backup Power Generator	1	LS	$ 200,000	$ 60,000	$ 50,000	$ 40,000	$ 20,000	$ 370,000	
				$ -	$ -	$ -	$ -	$ -	

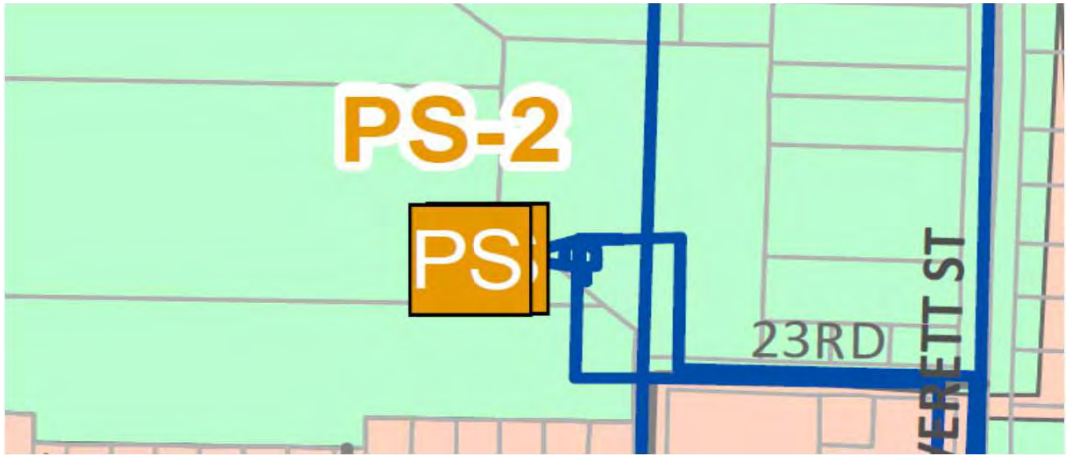
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	PS-2	**SDC Area**	Common
Project Name:	New 455 Zone PS Capacity		
Facility Type:	Pump Station		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	50%	$ 185,000	**$ 1,258,000**
Non-capacity:	50%	$ 629,000	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	Related Infrastructure	Construction of 852 PZ BPS (S-6)	0

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: PS-3 **SDC Area** Common
Project Name: Lower Prune Hill PS Expansion
Facility Type: Pump Station

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	50%	$ 231,250	$ 1,387,500
Non-capacity:	50%	$ 693,750	

Project Description:

Expand Lower Prune Hill PS to add an additional 1,000 gpm of pumping from the 455 Pressure Zone to the 852 Pressure Zone to meet redundancy goals and to provide additional capacity to meet long-term growth in the pressure zone. It is anticipated that the additional pumping will be added on-site and will not require onsite auxiliary power.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
455 to 852 Pumping Capacity P1	125	hp	$ 4,000	$ 150,000	$ 125,000	$ 100,000	$ 50,000	$ 925,000	
455 to 852 Pumping Capacity P2	63	hp	$ 4,000	$ 75,000	$ 62,500	$ 50,000	$ 25,000	$ 462,500	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	PS-3	**SDC Area**	Common
Project Name:	Lower Prune Hill PS Expansion		
Facility Type:	Pump Station		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	50%	$ 231,250	**$ 1,387,500**
Non-capacity:	50%	$ 693,750	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	Peak Pumping	All BPS pumps required to maintain reservoir levels	Near-term
Ability to Pump	852 PZ MDD	2,500 gpm	2030

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: PS-4 **SDC Area** 25% South / 75% North Shore
Project Name: North Shore PS Capacity Phase I
Facility Type: Pump Station

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 1,184,000	
Upgrade:	0%	$ -	**$ 1,184,000**
Non-capacity:	0%	$ -	

Project Description:

Provide 2,000 gpm of additional supply to the North Shore area (Pressure Zone 544). Crown Road BPS has the ability to add two new 100 hp variable speed pumps that may provide up to 2,000 gpm.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
Crown Road Expansion	200	hp	$ 3,200	$ 192,000	$ 160,000	$ 128,000	$ 64,000	$ 1,184,000	75%
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	

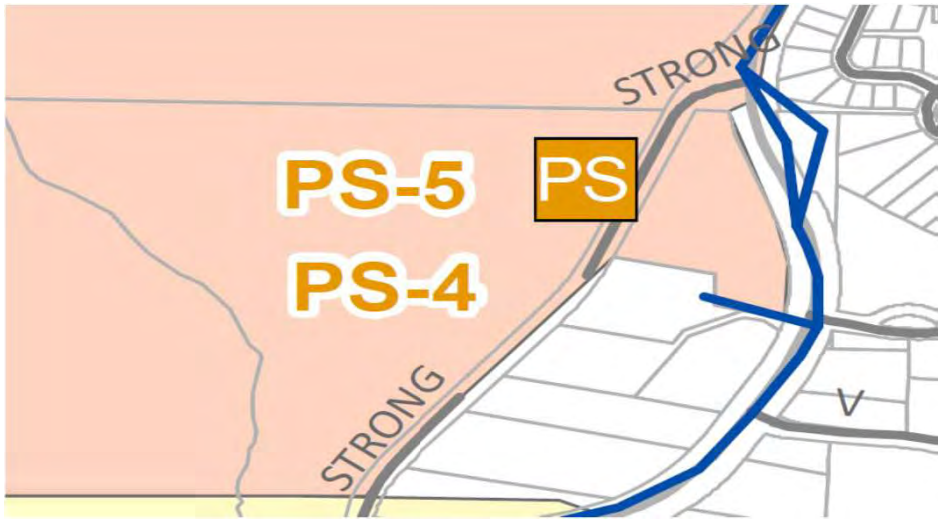
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: PS-4 **SDC Area** 25% South / 75% North Shore
Project Name: North Shore PS Capacity Phase I
Facility Type: Pump Station

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 1,184,000	
Upgrade:	0%	$ -	**$ 1,184,000**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:
It is assumed that the existing onsite gerenator can serve the new pumps for planning purposes.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	Peak Pumping	All BPS pumps required to maintain reservoir levels	2025
Ability to Pump	544 PZ MDD	5,250 gpm	2030

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: PS-5 **SDC Area** 25% South / 75% North Shore
Project Name: North Shore PS Capacity Phase II
Facility Type: Pump Station

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 3,631,268	
Upgrade:	0%	$ -	**$ 3,631,268**
Non-capacity:	0%	$ -	

Project Description:

Provide 2,000 gpm of additional supply to the North Shore area (Pressure Zone 544). It is anticipated that a new BPS will be constructed in the vicinity of the Crown Road BPS. To convey the additional supplies, upsize the 12-inch water main on SE 283rd Ave to 24-inch, from SE 23rd St to NE 2rd Ave. Upsize the 12-inch water main on NE 2nd Ave to 16-inch, from SE James St to NE 3rd Ave. Upsize the 12 inch water main on NE 3nd Ave to 16-inch, from NE 2nd Ave to SE 15th St.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
Phase II Northshore Pumping		200	hp	$ 3,200	$ 192,000	$ 160,000	$ 128,000	$ 64,000	$ 1,184,000	75%
Upsize Distribution Main:	24-inch	3,870	ft	$ 265	$ 307,665	$ 256,388	$ 205,110	$ 102,555	$ 1,897,268	75%
Land Allowance		1	LS	$ 500,000	$ -	$ -	$ -	$ 50,000	$ 550,000	75%

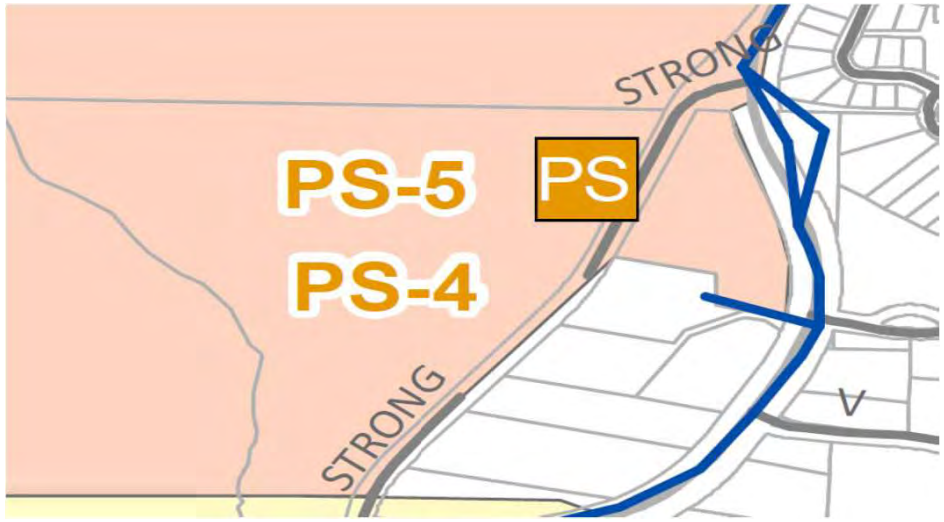
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: PS-5 **SDC Area** 25% South / 75% North Shore
Project Name: North Shore PS Capacity Phase II
Facility Type: Pump Station

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 3,631,268	
Upgrade:	0%	$ -	**$ 3,631,268**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Redundant Supply	Peak Pumping	All BPS pumps required to maintain reservoir levels	2030
Ability to Pump	544 PZ MDD	6,850 gpm	2035

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: PS-6 **SDC Area** South
Project Name: NW Couch St PS
Facility Type: Pump Station

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	$ 920,000
Non-capacity:	100%	$ 920,000	

Project Description:
Construct a 50 gpm pump station to improve service pressures near NW Couch St. PS to include check features to allow 455 Zone to continue to provide fire flow to the area.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
NW Couch St. PS	50	hp	$ 4,000	$ 60,000	$ 50,000	$ 40,000	$ 20,000	$ 370,000	
Land Allowance	1	LS	$ 500,000	$ -	$ -	$ -	$ 50,000	$ 550,000	
				$ -	$ -	$ -	$ -	$ -	

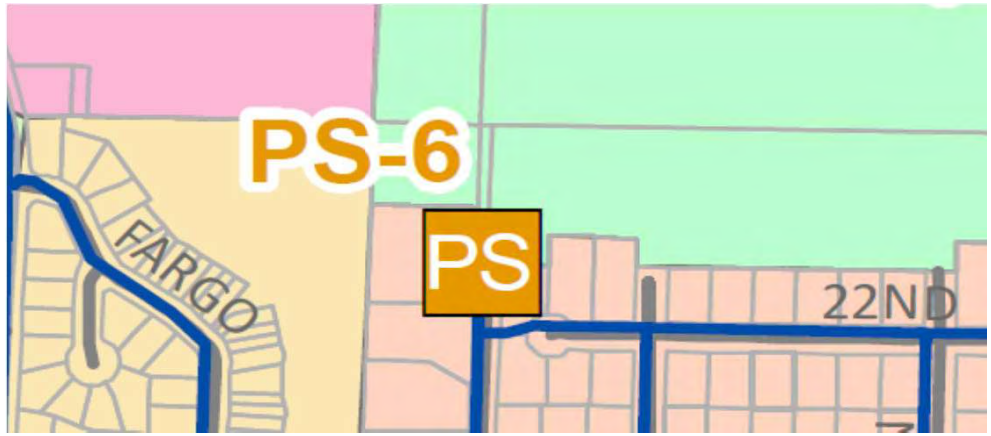
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	PS-6	**SDC Area**	South
Project Name:	NW Couch St PS		
Facility Type:	Pump Station		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 920,000**
Non-capacity:	100%	$ 920,000	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Service Pressure	City Resources	When available	Short-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	PS-7	**SDC Area**	South
Project Name:	NW 10th Ave Study		
Facility Type:	Distribution		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 27,500**
Non-capacity:	100%	$ 27,500	

Project Description:

The NW 10th Ave near NW Forest Home Rd. and the immediately surrounding area has low service pressures. Conduct a study to evluate alternatives for increasing service to these customers. It is anticipated that customers will need to be rezoned into a small boosted zone.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
NW 10th Ave Study	1	LS	$ 25,000		$ -	$ -	$ 2,500	$ 27,500	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: PS-7 **SDC Area** South
Project Name: NW 10th Ave Study
Facility Type: Distribution

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	$ 27,500
Non-capacity:	100%	$ 27,500	

Notes on Cost Estimation:
Study does not include costs to repair or replace PRVs. Allowance for minor maintenance and improvements to existing PRV and vaults.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Fire Flow	City Resources	When	Short-term

10.3.4 Storage Project Sheets

Storage projects to maintain adequate equalizing and emergency storage were identified in Chapter 9 – System Analysis. Projects include the ongoing New 544 Zone Reservoir and new reservoirs near Greg Reservoir and for the 343 Pressure Zone in the long-term. Lower Prune Hill Rehabilitation costs were based on a prior study conducted by the City:

- ST-1 New 544 Zone Reservoir.
- ST-2 New Gregg Tank.
- ST-3 343 Zone Reservoir.
- ST-4 Lower Prune Hill Reservoir Rehabilitation.
- ST-5 Upper Prune Hill Pressure Improvements Study.

General notes on the storage projects include:

- ST-1 New 544 Zone Reservoir land acquisition costs were provided by the City based on prior work efforts.
- ST-2 Gregg Reservoir is assumed to be constructed on the existing site.
- ST-4 Lower Prune Hill Improvements costs were developed by the City based on prior work efforts.
- ST-6 Upper Prune Hill Improvements includes a construction cost allowance that should be updated based on the findings of the project's study.

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: ST-1 **SDC Area** Common
Project Name: New 544 Zone Reservoir
Facility Type: Storage

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 7,235,996	
Upgrade:	0%	$ -	**$ 7,235,996**
Non-capacity:	0%	$ -	

Project Description:

Construct a 2 MG ground reservoir to serve the 544 Pressure Zone to address storage needs and fire flow deficiencies. An ideal location for this tank is near the corner of NW 18th Ave and NW Tidland St. Construct a new 16-inch transmission main in the utility easement between NW Pacific Rim Blvd and NW 18th Ave.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
New 544 Zone Tank		2,000,000	gal	$ 1.0	$ 600,000	$ 500,000	$ 400,000	$ 200,000	$ 3,700,000	
New Transmission Main:	16-inch	3,060	ft	$ 236	$ 216,648	$ 180,540	$ 144,432	$ 72,216	$ 1,335,996	
Land Allowance		4	LS	$ 500,000	$ -	$ -	$ -	$ 200,000	$ 2,200,000	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	ST-1	**SDC Area**	Common
Project Name:	New 544 Zone Reservoir		
Facility Type:	Storage		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 7,235,996	
Upgrade:	0%	$ -	$ 7,235,996
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Costs do not include purchase of land or easements.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Storage	City Resources	When	Short-term
Fire Flow	City Resources	When	Short-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: ST-2 **SDC Area** Common
Project Name: Gregg Reservoir
Facility Type: Storage

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 3,984,345	
Upgrade:	0%	$ -	**$ 3,984,345**
Non-capacity:	0%	$ -	

Project Description:

Construct 1 MG of storage to support growth in the North Shore area. The storage may be placed at the site of the existing Gregg Standpipe, which is hydraulically beneficial due to its proximity to the Crown Road BPS and the Slow Sand Filtration Plant PRV. Upsize the transmission piping, from the tank to SE 15th St, to 24-inches.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
					30%	25%	20%	10%		
Gregg Tank		1,000,000	gal	$ 2.0	$ 600,000	$ 500,000	$ 400,000	$ 200,000	$ 3,700,000	75%
New Transmission Main:	24-inch	580	ft	$ 265	$ 46,110	$ 38,425	$ 30,740	$ 15,370	$ 284,345	75%
					$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

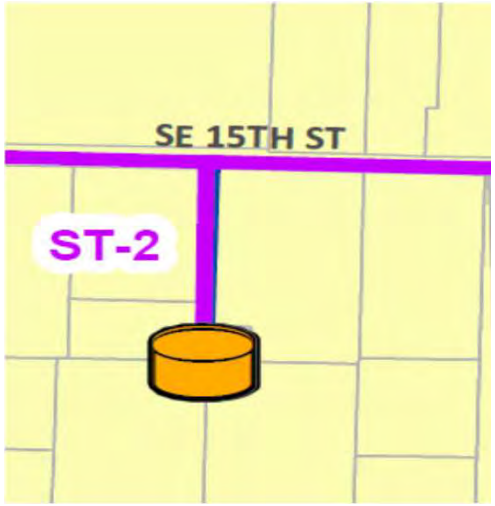
Project Identification:	ST-2	**SDC Area**	Common
Project Name:	Gregg Reservoir		
Facility Type:	Storage		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 3,984,345	
Upgrade:	0%	$ -	**$ 3,984,345**
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Gregg Tank limited to 1M gallons based on current property size. Reservoir could be up to 2M gallons if the site allows.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Storage	Growth	After development of ~5,000 ERUs in 542/544 Pressure Zone	Long-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: ST-3 **SDC Area** South
Project Name: 343 Zone Reservoir
Facility Type: Storage

Cost Allocation	Percent	Cost	Total Cost
Capacity:	25%	$ 1,776,925	
Upgrade:	0%	$ -	$ 7,107,700
Non-capacity:	75%	$ 5,330,775	

Project Description:

Replace the Butler Reservoir with a new 1.5 MG reservoir on Cemetery Hill, which is a more hydraulically advantageous location due to its proximity to the pressure zone and major transmission mains. Decommission the Butler Reservoir upon construction of the new reservoir. It is anticipated that a new 16-inch transmission main will be required to connect the new Cemetery Hill reservoir to the distribution system.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
New 343 Zone Tank	500,000	gal	$ 4.0	$ 600,000	$ 500,000	$ 400,000	$ 200,000	$ 3,700,000	
New 343 Zone Tank	1,000,000	gal	$ 1.0	$ 300,000	$ 250,000	$ 200,000	$ 100,000	$ 1,850,000	
Transfer BPS	100	hp	$ 3,200	$ 96,000	$ 80,000	$ 64,000	$ 32,000	$ 592,000	
New Transmission Main: 16-inch	2,000	ft	$ 236	$ 141,600	$ 118,000	$ 94,400	$ 47,200	$ 873,200	
Decommision Butler Reservoir	1	LS	$ 50,000	$ 15,000	$ 12,500	$ 10,000	$ 5,000	$ 92,500	

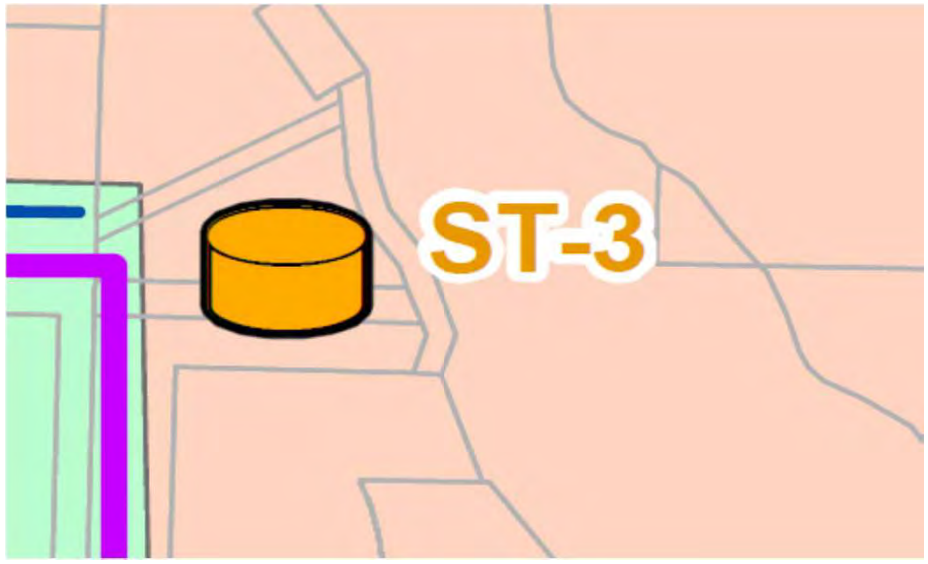
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	ST-3	**SDC Area**	South
Project Name:	343 Zone Reservoir		
Facility Type:	Storage		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	25%	$ 1,776,925	
Upgrade:	0%	$ -	**$ 7,107,700**
Non-capacity:	75%	$ 5,330,775	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Storage	Condition	Replace when Butler Reservoir reaches the end of its useful life	Long-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: ST-4 **SDC Area** Common
Project Name: Lower Prune Hill Reservoir Rehabilitation
Facility Type: Storage

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	25%	$ -	$ 2,619,830
Non-capacity:	75%	$ 1,964,873	

Project Description:
Rehabilitate the Lower Prune Hill Reservoir. Replace the 0.5 MG reservoir on-site, which has reached the end of its usable life, and seismically retrofit the remaining tank.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
Lower Prune Hill Rehabilitation	1	LS	$ 1,871,307	$ 561,392	$ -	$ -	$ 187,131	$ 2,619,830	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: ST-4 **SDC Area** Common
Project Name: Lower Prune Hill Reservoir Rehabilitation
Facility Type: Storage

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	25%	$ -	$ 2,619,830
Non-capacity:	75%	$ 1,964,873	

Notes on Cost Estimation:
Costs from previous Water System Plan that were escalated to 2016 dollars from an ENR of 8660. GC & Overhead and Engineering/Planning assumed to be part of cost.

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Storage	Condition	Replace when Butler Reservoir reaches the end of its useful life	Long-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: ST-5 **SDC Area** Common
Project Name: Upper Prune Hill Pressure Improvements Study
Facility Type: Storage

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	50%	$ 550,000	**$ 1,238,750**
Non-capacity:	50%	$ 619,375	

Project Description:

Study solutions to resolve low service pressures in the area surrounding the Upper Prune Hill Standpipe. Low pressures are due to high service elevations; therefore, solutions will likely require rezoning the area. A general allowance of one million dollars has been assumed for the mid-term to implement the recommendations of the study.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
Upper Prune Hill Pressure Improvements Stuc	1	LS	$ 75,000	$ 22,500	$ 18,750	$ 15,000	$ 7,500	$ 138,750	
Upper Prune Hill Improvements Allowance	1	LS	$ 1,000,000	$ -	$ -	$ -	$ 100,000	$ 1,100,000	
				$ -	$ -	$ -	$ -	$ -	

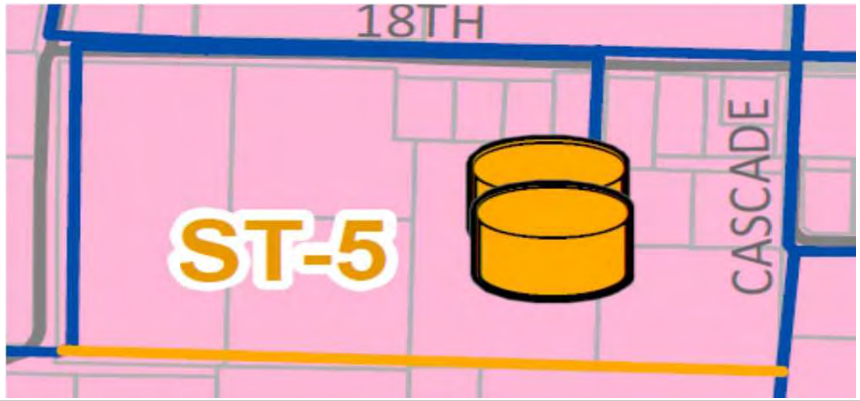
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	ST-5	**SDC Area**	Common
Project Name:	Upper Prune Hill Pressure Improvements Study		
Facility Type:	Storage		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	50%	$ 550,000	**$ 1,238,750**
Non-capacity:	50%	$ 619,375	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Pressure	City Resources	When	Short-term

10.3.5 General Project Sheets

A Water System Plan Update will be required every 10 years per Washington state law, which is planned for in the General Project category:

- G-1 Water System Plan Update.

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	G-1	**SDC Area**	Common
Project Name:	Water System Plan Update		
Facility Type:	General		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 550,000**
Non-capacity:	100%	$ 550,000	

Project Description:

Update Water System Plan every 10-years, per regulatory requirements.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency	GC & Overhead	Engineering/ Planning	City Admin	Total Project Cost	Developer Share
				30%	25%	20%	10%		
Water System Plan Update	1	LS	$ 250,000				$ 25,000	$ 275,000	
Water System Plan Update	1	LS	$ 250,000				$ 25,000	$ 275,000	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	G-1	**SDC Area**	Common
Project Name:	Water System Plan Update		
Facility Type:	General		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 550,000**
Non-capacity:	100%	$ 550,000	

Notes on Cost Estimation:

Project Location:



Notes:

10.3.6 Repair and Replacement Project Sheets

R&R projects were identified for supply, pumping, and piping in Chapter 4 – Operations and Maintenance. Supply and pumping projects are based on the 2016 Condition Assessment:

- R-1 Supply R&R Projects.
- R-2 Pump R&R Projects.
- R-3 Pipeline R&R Projects.
- R-4 Meter Replacement Program.

General notes on the R&R projects include:

- R-1, R-2, and R-3 R&R projects are based on the 2016 Condition Assessment summarized previously.
- R-4 Meter Replacement Program costs were provided by the City based on prior efforts.

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: R-1 **SDC Area** South
Project Name: Supply R&R Projects
Facility Type: R&R

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	$ 1,135,900
Non-capacity:	100%	$ 1,135,900	

Project Description:
Repair and replace existing equipment, as identified in the 2016 Condition Assessment. This CIP line item includes projects that are supply related projects.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
RS - 01 Well 8 Pump Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 02 Well No. 9 Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 03 Well 9 Analyzers	$ 1	LS	$ 13,000	$ 3,900	$ 3,250	$ 2,600	$ 1,300	$ 24,050	
RS - 05 Well 6 Electrical Improvements	$ 1	LS	$ 4,000	$ 1,200	$ 1,000	$ 800	$ 400	$ 7,400	
RS - 06 Well 7 General Improvements	$ 1	LS	$ 5,000	$ 1,500	$ 1,250	$ 1,000	$ 500	$ 9,250	
RS - 07 Well No. 10 Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 08 Well No. 11 Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 09 Well No. 12 Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 10 Well 6 Telemetry Improvements	$ 1	LS	$ 40,000	$ 12,000	$ 10,000	$ 8,000	$ 4,000	$ 74,000	
RS - 11 Washougal Wellfield Salt Storage Buil	$ 1	LS	$ 75,000	$ 22,500	$ 18,750	$ 15,000	$ 7,500	$ 138,750	
RS - 12 Well No. 13 Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 13 Well No. 14 Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 14 Well 7 Electrical Improvements	$ 1	LS	$ 11,000	$ 3,300	$ 2,750	$ 2,200	$ 1,100	$ 20,350	
RS - 15 Well 8 Electrical improvements	$ 1	LS	$ 4,000	$ 1,200	$ 1,000	$ 800	$ 400	$ 7,400	
RS - 16 Washougal Wellfield Disinfection Imp	$ 1	LS	$ 150,000	$ 45,000	$ 37,500	$ 30,000	$ 15,000	$ 277,500	
RS - 17 Well 11 and 12 Mechanical Improvem	$ 1	LS	$ 3,000	$ 900	$ 750	$ 600	$ 300	$ 5,550	
RS - 18 Well 11 and 12 Electrical Maintenanc	$ 1	LS	$ 3,000	$ 900	$ 750	$ 600	$ 300	$ 5,550	
RS - 19 Well No. 6 Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 20 Well No. 7 Rehabilitation	$ 1	LS	$ 29,000	$ 8,700	$ 7,250	$ 5,800	$ 2,900	$ 53,650	
RS - 21 Well 9 Electrical Improvements	$ 1	LS	$ 45,000	$ 13,500	$ 11,250	$ 9,000	$ 4,500	$ 83,250	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	R-1	**SDC Area**	South
Project Name:	Supply R&R Projects		
Facility Type:	R&R		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 1,135,900**
Non-capacity:	100%	$ 1,135,900	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Pressure	City Resources	When	Short-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: R-2 **SDC Area** South
Project Name: Pump R&R Projects
Facility Type: R&R

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	$ 1,504,050
Non-capacity:	100%	$ 1,504,050	

Project Description:
Repair and replace existing equipment, as identified in the 2016 Condition Assessment. This CIP line item includes projects that are booster pump related projects.

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
RP - 1 Replace or Refurbish Lacamas BPS Pumps and M	1	LS	$ 80,000	$ 24,000	$ 20,000	$ 16,000	$ 8,000	$ 148,000	
RP - 2 Replace or Refurbish Butler BPS Pumps and Mot	1	LS	$ 60,000	$ 18,000	$ 15,000	$ 12,000	$ 6,000	$ 111,000	
RP - 4 Replace or Refurbish Angelo BPS Pumps and Mo	1	LS	$ 140,000	$ 42,000	$ 35,000	$ 28,000	$ 14,000	$ 259,000	
RP - 5 Lower Prune Hill BPS Discharge Header Improve	1	LS	$ 5,000	$ 1,500	$ 1,250	$ 1,000	$ 500	$ 9,250	
RP - 6 Crown Road BPS Standby Generator Modificatio	1	LS	$ 5,000	$ 1,500	$ 1,250	$ 1,000	$ 500	$ 9,250	
RP - 7 Upper Prune Hill BPS Discharge Header Improve	1	LS	$ 5,000	$ 1,500	$ 1,250	$ 1,000	$ 500	$ 9,250	
RP - 8 Replace or Refurbish Upper Prune Hill BPS Pump	1	LS	$ 110,000	$ 33,000	$ 27,500	$ 22,000	$ 11,000	$ 203,500	
RP - 9 Replace or Refurbish Gregg BPS Pumps and Mot	1	LS	$ 80,000	$ 24,000	$ 20,000	$ 16,000	$ 8,000	$ 148,000	
RP - 10 Replace or Refurbish Lower Prune Hill BPS Pum	1	LS	$ 125,000	$ 37,500	$ 31,250	$ 25,000	$ 12,500	$ 231,250	
RP - 11 Replace or Refurbish Crown Road BPS Pumps a	1	LS	$ 75,000	$ 22,500	$ 18,750	$ 15,000	$ 7,500	$ 138,750	
RP - 12 Replace or Refurbish Gregg BPS Pump 3 and M	1	LS	$ 30,000	$ 9,000	$ 7,500	$ 6,000	$ 3,000	$ 55,500	
RP - 13 Lower Prune Hill BPS Electrical Equipment Repl	1	LS	$ 42,000	$ 12,600	$ 10,500	$ 8,400	$ 4,200	$ 77,700	
RP - 14 Lacamas BPS Generator Maintenance	1	LS	$ 3,000	$ 900	$ 750	$ 600	$ 300	$ 5,550	
RP - 15 Lacamas BPS Electrical Maintenance & Testing	1	LS	$ 5,000	$ 1,500	$ 1,250	$ 1,000	$ 500	$ 9,250	
RP - 16 Upper Prune Hill BPS Electrical Equipment Repl	1	LS	$ 43,000	$ 12,900	$ 10,750	$ 8,600	$ 4,300	$ 79,550	
RP - 17 Butler BPS Motor Starter Replacement	1	LS	$ 3,000	$ 900	$ 750	$ 600	$ 300	$ 5,550	
RP - 19 Butler BPS Check Valve Replacement	1	LS	$ 2,000	$ 600	$ 500	$ 400	$ 200	$ 3,700	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	R-2	**SDC Area**	South
Project Name:	Pump R&R Projects		
Facility Type:	R&R		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 1,504,050**
Non-capacity:	100%	$ 1,504,050	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Pressure	City Resources	When	Short-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: R-3 **SDC Area** South
Project Name: Pipeline R&R Projects
Facility Type: R&R

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 40,265,813**
Non-capacity:	100%	$ 40,265,813	

Project Description:

During the short and medium-term, maintain a small annual R&R program to address localized issues or to participate in joint projects that cost-effectively replace aging piping. Expand the program, in long-term planning, to address aging infrastructure near downtown that is anticipated to reach the end of its usable life in the 2030s. Small diameter mains (2-inch to 6-inch) should be upsized to 8-inch to meet current City standards. A CIP project will be conducted to repair and replace the surface water raw water line from the sources to the treatment plant.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
Raw Water Main R&R	8-inch	18,750	ft	$ 175	$ 984,375	$ 820,313	$ 656,250	$ 328,125	$ 6,070,313	
Raw Water Main R&R	8-inch	18,750	ft	$ 175	$ 984,375	$ 820,313	$ 656,250	$ 328,125	$ 6,070,313	
Pipeline R&R Program		1	LS	$ 150,000	$ -	$ -	$ 30,000	$ 15,000	$ 195,000	
Pipeline R&R Program		1	LS	$ 150,000	$ -	$ -	$ 30,000	$ 15,000	$ 195,000	
Pipeline R&R Program		1	LS	$ 150,000	$ -	$ -	$ 30,000	$ 15,000	$ 195,000	
Pipeline R&R Program		1	LS	$ 150,000	$ -	$ -	$ 30,000	$ 15,000	$ 195,000	
Pipeline R&R Program		1	LS	$ 150,000	$ -	$ -	$ 30,000	$ 15,000	$ 195,000	
Pipeline R&R Program		1	LS	$ 150,000	$ -	$ -	$ 30,000	$ 15,000	$ 195,000	
Pipeline R&R Program		4	LS	$ 150,000	$ -	$ -	$ 120,000	$ 60,000	$ 780,000	
Pipeline R&R Program	12-inch	17,500	ft	$ 216	$ 1,134,000	$ 945,000	$ 756,000	$ 378,000	$ 6,993,000	
Pipeline R&R Program	8-inch	59,250	ft	$ 175	$ 3,110,625	$ 2,592,188	$ 2,073,750	$ 1,036,875	$ 19,182,188	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification:	R-3	**SDC Area**	South
Project Name:	Pipeline R&R Projects		
Facility Type:	R&R		

Cost Allocation	Percent	Cost	Total Cost
Capacity:	0%	$ -	
Upgrade:	0%	$ -	**$ 40,265,813**
Non-capacity:	100%	$ 40,265,813	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Fire Flow	City Resources	When	Short-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: R-4 **SDC Area** South
Project Name: Meter Replacement Program
Facility Type:

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	
Upgrade:	0%	$ -	$ 1,300,000
Non-capacity:	100%	$ -	

Project Description:

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: R-4 **SDC Area** South
Project Name: Meter Replacement Program
Facility Type:

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	
Upgrade:	0%	$ -	$ 1,300,000
Non-capacity:	100%	$ -	

Notes on Cost Estimation:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need

10.3.7 North Shore Expansion Project Sheets

North Shore Expansion project develops the distribution piping for the North Shore Area:

- NS-1 Annual North Shore Distribution Program.
- NS-2 Leadbetter Road Transmission Main.

A pump station and reservoir will be also developed within the North Shore area that is presented in prior sections:

- PS-4 North Shore PS Capacity Phase I.
- PS-5 North Shore PS Capacity Phase II.
- ST-2 New Gregg Tank.

General notes on the North Shore Expansion projects include:

- The North Shore Area is heavily reliant on the existing system. In particular, it will use storage and pumping in the existing 544 and 542 Pressure Zones. Supply to the North Shore will largely occur from the 343 Pressure Zone.
- NS-1 Annual North Shore Distribution Program letter designations correspond to map on the second page. Where no road currently exists, no road name was provided.
- NS-2 Leadbetter Road Transmission Main is complete. No CIP sheet has been included.

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: NS-1 **SDC Area** North Shore
Project Name: Annual North Shore Distribution Program
Facility Type: North Shore

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 22,254,000	
Upgrade:	0%	$ -	$ 22,254,000
Non-capacity:	0%	$ -	

Project Description:
Construct North Shore area distribution system through a 10-year annual program. Sizing based on a looped 544 Pressure Zone distribution system, where indivdiual developments may be served through sub pressure zones.

Project Element		Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
Annual North Shore Distribution Main Program									$ 2,225,400	75%
Annual North Shore Distribution Main Program									$ 2,225,400	75%
Annual North Shore Distribution Main Program									$ 2,225,400	75%
Annual North Shore Distribution Main Program									$ 2,225,400	75%
Annual North Shore Distribution Main Program									$ 8,901,600	75%
Annual North Shore Distribution Main Program									$ 4,450,800	75%
Individual North Shore Distribution System Piping Projects (Do Not Enter Project Timing)										
A. SE 15th St. transmission main upsize.	24-inch	1,730	ft	$ 265	$ 137,535	$ 114,613	$ 91,690	$ 45,845	$ 848,000	
B. NE 43rd Ave transmission main upsize	18-inch	1,560	ft	$ 243	$ 113,724	$ 94,770	$ 75,816	$ 37,908	$ 701,000	
C. SE 283rd Ave transmission main upsize	18-inch	2,640	ft	$ 243	$ 192,456	$ 160,380	$ 128,304	$ 64,152	$ 1,187,000	
D. SE Robinson/SE 7th St transmission mai	18-inch	3,620	ft	$ 243	$ 263,898	$ 219,915	$ 175,932	$ 87,966	$ 1,627,000	
E. NE Goodwin Road	18-inch	3,620	ft	$ 243	$ 263,898	$ 219,915	$ 175,932	$ 87,966	$ 1,627,000	
F	8-inch	7,709	ft	$ 175	$ 404,723	$ 337,269	$ 269,815	$ 134,908	$ 2,496,000	
G	18-inch	7,436	ft	$ 243	$ 542,084	$ 451,737	$ 361,390	$ 180,695	$ 3,343,000	
H	18-inch	8,596	ft	$ 243	$ 626,648	$ 522,207	$ 417,766	$ 208,883	$ 3,864,000	
I	18-inch	2,615	ft	$ 243	$ 190,634	$ 158,861	$ 127,089	$ 63,545	$ 1,176,000	
J	12-inch	3,619	ft	$ 216	$ 234,511	$ 195,426	$ 156,341	$ 78,170	$ 1,446,000	
K	12-inch	5,471	ft	$ 216	$ 354,521	$ 295,434	$ 236,347	$ 118,174	$ 2,186,000	
L	12-inch	2,259	ft	$ 216	$ 146,383	$ 121,986	$ 97,589	$ 48,794	$ 903,000	
M	12-inch	2,127	ft	$ 216	$ 137,830	$ 114,858	$ 91,886	$ 45,943	$ 850,000	

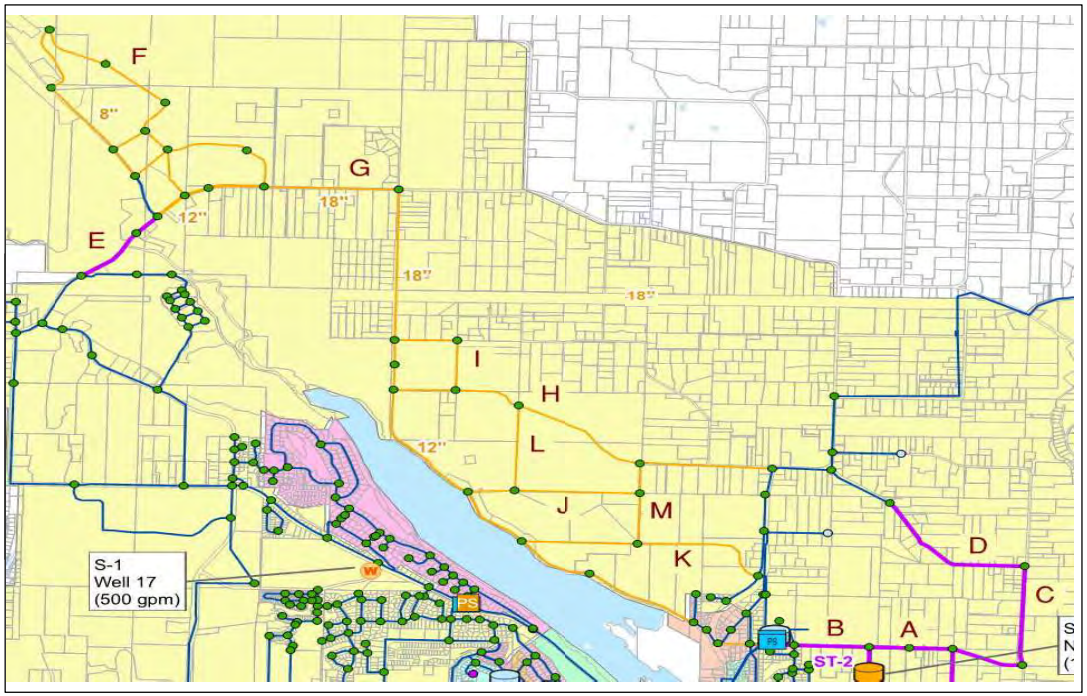
City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: NS-1 **SDC Area** North Shore
Project Name: Annual North Shore Distribution Program
Facility Type: North Shore

Cost Allocation	Percent	Cost	Total Cost
Capacity:	100%	$ 22,254,000	
Upgrade:	0%	$ -	$ 22,254,000
Non-capacity:	0%	$ -	

Notes on Cost Estimation:

Project Location:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need
Pressure and Fire Flow	North Shore Development	Implement in conjunction with development.	Mid-term, Long-term

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: NS-2 **SDC Area** North Shore
Project Name: Leadbetter Road Transmission Main
Facility Type:

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	
Upgrade:	0%	$ -	$ 3,100,000
Non-capacity:	100%	$ -	

Project Description:

Project Element	Quantity	Unit	Unit Cost ($/Unit)	Contingency 30%	GC & Overhead 25%	Engineering/ Planning 20%	City Admin 10%	Total Project Cost	Developer Share
				$ -	$ -	$ -	$ -	$ -	75%
				$ -	$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	$ -	

City of Camas
Water System Plan Update
Capital Improvement Program

Project Identification: NS-2 **SDC Area** North Shore
Project Name: Leadbetter Road Transmission Main
Facility Type:

Cost Allocation	Percent	Cost	Total Cost
Capacity:		$ -	
Upgrade:	0%	$ -	$ 3,100,000
Non-capacity:	100%	$ -	

Notes on Cost Estimation:



Trigger:

Level of Service Goal	Trigger	Value	Anticipated Need

10.3.8 Cost Summary

CIP projects were summarized by project category and type in Table 10.8 and Table 10.9 respectively. When considering CIP costs by project category, as shown in Table 10.8, the majority of CIP costs occur from supply, storage, and the North Shore Expansion. Major supply CIP projects and the construction of the North Shore Expansion are anticipated to occur throughout the planning period. Storage CIP projects are anticipated to occur in the short-term and long-term planning periods. A majority of pumping CIP projects are anticipated in the medium-term planning period. Consistent with the non-capacity costs, repair and replacement project are largely anticipated in the long-term planning horizon.

CIP costs by project type are largely split between capacity and non-capacity. Capacity costs, as shown in Table 10.9, are anticipated to be relatively constant throughout the planning horizon, while non-capacity costs are largely anticipated to occur in the long-term planning horizon.

Table 10.8 CIP Cost by Project Category Summary
Water System Plan Update
City of Camas

Project Category	Total CIP Cost ($)	CIP Phasing		
		Short-term (2017-2022)	Medium-term (2023-2026)	Long-term (2027-2036)
Supply	$28,937,000	$10,665,000	$7,684,000	$10,588,000
Distribution System Improvements	$6,024,000	$4,328,000	$220,000	$1,476,000
Pump Station	$11,526,000	$1,416,000	$4,141,000	$5,969,000
Storage	$21,087,000	$14,483,000	$-	$6,604,000
General	$550,000	$-	$275,000	$275,000
Repair and Replacement	$44,327,000	$3,284,000	$7,807,000	$33,236,000
North Shore Expansion	$25,353,000	$12,000,000	$4,450,000	$8,903,000
Total Cost	**$137,804,067**	**$46,175,942**	**$24,577,250**	**$67,050,875**

Table 10.9 CIP Cost by Project Type Summary Water System Plan Update City of Camas				
Project Type	**Total CIP Cost ($)**	**CIP Phasing**		
		Short-term (2017-2022)	**Medium-term (2023-2026)**	**Long-term (2027-2036)**
Capacity	$67,538,500	$26,888,250	$13,118,250	$27,532,000
Upgrade	$4,858,500	$2,016,000	$1,018,625	$1,823,875
Non-Capacity	$61,007,133	$12,871,633	$10,440,625	$37,694,875
Total Cost	**$137,804,067**	**$46,175,942**	**$24,577,250**	**$67,050,875**
Average Annual Cost	**$6,890,000**	**$7,696,000**	**$6,144,300**	**$6,705,100**

Chapter 11

FINANCIAL PLAN

11.1 INTRODUCTION

This chapter was prepared by FCS GROUP to provide a financial program that allows the City of Camas (City) water utility to remain financially viable during the planning period. This financial viability analysis considers the historical financial condition, current and identified future financial and policy obligations, operation and maintenance (O&M) needs, and the ability to support the financial impacts related to the completion of the capital projects identified in this Water System Plan Update (Plan). Furthermore, this chapter provides a review of the water utility's current rate structure with respect to rate adequacy and customer affordability.

11.1.1 Past Financial Performance

This section includes a historical summary of financial performance as reported by the City on fund resources and uses arising from cash transactions, as well as a historical summary of comparative statements of net position, which are useful indicators of the City's financial position.

11.1.2 Comparative Financial Statements

The City legally owns and operates both a water and sewer utility. Operations and financial reporting occur on a combined utility fund basis. The City combined utility fund reflects historical integrations that are difficult to separate from an accounting perspective (bond issues, combined asset projects, etc.). The City's long-term goal is to separate the accounting of its Utilities. Currently, all new assets are tracked separately and the Utilities are operated separately.

Table 11.1 shows a summary of the utility fund resources and uses arising from cash transactions for the previous six years (2011 through 2016) for the water and sewer utilities combined. Table 11.2 shows a summary of assets and liabilities, with the difference between the two reported as "net position." Increases or decreases in net position are useful indicators of the financial position of the City's utility fund. Noteworthy findings and trends are discussed following each table to demonstrate the historical performance and condition of the City's combined utility fund.

Table 11.1 Summary of Historical Fund Resources and Uses Arising from Cash Transactions

	2011	2012	2013	2014	2015	2016
OPERATING REVENUES						
Charges for Service	$ 8,830,034	$ 9,509,660	$ 9,780,132	$ 10,336,358	$ 11,202,674	$ 11,411,593
Total Operating Revenues	$ 8,830,034	$ 9,509,660	$ 9,780,132	$ 10,336,358	$ 11,202,674	$ 11,411,593
OPERATING EXPENSES						
Water Operations and Maintenance	$ 1,702,490	$ 1,647,170	$ 1,608,470	$ 1,817,542	$ 1,885,556	$ 2,453,392
Sewer Operations and Maintenance	2,079,045	2,094,288	2,115,178	2,482,466	2,300,528	2,730,173
Customer Accounts	42,210	45,607	23,209	44,451	39,123	77,005
Administration	952,884	833,476	1,066,780	965,205	1,277,740	1,181,535
Taxes	328,948	355,759	341,492	350,141	389,507	435,240
Depreciation and Amortization	2,072,212	2,207,980	2,898,739	3,057,858	3,071,893	3,183,705
Total Operating Expenses	$ 7,177,789	$ 7,184,280	$ 8,053,868	$ 8,717,663	$ 8,964,347	$ 10,061,050
OPERATING INCOME (Loss)	$ 1,652,245	$ 2,325,380	$ 1,726,264	$ 1,618,695	$ 2,238,327	$ 1,350,543
NONOPERATING REVENUES (Expenses)						
Interest Earnings	$ 19,267	$ 5,290	$ 13,372	$ 27,982	$ 26,983	$ 204,446
State and Federal Grants	-	-	-	-	-	-
Interest and Fiscal Charges	(587,031)	(767,618)	(718,093)	(612,588)	(842,275)	(1,136,153)
Gain (Loss) on Disposal of Assets	-	(539,843)	-	10,000	(30,508)	3,821
Miscellaneous Revenue (Expense)	121,680	376,566	376,784	139,535	161,635	641,503
Total Non-Operating Revenues (Expenses)	$ (446,084)	$ (925,605)	$ (327,937)	$ (435,071)	$ (684,165)	$ (286,383)
Income (Loss) before Contributions and Transfers	$ 1,206,161	$ 1,399,775	$ 1,398,327	$ 1,183,624	$ 1,554,162	$ 1,064,160
Capital Contributions	3,125,970	798,547	2,488,803	2,223,065	2,601,733	5,881,163
Transfers In	-	-	-	-	-	-
Transfers Out	-	-	-	-	-	-
Increase(Decrease) in Net Position	$ 4,332,131	$ 2,198,322	$ 3,887,130	$ 3,406,689	$ 4,155,895	$ 6,945,323
TOTAL NET POSITION, BEGINNING OF YEAR	$ 54,269,607	$ 59,186,863	$ 61,385,185	$ 65,269,090	$ 68,680,879	$ 71,814,867
Change in Accounting Principles	-	-	(52,222)		(1,021,907)	
Prior Period Adjustment	(212,354)			5,100		(145,459)
TOTAL NET POSITION, END OF YEAR	$ 58,389,384	$ 61,385,185	$ 65,220,093	$ 68,680,879	$ 71,814,867	$ 78,614,731
O&M Coverage Ratio	123.0%	132.4%	121.4%	118.6%	125.0%	113.4%
Net Operating Income as a % of Operating Revenue	18.7%	24.5%	17.7%	15.7%	20.0%	11.8%
Debt Service Coverage Ratio	2.91	2.10	2.04	1.95	1.93	1.51

Table 11.2 Summary of Historical Comparative Statements of Net Position

	2011	2012	2013	2014	2015	2016
CURRENT ASSETS						
Cash, Cash Equivalents and Pooled Investments	$ 339,942	$ 2,410,155	$ 3,239,531	$ 4,366,864	$ 4,619,622	$ 6,652,747
Receivables						
Accounts	239,973	1,274,107	1,404,626	1,446,320	1,603,637	1,705,130
Due from Other Governmental Units		-	-	-	-	-
Prepaid Expenses		4,800	2,421	-	-	-
Restricted Assets						
Cash and Cash Equivalents	3,086,249	4,484,586	2,369,523	3,081,955	6,743,812	6,433,517
Investments	384,226	370,572	203,034	203,949	15,024,018	15,119,563
Interest Receivable	9,198	4,434	-	-	8,858	600
Total Current Assets	$ 4,059,588	$ 8,548,654	$ 7,219,135	$ 9,099,088	$ 27,999,947	$ 29,911,557
LONG TERM ASSETS						
Nondepreciable Assets						
Land and Improvements to Land	$ 953,931	$ 953,931	$ 983,172	$ 1,014,021	$ 1,108,023	$ 1,015,178
Land Rights	-	-	-	-	-	92,845
Construction In Progress	14,471,939	307,979	4,509,217	2,110,912	10,074,376	4,155,957
Deferred Charges	60,164	52,222	-	-	-	-
Property, Plant and Equipment (Net)						
Building	14,920,205	21,873,877	21,350,093	20,031,819	20,913,401	21,438,584
Intangible Assets	-	12,414	9,601	10,164	388,526	385,721
Improvements Other than Buildings	5,896,484	5,644,074	5,593,518	6,428,115	5,177,609	9,918,134
Machinery and Equipment	11,551,665	18,502,927	17,714,897	20,441,699	18,567,853	18,986,219
Infrastructure	34,475,598	34,137,165	36,547,623	39,123,609	39,776,490	45,498,995
Total Noncurrent Assets	$ 82,329,986	$ 81,484,589	$ 86,708,121	$ 89,160,339	$ 96,006,278	$ 101,491,633
TOTAL ASSETS	$ 86,389,574	$ 90,033,243	$ 93,927,256	$ 98,259,427	$ 124,006,225	$ 131,403,190
Total deferred outflows of resources						
Deferred amount on refunding	-	-	-	-	246,166	$ 223,615
Amounts related to pensions	-	-	-	-	150,855	280,188
Total deferred outflows of resources	-	-	-	-	397,021	$ 503,803
LIABILITIES						
Current Liabilities						
Accounts Payable	$ 159,288	$ 367,288	$ 367,967	$ 315,462	$ 1,161,415	$ 633,737
Custodial Accounts	300	-	155,023	-	-	-
Accrued Interest Payable	147,605	229,033	161,589	161,343	227,132	293,713
Accrued Employee Benefits	21,557	18,070	15,564	16,809	12,916	15,476
Line of Credit		-	-	-	-	2,647,259
Unearned Revenues		-	1,674,456	1,418,946	35,000	-
Bonds, Notes and Loans Payable	1,281,775	2,161,472	2,264,393	2,392,744	2,752,641	3,012,332
Payable from Restricted Assets	605,104	-	-	-	78,375	407
Total Current Liabilities	$ 2,215,629	$ 2,775,863	$ 4,638,992	$ 4,305,304	$ 4,267,479	$ 6,602,924
NONCURRENT LIABILITIES						
Bonds, Notes and Loans Payable	$ 25,528,816	$ 25,655,339	$ 23,856,877	$ 25,045,080	$ 45,838,121	$ 44,347,386
Unearned Revenue - Developer Credit	-	-	-	-	1,083,944	604,647
Net Pension Liability	-	-	-	-	1,031,588	1,500,278
Accrued Employee Benefits	255,745	216,856	211,294	228,164	208,142	200,800
Total Non Current Liabilities	$ 25,784,561	$ 25,872,195	$ 24,068,171	$ 25,273,244	$ 48,161,795	$ 46,653,111
TOTAL LIABILITIES	$ 28,000,190	$ 28,648,058	$ 28,707,163	$ 29,578,548	$ 52,429,274	$ 53,256,035
DEFERRED INFLOWS OF RESOURCES						
Amounts Related to Pensions	$ -	$ -	$ -	$ -	$ 159,105	$ 36,227
Total deferred inflows of resources	$ -	$ -	$ -	$ -	$ 159,105	$ 36,227
NET POSITION						
Net Investment in Capital Assets	$ 56,800,805	$ 56,429,163	$ 60,586,851	$ 58,597,582	$ 64,569,715	$ 67,960,072
Restricted for Debt Service	699,967	825,047	901,440	902,307	1,548,179	1,567,095
Restricted for Capital Purposes	826,970	1,053,198	1,671,117	3,510,847	2,208,041	5,776,990
Unrestricted	61,642	3,077,777	2,060,685	5,670,143	3,488,932	3,310,574
TOTAL NET POSITION	58,389,384	61,385,185	65,220,093	68,680,879	71,814,867	78,614,731
Current Ratio	1.8	3.1	1.6	2.1	6.6	4.5
Debt to Net Position Ratio	0.5	0.5	0.4	0.4	0.7	0.7
Debt to Noncurrent Capital Assets Ratio	0.3	0.4	0.3	0.3	0.5	0.5

11.2 FINDINGS AND TRENDS

The City's combined water and sewer charges for services increased from $8.8 million (M) in 2011 to $11.4M in 2016. The average annual increase is 4.9 percent per year, with a total increase of 29.2 percent from 2011 to 2016. Expenses range from $7.2M in 2011 to $10.1M in 2016, showing increases every year. With an average increase of 6.7 percent, expenses have grown faster than revenues over the past six years and have increased 40.2 percent overall. While maintenance and operations expenses have increased 37.1 percent, the largest contributor to increases in expenses is depreciation and amortization, growing by 53.6 percent since 2011.

The O&M Coverage Ratio (total operating revenues divided by total operating expenses) was 123.0 percent in 2011. After a high of 132.4 percent in 2012, this ratio has trended downward ending at 113.4 percent in 2016. A ratio of 100 percent or greater shows that revenue will successfully cover expenses, and the City has remained above this ratio for the past six years.

Net Operating Income as a percent of Operating Revenue was 18.7 percent in 2011. This metric has varied over the past 6 years with a high of 24.5 percent in 2012 and ending 2016 at its low point of 11.8 percent. Similar to the O&M Coverage Ratio, these trends help to show how successfully operating revenue actually covered operating expenses, with higher positive numbers being the best and negative numbers showing need for improvement.

The Debt Service Coverage Ratio measures the amount of cash flow available to meet interest and principal payments. Typically, bond debt service coverage requires a minimum factor of 1.25 during the life of the loans. This ratio is calculated by dividing cash operating income (revenues less expenses before depreciation) by annual revenue bond expenses. The Debt Service Coverage Ratio for all outstanding debt ends 2011 at its high of 2.91 and trends downward to end 2016 at a low of 1.51. The ability of this ratio to remain at levels significantly higher than the bond covenant minimum of 1.25 indicates a stable capacity for new debt and will likely result in favorable terms when entering the bond market.

The Current Ratio is calculated by dividing the unrestricted current assets by current liabilities and measures a city's ability to pay short-term obligations. This ratio begins in 2011 at 1.8, drops to a low of 1.6 in 2013, and then rebounds to 4.5 by 2016. Anything above a 2.0 for this liquidity ratio is good.

The Debt to Net Position Ratio compares total debt to total net position, which is the difference between current assets and liabilities. This ratio ends 2011 at 0.48, dips to a low of 0.43 in 2014 before bouncing back to 0.68 by 2016. For city utilities, a ratio of 50 to 60 percent is within an industry target range. The variance of the Debt to Net Position Ratio over the past 6 years puts the City's ratio close but slightly above this target range.

The Debt to Noncurrent Capital Asset Ratio compares total debt to noncurrent assets, which are also known as property, plant, and equipment. This ratio begins at 0.3, or

30 percent debt to 70 -percent noncurrent assets, in 2011. Noncurrent capital assets increase $19.2M throughout the 6-year history, while total liabilities increase by $25.3M; therefore, the ratio increases to 0.5 by 2016. A ratio of 60-percent debt to 40-percent equity is a general industry target. The City's Debt to Noncurrent Capital Asset Ratio is on the low end of the industry target, signifying capacity for new debt in the future.

11.3 CURRENT FINANCIAL STRUCTURE

This section summarizes the current financial structure used as the baseline for the capital financing strategy and financial forecast developed for this Plan.

11.3.1 Financial Plan

The water utility is responsible for generating sufficient revenue to meet all of its costs. The primary source of funding is derived from ongoing monthly charges for service, with additional revenue coming from hook-up fees, penalties, timber sales and other miscellaneous revenue. Late fees or penalties are assessed on customers that are delinquent on water bill payments. The City controls the level of user charges and, subject to the City Council, can adjust user charges as needed to meet financial objectives.

The financial plan can only confirm financial feasibility if it considers the total system costs of providing water services, both operating and capital. To meet these objectives, the following elements have been completed.

Capital Funding Plan. Identifies the total capital improvement program (CIP) obligations of the planning period. The plan defines a strategy for funding the CIP, including an analysis of available resources from rate revenues, existing reserves, connection charges, debt financing, and any special resources that may be readily available (e.g., grants, developer contributions, etc.). The capital funding plan impacts the financial plan through the use of debt financing (resulting in annual debt service) and the assumed rate revenue available for capital funding.

Financial Forecast. Identifies future annual non-capital costs associated with the operation, maintenance, and administration of the water system. Included in the financial plan is a reserve analysis that forecasts cash flow and fund balance activity, along with testing for satisfaction of actual or recommended minimum fund balance policies. The financial plan ultimately evaluates the sufficiency of utility revenues in meeting all obligations, including cash uses such as operating expenses, debt service, capital outlays, and reserve contributions, as well as any coverage requirements associated with long-term debt. The plan also identifies the future adjustments required to fully fund all utility obligations in the planning period.

11.3.1.1 Capital Funding Plan

To properly evaluate future annual capital funding needs, capital costs were escalated by 3.50 percent annually to the year of planned spending. The CIP developed for this Plan

identifies $84.7M in project costs over the 10-year planning horizon. The 20-year period totals $195M in total project costs.

A summary of the 10-year and 20-year CIP is shown in Table 11.3. As shown, each year has varied capital cost obligations depending on construction schedules and infrastructure planning needs. Approximately 43 percent of the capital costs are included in the 10-year planning period. Table 11.4 provides more detail for the 10-year CIP.

Table 11.3 10- and 20-year CIP

Year	Escalated $
2017	$ 9,733,793
2018	8,316,577
2019	5,118,581
2020	10,080,796
2021	6,670,035
2022	10,360,960
2023	6,594,340
2024	10,038,601
2025	6,058,309
2026	11,682,756
10-Year Total	**$ 84,654,748**
2027 - 2036	110,091,081
20-Year Total	**$ 194,745,829**

Table 11.4 10 Year CIP (escalated $)

Project	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Supply										
Well 17	150,000	1,723,275								
Parkers Landing Well		471,960	732,718	3,791,815						
WWTP Well					418,961	650,436	3,366,008			
Washougal Wellfield Improvements									2,927,266	3,029,721
Steigerwald Regional Source	60,000	77,625	80,342	83,154	86,064	89,076	92,194	95,421	98,761	102,217
Watershed Forest Management	70,000	103,500		110,872		118,769		127,228		136,290
544 Zone Watershed Source Improvements	2,572,083									
Distribution System Improvements										
Transmission main from NW 11 Cir to NW Brady Rd					308,684					
343 Zone Supply Transmission Upsizing			670,855	2,083,004						
NE Birch St upsized transmission main					74,589					
New transmission main along NW 16th Ave				143,856	446,673					
New Distribution along NW 6th Ave/ NE Adams St										
Dead-end Looping Program		56,925	58,917	60,979	63,114	65,323	67,609	69,975	72,424	74,959
PRV Adjustment Study			192,821							
Well 6/14 Transmission Line	515,050									
Parallel Boulder Creek Intake								2,353,717		
Pump Station										
New Forest Home PS										1,062,038
New 455 Zone PS Capacity							386,601	1,200,395		
Lower Prune Hill PS Expansion		957,375	495,977							
North Shore PS Capacity Phase I									389,775	1,210,253
North Shore PS Capacity Phase II										
NW Couch St PS							282,729	877,873		
NW 10th Ave Study				31,044						
Storage										
New 544 Zone Reservoir	2,946,660	4,439,467								
New Gregg Tank										
343 Zone Reservoir				788,077	1,223,489	6,331,556				
Lower Prune Hill Reservoir Rehabilitation										
Upper Prune Hill Pressure Improvements Study					159,506					
General										
Water System Plan Update										374,797
Repair and Replacement										
Supply R&R Projects	120,000				169,833		114,935	118,958	123,122	127,431
Pump R&R Projects					626,548		179,164	185,435	191,925	198,642
Pipeline R&R Projects		201,825	208,889	216,200	223,767	463,198	2,105,100	2,178,778	2,255,035	2,333,962
Meter Replacement Program	200,000	284,625	294,587	304,897	315,569					
North Shore Expansion										
Annual North Shore Distribution Program			2,383,476	2,466,897	2,553,239	2,642,602		2,830,821		3,032,447
Leadbetter Road Transmission Main	3,100,000									
Total	**$ 9,733,793**	**$ 8,316,577**	**$ 5,118,581**	**$ 10,080,796**	**$ 6,670,035**	**$ 10,360,960**	**$ 6,594,340**	**$ 10,038,601**	**$ 6,058,309**	**$ 11,682,756**

11.4 CAPITAL FINANCIAL STRATEGY

An ideal capital financing strategy would include the use of grants and low-cost loans when debt issuance is required. However, these resources are very limited and competitive in nature and do not provide a reliable source of funding for planning purposes. It is recommended that the City pursue these funding avenues but assume bond financing to meet the needs for which the City's available cash resources are insufficient. Revenue bonds have been used as the debt funding instrument in this analysis. The capital financing strategy developed to fund the CIP identified in this Plan assumes the following funding resources:

- Accumulated cash reserves.
- Transfers of excess cash (over minimum balance targets) from the Operating Fund.
- Connection fee revenues.
- Developer contributions.
- Interest earned on Construction Fund balances and other miscellaneous capital resources.
- Revenue bond financing.

Based on information provided by the City, the water utility began 2017 with $309,000 in the Operating Fund and $7.46M in the Capital Fund. Additional funds beyond the Operating Fund target of 90 days of O&M expenses are transferred to the Capital Fund.

The cash resources described above are anticipated to fund 84 percent of the 10-year CIP and 67 percent of the 20-year CIP. The remaining funding is assumed to be from new debt obligations. Table 11.5 presents the corresponding 20-year capital financing strategy.

Table 11.5 20-year Capital Funding Strategy

Year	Capital Expenditures Escalated	Revenue Bond Financing	Cash Funding	Total Financial Resources
2017	**$ 9,733,793**	$ -	$ 9,733,793	**$ 9,733,793**
2018	**8,316,577**	-	8,316,577	**8,316,577**
2019	**5,118,581**	-	5,118,581	**5,118,581**
2020	**10,080,796**	5,100,000	4,980,796	**10,080,796**
2021	**6,670,035**	-	6,670,035	**6,670,035**
2022	**10,360,960**	-	10,360,960	**10,360,960**
2023	**6,594,340**	3,700,000	2,894,340	**6,594,340**
2024	**10,038,601**	-	10,038,601	**10,038,601**
2025	**6,058,309**	5,200,000	858,309	**6,058,309**
2026	**11,682,756**	-	11,682,756	**11,682,756**
Subtotal	**$ 84,654,748**	**$ 14,000,000**	**$ 70,654,748**	**$ 84,654,748**
2027 - 2036	**110,091,081**	50,800,000	59,291,081	**110,091,081**
Total	**$ 194,745,829**	**$ 64,800,000**	**$ 129,945,829**	**$ 194,745,829**

11.5 AVAILABLE FUNDING ASSISTANCE AND FINANCING RESOURCES

Feasible long-term capital funding strategies must be defined to ensure that adequate resources are available to fund the CIP identified in this Plan. In addition to the City's resources, such as accumulated cash reserves, capital revenues, and rate revenues designated for capital purposes, capital needs can be met from outside sources, such as grants, low-interest loans, and bond financing. The following is a summary of the City's internal and external resources.

11.6 CITY RESOURCES

Resources appropriate for funding capital needs include accumulated cash in the capital fund, rate revenues designated for capital spending purposes, developer contributions and capital-related charges such as connection fee revenue. The first two resources will be discussed in the Fiscal Policies section of the Financial Forecast. Capital-related charges are discussed below.

11.6.1 Capital Connection Charges

A connection charge such as the connection fee refers to a one-time charge imposed on new customers as a condition of connecting to the water system. The purpose of the connection charge is two-fold: 1) to promote equity between new and existing customers; and 2) to provide a source of revenue to fund capital projects. Revenue can only be used to fund utility capital projects or to pay debt service incurred to finance those projects. In 2017, the City charged all new customers a connection fee dependent upon the location of the property. A charge of $4,778 per meter capacity equivalent (MCE) was charged to for the South Area while a charge of $7,310 per MCE was charged for the North Shore Area.

11.6.2 Local Facilities Charges

While a connection charge is the manner in which new customers pay their share of plant investment costs, local facilities funding is used to pay the costs of local facilities that connect each property to the system's infrastructure. Local facilities funding is often overlooked in rate forecasting because it is funded upfront by either connecting customers and developers, or through an assessment to properties, but never from rates.

A number of mechanisms can be considered toward funding local facilities. One of the following scenarios typically occurs: (a) the utility charges a connection fee based on the cost of the local facilities (under the same authority as the facilities assessment fee); (b) a developer funds an extension of the system to its development and turns those facilities over to the utility (contributed capital); or (c) a local assessment is set up called a Utility Local Improvement District (ULID/LID) or a Local Utility District (LUD), which collects tax revenue from benefited properties.

A local facilities charge (LFC) is a variation of the connection charge. It is a city-imposed charge to recover the cost related to service extension to local properties. Often called a front-footage charge and imposed on the basis of footage of the main “fronting” a particular property, it is usually implemented as a reimbursement mechanism to a city for the cost of a local facility that directly serves a property. It is a form of connection charge and thus can accumulate up to 10 years of interest. It typically applies in instances when no developer-installed facilities are needed through developer extension due to the prior existence of available mains already serving the developing property.

The developer extension is a requirement that a developer install on-site and sometimes off-site improvements as a condition of extending service. These are in addition to the connection charge required and must be built to City standards. Part of the agreement between the City and the developer planning to extend service might include a latecomer agreement, resulting in a latecomer charge to new connections for the developer extension.

Latecomer charges are a variation of developer extensions, whereby new customers connecting to a developer-installed improvement make a payment to the City based on their share of the developer’s cost. The City passes this charge on to the developer who installed the facilities. As part of the developer extension process, this defines the allocation of costs and records latecomer obligations on the title of affected properties. No interest is allowed, and the reimbursement agreement cannot exceed 20 years in duration.

ULID/LID is another mechanism for funding infrastructure that assesses benefited properties based on the special benefit received by the construction of specific facilities. Most often used for local facilities, some ULIDs also recover related general facilities costs. Substantial legal and procedural requirements can make this a relatively expensive process, and there are mechanisms by which a ULID can be rejected.

11.7 OUTSIDE RESOURCES

This section outlines various grant, loan, and bond opportunities available to the City through federal and state agencies to fund the CIP identified in the Plan.

11.7.1 Grants and Low Cost Loans

Historically, federal and state grant programs were available to local utilities for capital funding assistance. However, these assistance programs have been mostly eliminated, substantially reduced in scope and amount, or replaced by loan programs. Remaining miscellaneous grant programs are generally lightly funded and heavily subscribed. Nonetheless, even the benefit of low-interest loans makes the effort of applying worthwhile. Grants and low-cost loans for Washington State utilities are available from the Department of Commerce, including two assistance programs for which the City may be eligible.

Public Works Trust Fund (PWTF) – Cities, counties, special purpose districts, public utility districts, and quasi-municipal governments are eligible to receive loans from the PWTF.

Eligible projects include repair, replacement, and construction of infrastructure for domestic water, sanitary wastewater, stormwater, solid waste, road, and bridge projects that improve public health and safety, respond to environmental issues, promote economic development, or upgrade system performance.

PWTF loans are typically available at interest rates ranging from 1.28 percent to 2.55 percent depending on the repayment term, with reduced interest rates available for all projects located in communities that have been declared a natural disaster. The standard loan offer is 1.66 percent interest repaid over a 20-year term. All loan terms are subject to negotiation and Board approval.

Currently there is no funding available for construction loans. Funding may become available during the 2019-2021 biennium if the capital budget is approved. Funding cycles typically begin during the summer months.

Information regarding the application process, as well as rates and terms, are posted on the PWTF website in early spring. Further detail is available at http://www.pwb.wa.gov.

Drinking Water State Revolving Fund (DWSRF) Loan Program – DWSRF funding historically targets protection of public health, compliance with drinking water regulations and assistance for small and disadvantaged communities. Terms are up to 20 years to pay back, and in some cases, provide partial loan forgiveness. Interest rates are 1.0 to 1.5 percent and no local match is required.

Applicants need an approved water system plan, or plan amendment, containing the DWSRF project prior to submitting an application. All public water systems that receive a DWSRF loan must undergo an environmental review, a cultural review, and an Investment Grade Efficiency Audit (IGEA). The IGEA is an effort to apply energy efficiency to water systems and may be financed as part of the DWSRF loan.

The fall 2018 application cycle will begin October 1st, 2018 and conclude November 30th, 2018. DWSRF takes applications annually in the fall. Further detail is available at http://www.doh.wa.gov/DWSRF.

11.7.2 Bond Financing

General Obligation Bonds – General obligation (G.O.) bonds are bonds secured by the full faith and credit of the issuing agency, committing all available tax and revenue resources to debt repayment. With this high level of commitment, G.O. bonds have relatively low interest rates and few financial restrictions. However, the authority to issue G.O. bonds is restricted in terms of the amount and use of the funds, as defined by the Washington constitution and statute. Specifically, the amount of debt that can be issued is linked to assessed valuation.

Revised Code of Washington (RCW) 39.36.020 states:

(2)(a)(ii) Counties, cities, and towns are limited to an indebtedness amount not exceeding one and one-half percent of the value of the taxable property in such counties, cities, or towns without the assent of three-fifths of the voters therein voting at an election held for that purpose.

(b) In cases requiring such assent counties, cities, towns, and public hospital districts are limited to a total indebtedness of two and one-half percent of the value of the taxable property therein.

While bonding capacity can limit the availability of G.O. bonds for utility purposes, these can sometimes play a valuable role in project financing. A rate savings may be realized through two avenues: the lower interest rate and related bond costs; and the extension of repayment obligation to all tax-paying properties (not just developed properties) through the authorization of an ad valorem property tax levy.

Revenue Bonds – Revenue bonds are commonly used to fund utility capital improvements. The debt is secured by the revenues of the issuing utility. With this limited commitment, revenue bonds typically bear higher interest rates than G.O. bonds and also require security conditions related to the maintenance of dedicated reserves (a bond reserve) and financial performance (added bond debt service coverage). The City agrees to satisfy these requirements by resolution as a condition of bond sale.

Revenue bonds can be issued in Washington without a public vote. There is no bonding limit, except perhaps the practical limit of the utility's ability to generate sufficient revenue to repay the debt and provide coverage. In some cases, poor credit might make issuing bonds problematic.

11.8 FINANCIAL FORECAST

The financial forecast, or revenue requirement analysis, forecasts the amount of annual revenue that needs to be generated by user rates. The analysis incorporates operating revenues, O&M expenses, debt service payments, rate-funded capital needs, and any other identified revenues or expenses related to operations. The objective of the financial forecast is to evaluate the sufficiency of the current level of rates. In addition to annual operating costs, the revenue needs also include debt covenant requirements and specific fiscal policies and financial goals of the City.

The analysis determines the amount of revenue needed in a given year to meet that year's expected financial obligations. For this analysis, two revenue sufficiency tests have been developed to reflect the financial goals and constraints of the City: cash needs must be met; and debt coverage requirements must be realized. In order to operate successfully with respect to these goals, both tests of revenue sufficiency must be met.

Cash Test – The cash flow test identifies all known cash requirements for the City in each year of the planning period. Typically these include O&M expenses, debt service payments, rate-funded system reinvestment funding or directly funded capital outlays, and any additions to specified reserve balances. The total annual cash needs of the City are then compared to projected cash revenues using the current rate structure. Any projected revenue shortfalls are identified and the rate increases necessary to make up the shortfalls are established.

Coverage Test – The coverage test is based on a commitment made by the City when issuing revenue bonds and some other forms of long-term debt. For the purposes of this analysis, revenue bond debt is assumed for any needed debt issuance. As a security condition of issuance, the City would be required per covenant to agree that the revenue bond debt would have a higher priority for payment (a senior lien) compared to most other expenditures; the only outlays with a higher lien are O&M expenses. Debt service coverage is expressed as a multiplier of the annual revenue bond debt service payment. For example, a 1.0 coverage factor would imply that no additional cushion is required. A 1.25 coverage factor means revenue must be sufficient to pay O&M expenses, annual revenue bond debt service payments, and an additional 25 percent of annual revenue bond debt service payments. The excess cash flow derived from the added coverage, if any, can be used for any purpose, including funding capital projects. Targeting a higher coverage factor can help the City achieve a better credit rating and provide lower interest rates for future debt issues.

In determining the annual revenue requirement, both the cash and coverage sufficiency test must be met, and the test with the greatest deficiency drives the level of needed rate increase in any given year.

11.9 CURRENT FINANCIAL STRUCTURE

The City maintains a fund structure and implements financial policies that target management of a financially viable and fiscally responsible water system.

11.9.1 Fiscal Policies

A brief summary of the key financial policies employed by the City, as well as those recommended and incorporated in the financial program, are discussed below.

Operating Fund – Operating reserves are designed to provide a liquidity cushion to ensure that adequate cash working capital will be maintained to deal with significant cash balance fluctuations, such as seasonal fluctuations in billings and receipts, unanticipated cash expenses, or lower than expected revenue collections. Like other types of reserves, operating reserves also serve another purpose: they help smooth rate increases over time. Target funding levels for an operating reserve are generally expressed as a certain number of days of O&M expenses, with the minimum requirement varying with the expected revenue volatility. Industry practice for utility operating reserves ranges from 30 days

(8 percent) to 120 days (33 percent) of O&M expenses, with the lower end more appropriate for utilities with stable revenue streams and the higher end more appropriate for utilities with significant seasonal or consumption-based fluctuations. The City's current goal is to maintain a minimum balance in the Operating Fund equal to 90 days of O&M expenses for working capital.

Capital Fund – A capital contingency reserve is an amount of cash set aside in case of an emergency should a piece of equipment or a portion of the utility's infrastructure fail unexpectedly. The reserve also could be used for other unanticipated capital needs, including capital project cost overruns. Industry practices range from maintaining a balance equal to 1 to 2 percent of fixed assets, an amount equal to a 5-year rolling average of CIP costs, or an amount determined sufficient to fund equipment failure (other than catastrophic failure). The final target level should balance industry standards with the risk level of the City. The City currently aims to maintain a capital fund balance target of $250,000. The capital fund target balance is meant to represent the need for an emergency repair of the system infrastructure.

System Reinvestment – System reinvestment funding promotes system integrity through ongoing repair and replacement of system infrastructure. Ideally, a detailed asset management plan would guide the level of rate funded system reinvestment, however, in absence of this level of effort, a good benchmark is annual depreciation expense used as a measure of the decline in asset value associated with routine use of the system. Particularly for utilities that do not already have an explicit system reinvestment policy in place, implementing a funding level based on full depreciation expense could significantly impact rates. An alternative benchmark is annual depreciation expense net of debt principal payments on outstanding debt. This approach recognizes that customers are still paying for certain assets through the debt component of their rate, and intends to avoid simultaneously charging customers for an asset and its future replacement. The specific benchmark used to set system reinvestment funding targets is a matter of policy that must balance various objectives, including managing rate impacts, keeping long-term costs down, and promoting "generational equity" (i.e., not excessively burdening current customers with paying for facilities that will serve a larger group of customers in the future).

The City does not currently have a policy in place for system reinvestment funding. No dedicated funding is assumed in the financial model, however, on average, the City is able to fund approximately $870,000 annually through rates. System reinvestment is recommended for consideration during future policy review and rate planning.

Debt Management – It is prudent to consider policies related to debt management as part of a broader utility financial policy structure. Debt management policies should be evaluated and formalized, including the level of acceptable outstanding debt, debt repayment, bond coverage, and total debt coverage targets. The City has one outstanding water revenue bond, which will be fully repaid in 2017. Coverage on this bond is tested at 1.25.

11.9.2 Financial Forecast

The financial forecast is established from 2018 budget documents along with other key factors and assumptions to develop a complete portrayal of the City's annual financial obligations for the water utility. The following is a list of the key revenue and expense factors and assumptions used to develop the financial forecast.

Growth – Rate revenue escalation varies from 2.05 to 2.90 percent for all years of the forecast period with the exception of 2021 where the growth rate jumps to 13.1 percent for one year. The City is expecting the addition of a large industrial customer during this timeframe. Growth rates are provided in Chapter X of this Plan.

Revenue – The City has two general revenue sources: 1) water service charges (rate revenue); and 2) miscellaneous (non-rate) revenue. In the event of a forecasted annual shortfall, rate revenue can be increased to meet the annual revenue requirement. For the purpose of this financial forecast, rate revenues are forecast to increase with customer growth. Non-rate revenues are forecast to increase with customer growth or general cost inflation depending on the nature of the revenue.

System Development Charge Revenue – The current standard development charge (SDC) is forecast to generate revenue between $1.4M in 2017 and $3.3M in 2035 collected from an average of 470 new connections per year. 2021 is forecast to be a large growth year for the City with 1,840 new connections forecast, resulting in $9.8M in SDC revenue. This jump in growth is related to the connection of a large industrial customer. The resources received are used to fund growth related capital projects.

Expenses – O&M expense projections are based on the 2018 budget and forecasted to increase with general cost inflation of 1.77 percent, labor cost inflation of 3.00 percent and benefit cost inflation of 3.00 percent. Budget 2018 figures were used for 2018 taxes; future taxes are calculated based on forecasted revenues and prevailing tax rates.

Existing Debt – The City currently has ten outstanding debt issues, including one revenue bond, two PWTF loans, five DWSRF loans, one Department of Ecology loan and one contractual water rights loan. The final 2007 revenue bond payment was for $223k in 2017; PWTF payments range from $4,437 to $108,000; DWSRF loan payments range from $256,000 to $726,000 and the contractual water rights loan is $53,898 annually over the 20-year study period. The total annual existing debt service obligations begin 2017 at $970,000 and are reduced to $360,000 by 2037.

Future Debt – The capital financial strategy developed for this Plan forecasts the need for $64.8M in new debt proceeds in eight separate instances throughout the twenty year forecast. The analysis performed assumes all revenue bond financing. Annual new debt service obligations begin in 2020 at $450,000, increasing to $5.6M by 2035.

Transfer to Capital –Operating Fund balance above the minimum requirement is assumed to be available to fund capital projects and projected to be transferred to the Capital Fund

each year. On average, the utility funds approximately $870,000 of capital improvements with cash.

Although the financial plan is completed for the 20-year time horizon of this Plan, the rate strategy focuses on the shorter term planning period of 2017 through 2026. It is recommended that the City revisit the proposed rates every 2 to 3 years to ensure that the rate projections developed remain adequate. Any significant changes should be incorporated into the financial plan and future rates should be adjusted as needed.

Table 11.6 summarizes the annual revenue requirements based on the forecast of revenues, expenditures, fund balances, and fiscal policies.

Table 11.6 10-year Financial Forecast

Revenue Requirement	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Revenues										
Rate Revenues Under Existing Rates	$ 4,250,897	$ 4,409,345	$ 4,524,720	$ 4,640,950	$ 5,249,906	$ 5,377,758	$ 5,509,467	$ 5,641,678	$ 5,785,010	$ 5,924,993
Non-Rate Revenues	402,580	630,984	394,180	419,349	469,076	738,027	508,763	769,778	546,468	808,101
Total Revenues	**$ 4,653,477**	**$ 5,040,329**	**$ 4,918,900**	**$ 5,060,299**	**$ 5,718,982**	**$ 6,115,785**	**$ 6,018,230**	**$ 6,411,456**	**$ 6,331,478**	**$ 6,733,094**
Expenses										
Cash Operating Expenses	$ 3,274,547	$ 3,679,892	$ 3,939,036	$ 4,098,424	$ 4,318,041	$ 4,313,115	$ 4,411,122	$ 4,510,502	$ 4,615,123	$ 4,716,680
Existing Debt Service	969,585	590,320	887,798	883,277	878,758	874,237	869,718	865,198	860,678	803,260
New Debt Service	-	-	-	449,831	449,831	449,831	776,179	776,179	1,234,831	1,234,831
Rate Funded System Reinvestment	-	-	-	-	-	-	-	-	-	-
Total Expenses	**$ 4,244,132**	**$ 4,270,212**	**$ 4,826,833**	**$ 5,431,532**	**$ 5,646,629**	**$ 5,637,184**	**$ 6,057,019**	**$ 6,151,879**	**$ 6,710,632**	**$ 6,754,771**
Total Surplus (Deficiency)	**$ 409,345**	**$ 770,117**	**$ 92,066**	**$ (371,234)**	**$ 72,353**	**$ 478,601**	**$ (38,789)**	**$ 259,577**	**$ (379,154)**	**$ (21,677)**
Annual Rate Adjustment	**0.00%**	**5.00%**	**2.50%**	**2.50%**	**2.50%**	**2.50%**	**2.50%**	**2.50%**	**2.50%**	**2.50%**
Cumulative Annual Rate Adjustment	**0.00%**	**5.00%**	**7.62%**	**10.32%**	**13.07%**	**15.90%**	**18.80%**	**21.77%**	**24.81%**	**27.93%**
Rate Revenues After Rate Increase	$ 4,250,897	$ 4,629,812	$ 4,869,730	$ 5,119,693	$ 5,936,253	$ 6,232,840	$ 6,545,129	$ 6,869,748	$ 7,220,387	$ 7,579,980
Additional Taxes from Rate Increase	-	11,087	17,351	24,076	34,516	43,002	52,083	61,760	72,185	83,229
Net Cash Flow After Rate Increase	**$ 409,345**	**$ 979,497**	**$ 419,726**	**$ 83,433**	**$ 724,184**	**$ 1,290,682**	**$ 944,790**	**$ 1,425,887**	**$ 984,038**	**$ 1,550,081**
Coverage After Rate Increases	12.9	n/a	n/a	9.8	26.3	13.2	7.5	8.2	5.2	5.6

The financial forecast indicates that the utility becomes deficient in 2020 as new debt is added to fund the capital program. This financial analysis recognizes the 2018 adopted rate increase of 5.0 percent. In addition to the 2018 rate increase, annual inflationary level rate increases of 2.50 percent are implemented to cover the forecast deficiency.

11.10 CITY FUNDS AND RESERVES

Table 11.7 shows a summary of the projected Operating Fund and Capital Fund ending balances through 2026 based on the rate forecasts presented above. The operating fund is maintained at a minimum of 90 days of O&M expenses from 2018 forward, and the capital fund balance fluctuates annually depending on the addition of debt proceeds and the capital projects scheduled.

Table 11.7 Ending Cash Balance Summary

Ending Fund Balances	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Operating Fund	$ 718,750	$ 907,371	$ 971,269	$ 1,010,570	$ 1,064,722	$ 1,063,508	$ 1,087,674	$ 1,112,179	$ 1,137,976	$ 1,163,017
Capital Fund	1,559,669	394,138	382,316	272,677	5,975,900	2,211,942	3,492,386	280,998	4,025,353	345,581
Total	**$ 2,278,419**	**$ 1,301,509**	**$ 1,353,585**	**$ 1,283,247**	**$ 7,040,622**	**$ 3,275,449**	**$ 4,580,060**	**$ 1,393,176**	**$ 5,163,328**	**$ 1,508,598**

11.11 CURRENT AND PROJECTED RATES

11.11.1 Current Rates

The City's current rate structure consists of a fixed monthly charge based on meter size and a variable monthly charge per hundred cubic feet (ccf) for all use. The fixed monthly charge is the same for all classes while the variable charge differs depending on rate class. Table 11.8 shows the existing rate schedule.

Table 11.8 Existing Schedule of Rates

2017 Monthly Rates	
Base Rate	**per account**
5/8"	$ 9.24
3/4"	10.01
1"	12.35
1.25"	13.90
1.5"	15.48
2"	24.05
3"	87.11
4"	110.50
6"	165.02
8"	227.34
10"	297.44
Volume Charge	**per ccf**
Residential	$ 1.77
Commercial	2.16
Industrial	1.79
Cemetery	0.80
Irrigation	2.01

11.12 PROJECTED RATES

The financial forecast discussed above indicates that while the water utility is covering all financial obligations in the near term, with the addition of new debt in 2020, rate increases are needed to satisfy all future financial responsibilities. In addition to the adopted 5.0 percent rate increase in 2018, a rate strategy of 2.50 percent annually for the remainder of the study period is recommended to satisfy this forecast deficiency. Table 11.9 shows the projected rates with increases applied uniformly to all rate components in all classes.

Table 11.9 Proposed Schedule of Rates

Monthly Rates	Existing	Adopted	Proposed							
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Base Rate	per account	per account	per account	per account	per account	per account	per account	per account	per account	per account
5/8"	$ 9.24	$ 9.70	$ 9.94	$ 10.19	$ 10.45	$ 10.71	$ 10.98	$ 11.25	$ 11.53	$ 11.82
3/4"	10.01	10.51	10.77	11.04	11.32	11.60	11.89	12.19	12.49	12.81
1"	12.35	12.97	13.29	13.62	13.96	14.31	14.67	15.04	15.41	15.80
1.25"	13.90	14.60	14.96	15.33	15.72	16.11	16.51	16.93	17.35	17.78
1.5"	15.48	16.25	16.66	17.08	17.50	17.94	18.39	18.85	19.32	19.80
2"	24.05	25.25	25.88	26.53	27.19	27.87	28.57	29.29	30.02	30.77
3"	87.11	91.47	93.75	96.10	98.50	100.96	103.48	106.07	108.72	111.44
4"	110.50	116.03	118.93	121.90	124.95	128.07	131.27	134.55	137.92	141.37
6"	165.02	173.27	177.60	182.04	186.59	191.26	196.04	200.94	205.96	211.11
8"	227.34	238.71	244.67	250.79	257.06	263.49	270.08	276.83	283.75	290.84
10"	297.44	312.31	320.12	328.12	336.33	344.73	353.35	362.19	371.24	380.52
Volume Charge	per ccf	per ccf	per ccf	per ccf	per ccf	per ccf	per ccf	per ccf	per ccf	per ccf
Residential	1.77	1.86	1.90	1.95	2.00	2.05	2.10	2.16	2.21	2.26
Commercial	2.16	2.27	2.32	2.38	2.44	2.50	2.57	2.63	2.70	2.76
Industrial	1.79	1.88	1.93	1.97	2.02	2.07	2.13	2.18	2.23	2.29
Cemetery	0.80	0.84	0.86	0.88	0.90	0.93	0.95	0.97	1.00	1.02
Irrigation	2.01	2.11	2.16	2.22	2.27	2.33	2.39	2.45	2.51	2.57

11.12.1 Conservation Based Rates

In 2003 the Washington State Legislature passed the Municipal Water Supply Efficiency Requirements Act. The Water Use Efficiency rules went into effect on January 22, 2007 and typically apply to Water System Plans that each jurisdiction is required to develop every six to ten years. The RCW outlines the rules of this act, under RCW 70.119.180. In section 4(B), the RCW states that jurisdictions must perform an "evaluation of the feasibility of adopting and implementing water delivery rate structures that encourage water conservation." A city does not need to actually adopt such a rate structure, but is required to consider it, which is what the following analysis represents.

Block rate structures (also known as inclining, inverted and tiered block rates) charge a higher rate for increasing consumption. Block rates are designed to send a more conservation oriented price signal to customers – the more you use the more you pay. Water system infrastructure must be built to handle peak demand. Those who peak more, cost the system more since system facilities must be oversized to accommodate system peak requirements. The higher volume charge is intended to helps recover the higher cost of providing peaking capacity. Increasing block rates are not a one size fits all solution. The ideal customer class is one that has relatively homogenous usage patterns and peaking characteristics. As such, a block rate structure is most effective for the residential class. A block rate structure for other classes that may have highly varied usage patterns and demand characteristics is not as effective and runs the risk of presenting inequities since larger customers may pay more simply for being a large user and not necessarily for being an inefficient water user. The focus of the conservation based rate structure evaluation for the City of Camas is for the residential class as it represents 93 percent of the total City accounts.

It is important to remember that any rate structure that may decrease water consumption may also decrease water sales revenue, creating a level of revenue volatility that may require higher reserve levels or establishment of a rate stabilization reserve to shelter

against unexpected revenue shortfalls. A block rate structure can also be more costly to administer (initial billing system set-up) and more difficult to communicate to customers that are accustomed to a uniform consumption rate. The following explanation discusses the development of an increasing block rate structure for the residential class.

11.13 METHODOLOGY

There are many ways to design a block rate structure. The most basic structure needs the following items:

How many blocks?

A three-block structure is very common. This structure allows for a meaningful price signal without being too aggressive in the upper block rates.

What are the thresholds for each block?

Block 1: Set at the average monthly winter consumption. This allows a unit rate that reflects average indoor water usage.

Block 2: Set at twice the summer monthly average.

Block 3: Set to encourage usage reduction at the higher end of the demand curve.

In order to design a block rate structure, a bill frequency analysis was performed to show the distribution of residential customer bills throughout the year. This analysis helps to ensure that the appropriate amount of revenue is recovered based on the block sizes and rates set for each block size.

11.14 RESULTS

The current residential rate for the City is composed of a fixed meter charge differentiated by meter size and a uniform rate for all usage. Table 11.10 demonstrates that in order to satisfy the 2019 revenue requirement as proposed in the existing financial model, an increasing block rate structure would result in a Block 1 rate of $1.55 per ccf for usage up to 14 ccf, a Block 2 rate of $2.05 per ccf for usage between 14.01 and 26 ccf and a Block 3 rate of $2.58 per ccf for all usage over 26 ccf bi-monthly.

Table 11.10 Residential Conservation Rates

Block Rate Calculation	Block 1	Block 2	Block 3	Total
Block Ranges				
Bi-Monthly Block Thresholds (ccf)	14	26	26+	
Bi-Monthly Block Ranges (ccf)	(0-14)	(14.01-26)	(>26)	
Total Residential Usage (ccf)				988,896
Distribution of Bills (%)	51.90%	27.23%	20.87%	
Distribution of Usage (%)	55.43%	19.52%	25.04%	
Distribution of Usage (ccf)	548,186	193,079	247,631	
Calculating Block Rates				
Total 2019 Variable Revenue Target ($)				**$ 1,883,811**
$ Rate per 100 Cubic Foot	**$ 1.55**	**$ 2.05**	**$ 2.58**	

Under the proposed rate structure a residential customer with a use of 14 ccf bi-monthly would have a bill reduction of $3.81, water use of 26 ccf bi-monthly would see a $1.53 reduction and a user with 50 ccf bi-monthly would see an increase of $15.69. The initial block rate structure is intended to get the conservation rate concept in place. As the rate structure matures the block thresholds can be adjusted to increase the conservation price signal. The rate design discussed above was evaluated as part of the water system planning effort that is currently underway and provides a conservation based rate structure alternative for the City. As previously discussed, the City is not required to adopt such a rate structure, but is required to consider a conservation rate structure as part of this Plan. The City Council discussed implementing a conservation rate structure and decided to maintain the existing rate structure at this time.

11.15 AFFORDABILITY

The Washington State Department of Health and the Department of Commerce Public Works Board use an affordability index to prioritize low-cost loan awards depending on whether rates exceed 2.0 percent of the median household income for the service area. The average median household income for the City was $94,350 between 2012 and 2016 according to the U.S. Census Bureau. The 2016 value is escalated based on the assumed 1.77 percent general cost inflation to show the median household income in future years. Table 11.11 presents the City's rates projected to 2026, tested against the 2.0 percent monthly affordability threshold.

Table 11.11 Affordability Test

Year	Inflation	Median HH Income	2% Monthly Threshold	Projected Monthly Bill	% of Median HH Income
2016		$ 94,350	$ 157.25	$ 25.70	0.33%
2017	1.77%	96,020	160.03	26.94	0.34%
2018	1.77%	97,720	162.87	28.29	0.35%
2019	1.77%	99,449	165.75	28.99	0.35%
2020	1.77%	101,209	168.68	29.72	0.35%
2021	1.77%	103,001	171.67	30.46	0.35%
2022	1.77%	104,824	174.71	31.22	0.36%
2023	1.77%	106,679	177.80	32.00	0.36%
2024	1.77%	108,568	180.95	32.80	0.36%
2025	1.77%	110,489	184.15	33.62	0.37%
2026	1.77%	112,445	187.41	34.46	0.37%

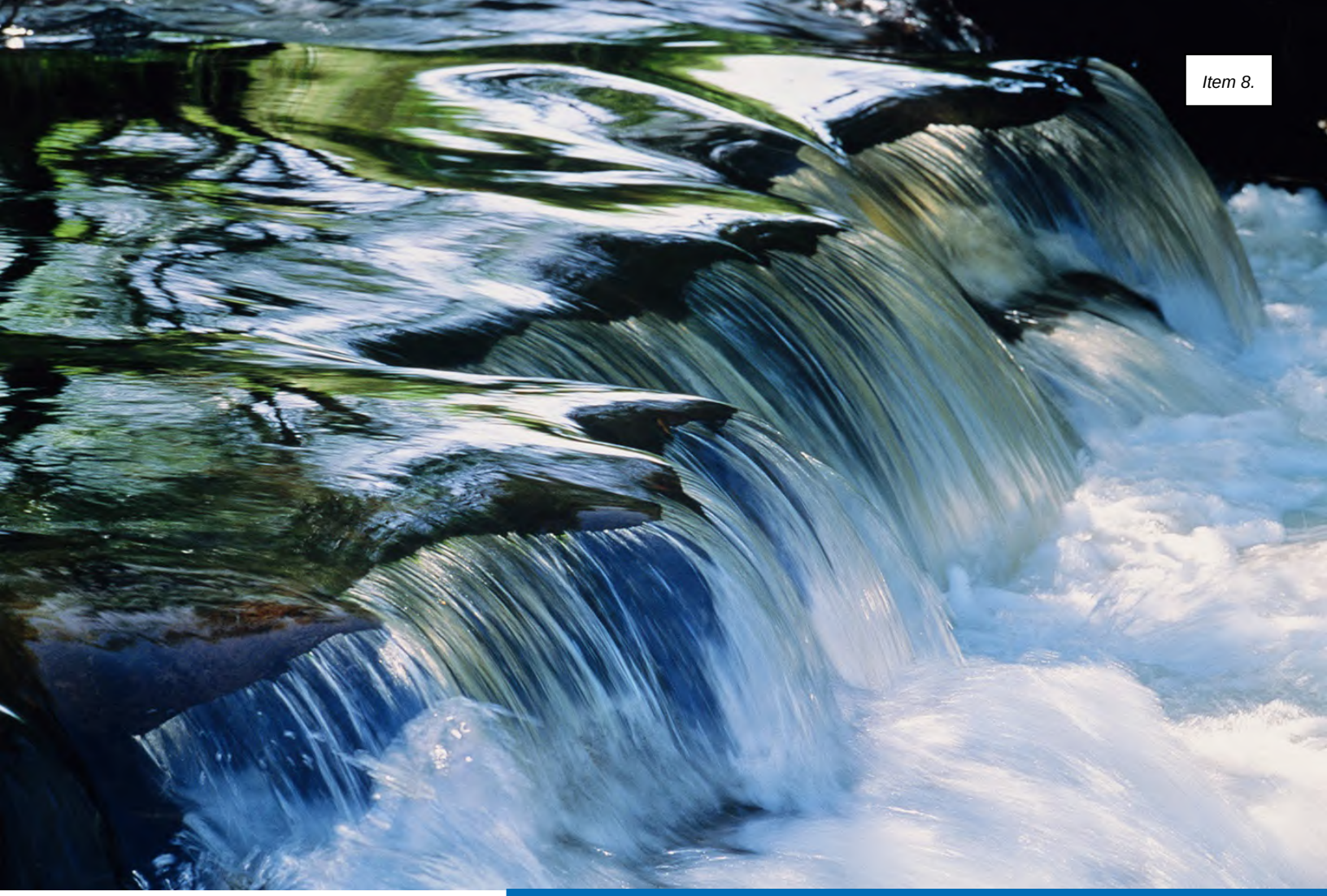
Applying the 2.0 percent test, the City's rates are forecasted to remain within the indicated affordability range through 2026.

11.16 CONCLUSION

The results of this analysis indicate that rates must increase to provide revenue sufficient to cover all utility financial obligations, including the addition of new debt and partial cash funding of the capital program through 2026. A rate increase of 5.0 percent in 2018, followed by annual rate increases of 2.5 percent through 2026 should provide for continued financial viability while maintaining generally affordable rates.

It is important to remember that the analysis performed in this chapter assumes growth rates from Chapter 4 of this Plan. If the future growth rates change, the existing rate strategy may need to be updated and revised.

It is recommended that the City regularly review and update the key underlying assumptions that compose the multi-year financial plan to ensure that adequate revenues are collected to meet the City's total financial obligations.



City of Camas

GENERAL SEWER PLAN

DRAFT | June 2022

carollo

City of Camas

GENERAL SEWER PLAN

DRAFT | June 2022

This document is released for the purpose of information exchange review and planning only under the authority of Joshua R. Miner, June 23, 2022, State of Washington PE No. 22015138.

Contents

Executive Summary

ES.1 Introduction ES-1
ES.1.1 Sewer Service Area ES-1
ES.2 Policies ES-1
ES.3 Basis of Planning ES-5
ES.3.1 Collection System Flow Projections ES-5
ES.3.2 WWTF Flow and Load Projections ES-5
ES.4 Existing System ES-7
ES.5 Infiltration and Inflow Program ES-13
ES.6 System Analysis ES-13
ES.6.1 Gravity Collection System Evaluation ES-14
ES.6.2 Lift Station Evaluation ES-14
ES.6.3 Recommended Improvements ES-14
ES.7 Wastewater Treatment Facility ES-16
ES.8 Operations and Maintenance ES-17
ES.9 Capital Improvement Plan ES-17
ES.10 Financial Analysis ES-17

Chapter 1 - Introduction

1.1 Introduction 1-1
1.2 Background and Goals 1-1
1.3 Referenced Documents 1-2
1.4 Washington State Requirements 1-2
1.5 Report Organization 1-5
1.6 SEPA and Approval Process 1-6
1.7 Acknowledgements 1-6

Chapter 2 - Policies and Criteria

2.1 Introduction 2-1
2.2 Sewer Service 2-1
2.2.1 Environmental Stewardship 2-7
2.2.2 Design Criteria and Standards 2-9

2.2.3 Financial Policies 2-15

2.2.4 Regulatory Requirements 2-17

Chapter 3 - Basis of Planning

3.1 Introduction 3-1

3.2 Definitions 3-1

3.3 Collection System Flow Monitoring Results 3-2

3.3.1 Average Dry Weather Flow Data 3-2

3.3.2 Rainfall Data 3-3

3.3.3 Wet Weather Flow Data 3-3

3.4 Collection System Flow Projections 3-4

3.4.1 Sewered Population 3-4

3.4.2 Land Use 3-5

3.4.3 Wastewater Flow Factors 3-9

3.4.4 Industrial Customer Flows 3-9

3.4.5 Hydraulic Model Dry Weather Flow Projections 3-10

3.4.6 Design Storm 3-10

3.4.7 Hydraulic Model Wet Weather Flow Projections 3-11

3.4.8 Hydraulic Model Flow Projections Summary 3-12

3.5 WWTF Flow and Load Projections 3-12

Chapter 4 - Existing System

4.1 Introduction 4-1

4.2 Sewer Service Area 4-1

4.3 Collection System 4-1

4.3.1 Gravity System 4-7

4.3.2 STE Systems 4-7

4.3.3 STEP Transmission Main 4-8

4.3.4 Lift Stations 4-8

4.4 Wastewater Treatment Facility 4-13

4.4.1 Recent Plant Upgrades 4-19

4.4.2 Plant Flows 4-19

4.4.3 NPDES Violations 4-20

4.5 Adjacent Sewer Service Areas 4-20
4.5.1 City of Vancouver 4-21
4.5.2 City of Washougal 4-21
4.5.3 Clark County 4-21
4.6 Natural Environment and Critical Areas 4-21
4.6.1 Natural Environment 4-22
4.6.2 Critical Areas 4-24
4.7 Water System 4-31

Chapter 5 - Inflow / Infiltration Program

5.1 Introduction 5-1
5.2 Historical I/I Control Efforts 5-2
5.3 Required I/I Reporting 5-3
5.4 Calculated I/I 5-3
5.5 Field Investigation 5-4
5.5.1 Flow Monitoring and Analysis 5-4
5.5.2 Smoke Testing 5-5
5.5.3 Manhole Inspection 5-5
5.5.4 Video Inspection 5-6
5.6 Identified I/I Projects 5-6
5.7 Completed I/I Projects 5-7
5.7.1 Franklin Street Sewer Improvement Project 5-8
5.7.2 Mill Ditch Repair Project 5-8
5.7.3 I/I Reduction Summary 5-8
5.8 Planned I/I Projects 5-9

Chapter 6 - Collection System

6.1 Introduction 6-1
6.2 Evaluation Criteria 6-1
6.2.1 Design Criteria 6-2
6.2.2 Performance Criteria 6-2

6.3 Gravity Collection System Evaluation 6-7
6.3.1 Key Causes of Deficiencies 6-7
6.3.2 Existing System Problem Areas 6-7
6.3.3 Build-Out System Problem Areas 6-8
6.4 Pump Station Evaluation 6-13
6.4.1 Pump Station Run Times 6-14
6.5 Capacity Evaluation Summary 6-15
6.5.1 Area 1 6-19
6.5.2 Area 2 6-20
6.5.3 Area 3 6-21
6.5.4 Area 4 6-22
6.5.5 Area 5 6-23
6.5.6 Area 6 6-24
6.5.7 Area 7 6-25
6.5.8 Area 8 6-27
6.5.9 Area 9 6-28
6.6 Recommended Collection System Improvements 6-29
6.6.1 Recommended Pipeline Improvements 6-30
6.6.2 Recommended Pump Station Improvements 6-32
6.7 Recommended Collection System Future Projects 6-32

Chapter 7 - Wastewater Treatment Facility

7.1 Introduction 7-1
7.1.1 Current National Pollution Discharge Elimination System Permit 7-1
7.1.2 Past Evaluation of Reuse 7-2
7.2 Unit Process Analysis 7-3
7.2.1 Flows and Loads 7-4
7.2.2 BioWin Modeling 7-5
7.2.3 Condition Assessment 7-5
7.3 Summary of Key Improvements and Preferred Alternatives 7-8
7.3.1 Basis of Project Costs 7-8
7.3.2 Hydraulics 7-9
7.3.3 Liquids Treatment 7-10

7.3.4 Solids Treatment 7-16
7.3.5 Plant Support Systems 7-20
7.4 Recommended WWTF Improvement Projects 7-24
7.4.1 Cost Summary of the Improvement Projects 7-25
7.4.2 Implementation Timing for the Improvement Projects 7-26

Chapter 8 - Operation and Maintenance

8.1 Introduction 8-1
8.2 Organization Structure 8-1
8.3 Staffing 8-1
8.3.1 Maintenance and Operations Staff 8-1
8.3.2 Wastewater Utility Engineering Staff 8-1
8.4 Records 8-2
8.5 Current Operation and Maintenance Program 8-5
8.5.1 Maintenance 8-5
8.5.2 Operations 8-8
8.6 Future Operation and Maintenance Needs 8-8

Chapter 9 - Capital Improvement Plan

9.1 Introduction 9-1
9.2 Cost Estimating Assumptions 9-1
9.2.1 Conveyance Cost Assumption 9-1
9.2.2 Treatment Cost Assumptions 9-3
9.3 Capital improvement Plan 9-3
9.3.1 Planning Periods 9-3
9.3.2 Project Types 9-4
9.3.3 Project and Program Naming 9-4
9.4 Pump Station Projects 9-7
9.4.1 PS-01: South Prune Hills Pump Station 9-7
9.4.2 PS-02: West Camas Pump Station Improvements 9-7
9.4.3 PS-03: Crown View Hill Pump Station 9-7
9.4.4 PS-04: Main Pump Station Improvements 9-7
9.4.5 PS-05: Upgrade Pump Station Telemetry 9-7

9.5 STEP Projects 9-8
9.5.1 S-01: STEP Main Flows 9-8
9.5.2 S-02: STEP Main Modeling 9-8
9.5.3 S-03: STEP Main Condition Assessment and Cleaning 9-8
9.6 Pipeline Projects 9-8
9.6.1 P-01: NW Fargo Street Upsize 9-9
9.6.2 P-02: Division Street Upsize 9-9
9.6.3 P-03: NW 6th Place West Upsize 9-9
9.6.4 P-04: NW 6th Place East Upsize 9-9
9.6.5 P-05: NW 6th Avenue West Upsize 9-9
9.6.6 P-06: NW 6th Avenue East Upsize 9-9
9.6.7 P-07: Adams Street Upsize 9-10
9.6.8 P-08: NW 18th Loop Upsize 9-10
9.6.9 P-09: NE 15th Avenue Upsize 9-10
9.7 Inflow and Infiltration Projects 9-10
9.7.1 I&I-01: Ongoing I&I Program 9-10
9.8 Maintenance Projects 9-10
9.8.1 M-01: WWTP Repair and Replacement 9-10
9.8.2 M-02: Pump Station Repair and Replacement 9-10
9.8.3 M-03: Sewer Main Repair and Replacement 9-10
9.8.4 M-04: STEP Tank Repair and Replacement 9-11
9.9 Treatment Plant Projects 9-11
9.9.1 TP-01: Aeration Basin Improvements 9-11
9.9.2 TP-02: Secondary Clarifier Improvements 9-11
9.9.3 TP-03: Aeration Blower Replacement 9-11
9.9.4 TP-04: Disinfection Building / Hydraulic Improvements 9-11
9.9.5 TP-05: Effluent Pump Station Improvements 9-12
9.9.6 TP-06: Grit Separation / Odor Control Improvements 9-12
9.9.7 TP-07: TPS Pump Replacement 9-12
9.9.8 TP-08: Sludge Recirculation Pump Replacement 9-12
9.9.9 TP-09: Mechanical Dewatering Improvements 9-12
9.9.10 TP-10: Plant Drain Pump Station No. 1 Improvements 9-12
9.9.11 TP-11: SCADA Master Plan 9-12

9.9.12 TP-12: SCADA Improvements 9-12
9.9.13 TP-13: PLC and RIO Improvements 9-12
9.9.14 TP-14: Secondary Treatment Expansion Planning 9-13
9.10 General Projects 9-13
9.10.1 G-01: Gravity Collection System Model 9-13
9.11 Summary of CIP 9-13

Chapter 10 - Financial Plan

10.1 Introduction 10-1
10.2 Past Financial Performance 10-1
10.2.1 Comparative Financial Statements 10-1
10.2.2 Findings and Trends 10-7
10.3 Financial Plan 10-8
10.3.1 Capital Funding Plan 10-8
10.4 Available Funding Assistance and Financing Resources 10-13
10.4.1 City Resources 10-13
10.4.2 Outside Resources 10-14
10.5 Financial Forecast 10-16
10.5.1 Current Financial Structure 10-17
10.5.2 City Funds and Reserves 10-21
10.6 Current and Projected Rates 10-23
10.6.1 Current Rates 10-23
10.6.2 Projected Rates 10-23
10.7 Affordability 10-25
10.8 Conclusion 10-25

Appendices

Appendix A Approvals
Appendix B Agency Comment Letters and Responses
Appendix C Demographic Projections
Appendix D Flow Monitoring Report
Appendix E Hydraulic Model Development
Appendix F I/I Program Reports
Appendix G Local Limits Program Reports

Appendix H Wastewater Treatment Plant Permits

Appendix I Wastewater Treatment Engineering Reports

Appendix J Spill Response Plan

Appendix K CIP Project Sheets

Appendix L Funding Programs

Appendix M O&M APE Examples

Tables

Table ES.1	Hydraulic Model Flow Projections Summary	ES-5
Table ES.2	Current and Projected WWTF Flows	ES-6
Table ES.3	Current and Projected WWTF Loads	ES-6
Table ES.4	Per Capita I/I Compared to EPA Criteria	ES-13
Table ES.5	Recommended Pipe Capacity Improvements Projects	ES-15
Table ES.6	Recommended Lift Station Improvement Projects	ES-15
Table ES.7	Recommended WWTF Improvement Projects	ES-16
Table ES.8	Capital Improvement Plan Summary	ES-19
Table 1.1	WAC Plan Requirements	1-5
Table 2.1	Service Policies and Extensions	2-3
Table 2.2	Environmental Stewardship Policies	2-7
Table 2.3	Design Criteria Policies	2-9
Table 2.4	Flow Requirement	2-11
Table 2.5	Wastewater Treatment Plant Redundancy and Reliability Requirements	2-13
Table 2.6	Financial Policies	2-15
Table 2.7	Regulatory Requirements	2-17
Table 2.8	NPDES Influent Design Criteria and Effluent Limits	2-19
Table 3.1	Population Summary	3-5
Table 3.2	Comprehensive Plan Land Use Summary	3-5
Table 3.3	Wastewater Flow Factor Development Summary	3-9
Table 3.4	Industrial Customer Flows	3-10
Table 3.5	ADWF Projections for Hydraulic Modelling	3-10
Table 3.6	PWWF Flow Projections for Hydraulic Modelling	3-12
Table 3.7	Flow Projections Summary	3-12
Table 3.8	WWTF Influent Flow Projection	3-13

Table 3.9	Current and Projected WWTF Loads	3-13
Table 4.1	Summary of Pipe Infrastructure by Type	4-2
Table 4.2	Summary of Gravity Sewer Infrastructure by Size	4-7
Table 4.3	Summary of STE Infrastructure by Size	4-8
Table 4.4	Summary of Lift Stations	4-9
Table 4.5	Unit Process Capacity	4-14
Table 4.6	Five-Year NPDES Permit Violation Summary	4-20
Table 4.7	Adjacent Service Areas WWTFs	4-20
Table 4.8	City of Portland Station Precipitation 2017-2022	4-23
Table 4.9	Camas Booster Pump Stations	4-31
Table 5.1	Annual Report Calculated I/I	5-4
Table 5.2	2015 Smoke Test Results	5-5
Table 5.3	2015 Manhole Inspection Results	5-6
Table 5.4	Summary of I/I Projects and Costs Listed in 2016 I/I Study	5-7
Table 5.5	Completed I/I Projects	5-7
Table 5.6	Franklin Street Sewer Project I/I and Flow	5-8
Table 5.7	Mill Ditch Project I/I and Flow	5-8
Table 5.8	Per Capita I/I Compared to EPA Criteria	5-9
Table 5.9	Planned I/I Projects	5-9
Table 6.1	Pump Station Evaluation	6-13
Table 6.2	STEP Pump Station Percent of Time Running During the Day Based on Pump Hours	6-14
Table 6.3	Recommended Pipe Capacity Projects	6-31
Table 6.4	Recommended Pump Station Improvement Projects	6-32
Table 7.1	NPDES Permit Effluent Limits for Permit No. WA0020249	7-2
Table 7.2	Reuse Alternative Cost Comparison	7-3
Table 7.3	Current and Projected Flows	7-4
Table 7.4	Current and Projected Loads	7-4
Table 7.5	Design Criteria for Each WWTF Component	7-6
Table 7.6	Conditions and Capacity Findings from the WWTF Conditions Assessment	7-7
Table 7.7	Filter Bypass Modification Costs	7-10
Table 7.8	Replacement Costs for Secondary Clarifier No. 1	7-11

Table 7.9	Aeration Basin Diffuser Modification Costs	7-12
Table 7.10	SC No. 2's RAS Pumps Replacement Costs	7-13
Table 7.11	Aeration Blower Replacement Costs	7-14
Table 7.12	UV Disinfection System Replacement Costs	7-15
Table 7.13	Effluent Pump Replacement Costs	7-16
Table 7.14	Grit-Separation Improvement Costs	7-17
Table 7.15	Thickened Primary Sludge Pump Replacement Cost	7-17
Table 7.16	Sludge Recirculation Pump Replacement Cost	7-18
Table 7.17	Dewatering Centrifuge Improvement Costs	7-19
Table 7.18	Camas WWTF Control System Upgrade Cost	7-21
Table 7.19	Plant Drain Pump Station No. 1 Replacement Cost	7-22
Table 7.20	Odor Control Improvement Costs	7-23
Table 7.21	Recommended WWTF Project Costs	7-25
Table 7.22	Recommended WWTF Project Implementation Schedule	7-26
Table 8.1	Wastewater Utility Operator Certifications	8-2
Table 8.2	Summary of WWTF Sewer Lift Station Maintenance	8-5
Table 9.1	Pipeline Construction Unit Costs	9-2
Table 9.2	Capital Improvement Plan Summary	9-5
Table 9.3	CIP Planning Period Summary	9-13
Table 9.4	CIP Summary by Project Type	9-15
Table 10.1	Summary of Historical Fund Resources and Uses Arising from Cash Transactions	10-3
Table 10.2	Summary of Historical Comparative Statements of Net Position	10-5
Table 10.3	10-Year and 20-Year CIPs	10-9
Table 10.4	10-Year CIP (Escalated $)	10-11
Table 10.5	10-Year and 20-Year Capital Financing Strategy	10-16
Table 10.6	11-Year Financial Forecast	10-21
Table 10.7	Ending Cash Balance Summary	10-21
Table 10.8	Existing Schedule of Rates	10-23
Table 10.9	Proposed Schedule of Rates	10-24
Table 10.10	Community Affordability Test	10-25

Figures

Figure ES.1	Vicinity Map	ES-3
Figure ES.2	Existing Wastewater Collection System	ES-9
Figure ES.3	WWTF Aerial Image with Site Plan	ES-11
Figure 1.1	Vicinity Map	1-3
Figure 3.1	Typical Weekday vs Weekend Dry Weather Flow Variation (Meter 5-1-1)	3-3
Figure 3.2	Example Wet Weather Response (Meter 5-1-1)	3-4
Figure 3.3	Land Use	3-7
Figure 3.4	Design Storm Hyetograph	3-11
Figure 3.5	Current and Projected WWTF Loads	3-14
Figure 4.1	Sewer Service Area	4-3
Figure 4.2	Existing Wastewater Collection System	4-5
Figure 4.3	Topography	4-11
Figure 4.4	BioWin Process Flow Diagram	4-15
Figure 4.5	WWTF Aerial Image with Site Plan	4-17
Figure 4.6	Camas Wetlands Map	4-27
Figure 4.7	CARA Map	4-29
Figure 4.8	Water System Map	4-33
Figure 4.9	Wellhead Protection Capture Zones	4-35
Figure 6.1	Shallow Manholes	6-5
Figure 6.2	Existing Potential Problem Areas and Deficiencies	6-9
Figure 6.3	Build-Out Potential Problem Areas and Deficiencies	6-11
Figure 6.4	Proposed Pipeline Improvements	6-17
Figure 6.5	Area 1: HGL and Profile Plot	6-19
Figure 6.6	Area 1: HGL and Profile Plot after Improvements	6-19
Figure 6.7	Area 2: HGL and Profile Plot	6-20
Figure 6.8	Area 2: HGL and Profile Plot after Improvements	6-20
Figure 6.9	Area 3: HGL and Profile Plot	6-21
Figure 6.10	Area 3: HGL and Profile Plot after Improvements	6-21
Figure 6.11	Area 4: HGL and Profile Plot	6-22
Figure 6.12	Area 4: HGL and Profile Plot after Improvements	6-23
Figure 6.13	Area 5: HGL and Profile Plot	6-23

Figure 6.14	Area 5: HGL and Profile Plot after Improvements	6-24
Figure 6.15	Area 6: HGL and Profile Plot	6-24
Figure 6.16	Area 6: HGL and Profile Plot after Improvements	6-25
Figure 6.17	Area 7: HGL and Profile Plot Under Existing Conditions	6-26
Figure 6.18	Area 7: HGL and Profile Plot under Build-Out Conditions with Upstream Improvement Projects Completed	6-26
Figure 6.19	Area 7: HGL and Profile Plot under Build-Out Conditions with All Improvement Projects Completed	6-27
Figure 6.20	Area 8: HGL and Profile Plot under Build-Out Conditions	6-27
Figure 6.21	Area 8: HGL and Profile Plot under Build-Out Conditions, with Improvement Project	6-28
Figure 6.22	Area 9: HGL and Profile Plot under Build-out Conditions	6-28
Figure 6.23	Area 9: HGL and Profile Plot under Build-out Conditions, with Improvement Project	6-29
Figure 6.24	Overview of Potential STEP Main Model	6-35
Figure 8.1	Organization Structure Chart	8-3
Figure 9.1	Cost by Project Type	9-14

Abbreviations

°F	degrees Fahrenheit
AACE	American Associate of Cost Estimators
AAF	average annual flow
AB	aeration basin
AC	alternating current
ACH	changes per hour
ADWF	Average Dry Weather Flow
AKART	all known, available and reasonable methods of prevention, control and treatment
Anx	Anoxic Zone
aSRTs	aerobic solids retention times
ATS	automatic transfer switch
BOD	biochemical oxygen demand
BOD_5	5-day biochemical oxygen demand
CARA	Critical Aquifer Recharge Area
Carollo	Carollo Engineers, Inc.
CCTV	closed-circuit television
CFD	computational fluid dynamics
CFM	cubic feet per minute
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIP	Capital Improvement Plan
City	City of Camas
CMC	Camas Code of Ordinances / Municipal Code
CMMS	Computerized Maintenance Management System
CWA	Clean Water Alliance
d	depth
D	diameter
d/D	depth versus diameter
DMR	discharge monitoring report
DMZ	demilitarized zone
DNS	determination of non-significance
DO	dissolved oxygen
DOE	Department of Ecology
DWF	dry weather flow
E&IC	electrical instrumentation and control
EA	Environmental Assessment
Ecology	Washington State Department of Ecology

ENR	Engineering News Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FOG	fats, oil and grease
FONSI	finding of no significant impact
ft	feet
ft/sec	feet per second
ft^3	cubic feet
gal	gallon
GIS	geographic information system
GMA	Washington Growth Management Act
gpad	gallons per acre per day
gpcd	gallons per capita day
gpd	gallons per day
gpd/sq ft	gallons per day per square foot
gpm	gallons per minute
GSP	general sewer plan
GWI	groundwater infiltration
HDPE	high-density polyethylene
HGL	Hydraulic Grade Line
HMI	human-machine interface
hp	horsepower
hr	hour
I/I	Inflow and Infiltration
IDWF	Influent Dry Weather Flow
in	inch(es)
lbs/day	pounds per day
LEL	Lower Explosive Limit
LF	linear feet
LOS	level of service
LS	lift station(s)
MG	million gallons
$Mg(OH)_2$	Magnesium Hydroxide
mg/L	milligrams per liter
mgd	million gallons per day
MH	manhole
mi	mile
mL	milliliter

mL/g	milliliters per gram
MLSS	mixed liquor suspended solids
mm	millimeter
MMF	maximum monthly flow
MS4	Municipal Separate Storm Sewer System
n	Manning's Coefficient
N/A	Not applicable
NASSCO	National Association of Sewer Service Companies
NEPA	National Environmental Policy Act
NH4	ammonia
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
O&M	operation and maintenance
Orange Book	Ecology's Criteria for Sewage Works Design book
Ox	Aerobic Zone
PC	primary clarifier
PCB	polychlorinated biphenyl
PDCs	power distribution centers
PDF	peak day flow/load
PDX	Portland Airport
Penn Valley	Penn Valley Pump Company, Inc.
PHD	peak hour demand
PHDF	peak hour demand flow
PHF	peak hour flow
Plan	City of Camas General Sewer Plan
PLC	programmable logic controller
ppcd	pounds per capita day
ppd	pounds per day
ppm	parts per million
PS	Pump Station???
psi	pounds per square inch
PVC	polyvinyl chloride
PWWF	peak wet weather flow
QA/QC	quality assurance and quality control
RAS	Return Activated Sludge
RCW	Revised Code of Washington
RDI/I	rainfall dependent infiltration and inflow
RIOs	remote input/output

R&R	repair and replacement
SAx	Anaerobic Selector Zone
SC	secondary clarifier
SCADA	supervisory control and data acquisition
SEPA	State Environmental Policy Act
SPA	state point analysis
SR	State Route
SSO	sanitary sewer overflow
STE	septic tank effluent
STEF	septic tank effluent filter
STEG	septic tank effluent gravity
STEP	septic tank effluent pump
SU	standard units
SVI	sludge volume index
SWCAA	Southwest Clean Air Agency
SWPPP	stormwater pollution prevention plan
TCLP	toxic characteristic leachate procedure
TM	technical memorandum
TP	treatment plant
TSS	Total Suspended Solids
UGA	Urban Growth Area
UGB	Urban Growth Boundary
UV	ultraviolet
VCP	vitrified clay pipe
VFD	variable frequency drive
WAC	Washington Administrative Code
WAS	Waste Activated Sludge
WRF	water reclamation facility
WSE	water surface elevations
WTP	water treatment plant
WWTF	wastewater treatment facility
WWTFO	Washington Wastewater Treatment Facility Operator

EXECUTIVE SUMMARY

ES.1 Introduction

The City of Camas (City) is located in Clark County, Washington near the border of Washington and Oregon along the Columbia River near Vancouver, Washington. The City owns and operates most of the sewer collection system within the City limits and its urban growth boundary (UGB). The collection system is a combination of gravity sewers, pump stations, force mains, and septic tank effluent pump (STEP) systems. Wastewater is collected and treated by the City at the Camas Wastewater Treatment Plant and then discharged to the Columbia River.

The purpose of the City's General Sewer Plan (Plan) is to develop a clear and logical path to manage the collection system over the next 20 years. The Plan results from an evaluation of the sanitary sewer system which identified deficiencies and concerns that must be addressed to provide service to existing users, as well as improvements needed to accommodate growth. Key elements addressed in the Plan include:

- The need and timing of the replacement of older, deteriorating sanitary sewer facilities within large, neighborhood-size areas within the City.
- The evaluation of system capacity to address both existing deficiencies and potential development.
- The identification of sanitary sewer lift stations and force mains requiring removal, rehabilitation, and replacement.
- The City's Infiltration and Inflow (I/I) program to evaluate options and needs for I/I reduction.
- Implementation of recommended improvements by priority which maintains affordable rates for the system users.

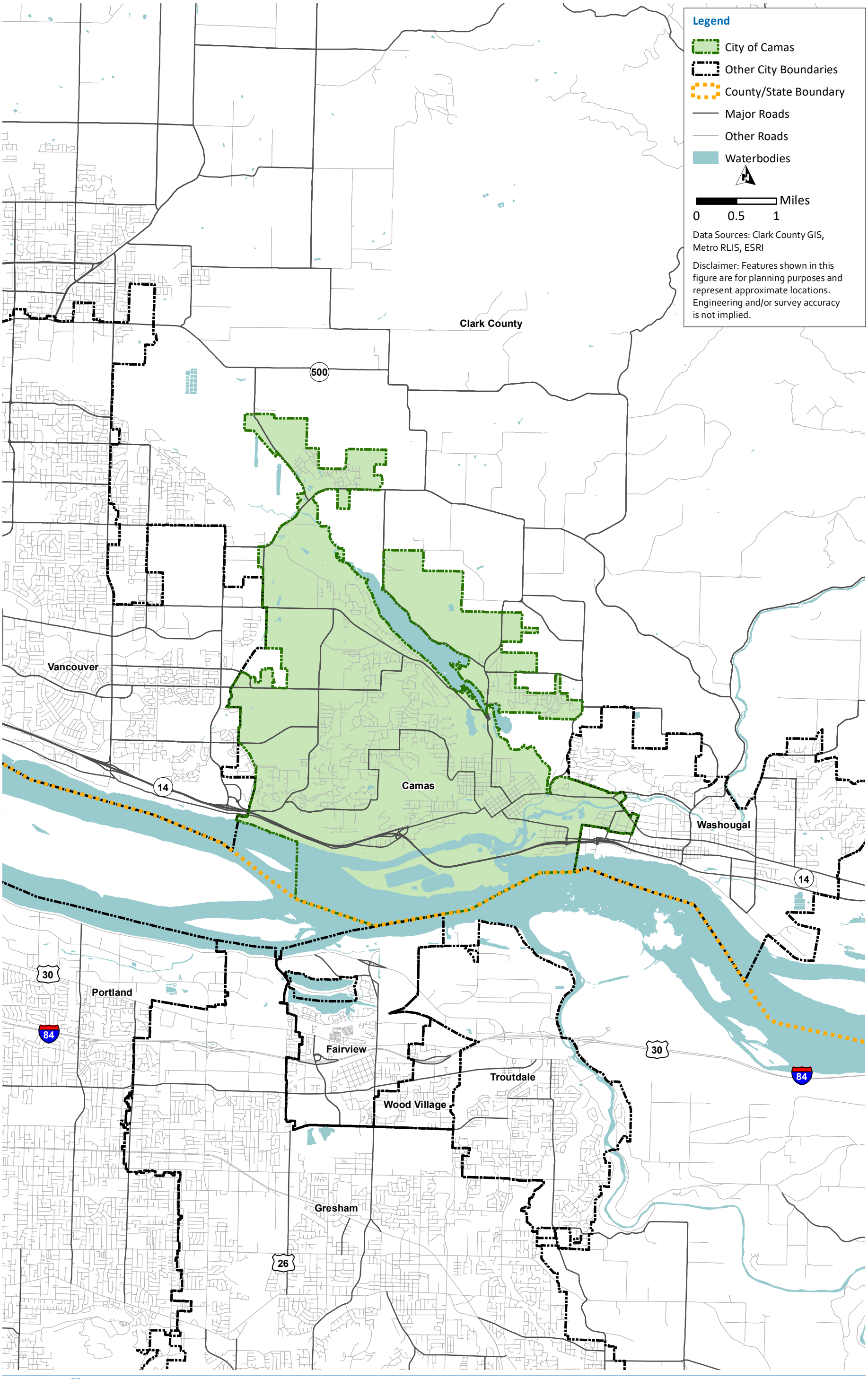
ES.1.1 Sewer Service Area

A map of the sewer service area is presented in Figure ES.1.

ES.2 Policies

The City is responsible for managing and operating its wastewater system in accordance with all local, state, and federal regulations. To best manage the wastewater system and comply with regulations, the City has adopted wastewater system policies and criteria. These policies guide the development and financing of the infrastructure required to provide wastewater service and document the City's commitments to current wastewater system customers as well as those considering service from the City. The following policies and criteria are summarized in Chapter 2 - Policies:

- Environmental Stewardship.
- Design Criteria and Standards.
- Financial Policies.
- Regulatory Requirements.



carollo

Last Revised: June 16, 2022 Carollo\Documents\Client\WA\Camas\11418A00\GIS\MXD\Vicinity Map.mxd

Figure ES.1 Vicinity Map

ES.3 Basis of Planning

Chapter 3 of the Plan presents flow projections for the collection system and wastewater treatment facility (WWTF) based on demographic growth projections from the *2035 Comprehensive Plan*. Slightly different methodologies are used to project wastewater flows in the collection system and WWTF due to the requirements of the analyses and availability of data. Two major factors drive these differences. First, the collection system analysis considered flow monitoring data collected during a four-month period in the winter of 2018 and 2019, while the WWTF analysis uses historical influent data from 2015 through 2018. Second, the WWTF was assessed using flows projected for 2035, while collection system flows consider both 2035 and buildout of the service area. Collection system piping is typically sized using the buildout period projections since these pipes have a 75-year service life.

ES.3.1 Collection System Flow Projections

The collection system flow projections were developed for use in the City's calibrated hydraulic model of the sewer system. The modeled system corresponds with the study area of the 2019 flow monitoring program, which focused on the lower basins in the collection system closest to the WWTF. The data collected during the flow monitoring program was used along with population growth projections, land use development projections, and wastewater flow factors to develop the flow projections presented in Table ES.1.

Table ES.1 Hydraulic Model Flow Projections Summary

Planning Horizon	ADWF (mgd)	PWWF (mgd)	Peaking Factor (PWWF : ADWF)
2018	0.80	5.45	6.8
2035	1.63	13.33	8.2
Buildout	2.63	14.86	5.7

Notes:
Abbreviations: ADWF - average dry-weather flow; mgd - million gallons per day; PWWF - peak wet weather flow.

ES.3.2 WWTF Flow and Load Projections

The City's WWTF receives flows from the gravity collection system, septic tank effluent, and the septage receiving station. The sum of these flows is greater than the collection system flow projections because the analysis performed for this Plan only focused on the portion of the system included in the hydraulic model and did not include septic tank flows, which constitute up to 50 percent of the total influent flow. Thus, load and peak hour flow projections were developed independently for the WWTF based on measured influent flows and wastewater characteristics, typical septage and STEP system characteristics, and population growth projections. The City expects that half of additional plant flow from population growth within the service area will come from the gravity sewer system, while the other half of the additional flow will come from the STEP system. The influent flow projections developed for the WWTF are summarized in Table ES.2.

Table ES.2 Current and Projected WWTF Flows

Flow Parameter	2021 Flow (mgd)	2035 Flow (mgd)
ADWF	2.2	3.4
AAF	2.8	4.0
MMF	4.8	6.2
PDF	8.4	10.8
PHF	10.0	13.5

Notes:
Abbreviations: AAF - average annual flow; MMF - maximum monthly flow; PDF - peak day flow/load; PHF - peak hour flow.

Wastewater loading data which are related to effluent limitations contained in the City's WWTF National Pollution Discharge Elimination System (NPDES) permit were also projected to evaluate treatment capacity for future conditions. Historical values for 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and ammonia (NH_3) and projections to 2035 are detailed in Table ES.3.

Table ES.3 Current and Projected WWTF Loads

Load Parameter	2021 Load (ppd)	2035 Load (ppd)
Sewered Population[(1)]	18,900	36,000
BOD_5 (ppd)		
Average Annual	2,400	6,000
Max Month	3,300	8,200
Max Week	4,300	10,600
Peak Day	5,300	13,000
TSS (ppd)		
Average Annual	2,400	6,300
Max Month	3,300	10,500
Max Week	4,300	17,000
Peak Day	5,300	19,300
Ammonia (ppd)		
Average Annual	900	1,400
Max Month	1,100	2,000
Peak Day	1,800	4,300

Notes:
(1) Current sewered population is based on 2035 Comprehensive Plan.

ES.4 Existing System

Chapter 4 describes the sewer system within the City's service area, which is owned, maintained, and operated by the City. A map of the existing system is shown in Figure ES.2. The City's conventional system (modeled for this Plan) includes 236,200 linear feet of gravity mains, 29 lift stations, and 38,260 linear feet of force main, which convey nearly half of the total influent flow to the City's WWTF. The septic tank effluent systems convey the remainder of the total flow treated by the City's WWTF through 263,110 linear feet of dedicated sewer mains. The septic tanks provide preliminary wastewater treatment, solids settling, and some digestion such that the effluent is not as strong as raw sewage collected in the conventional system. Each septic tank in the City's service area is pumped out on a five-year cycle and the solids are trucked to the WWTF for treatment.

The City's WWTF is located along the Columbia River in the southeastern portion of its sewer service area. The WWTF was originally constructed in 1972 and has had several modifications since that time to increase capacity and improve treatment capabilities to continue to meet all effluent permit requirements. The City's NPDES effluent discharge limitations, prohibitions, and requirements are similar to other municipal facilities with standard 30/30 monthly TSS and BOD concentration limits with a mandatory 85 percent reduction in each. However, the WWTF has ammonia limits of 20 milligrams per liter (mg/L) (NH_3 as N) in the summer and 7 mg/L (NH_3 as N) in the winter. An aerial view of the WWTF with each unit process and building identified is shown in Figure ES.3.

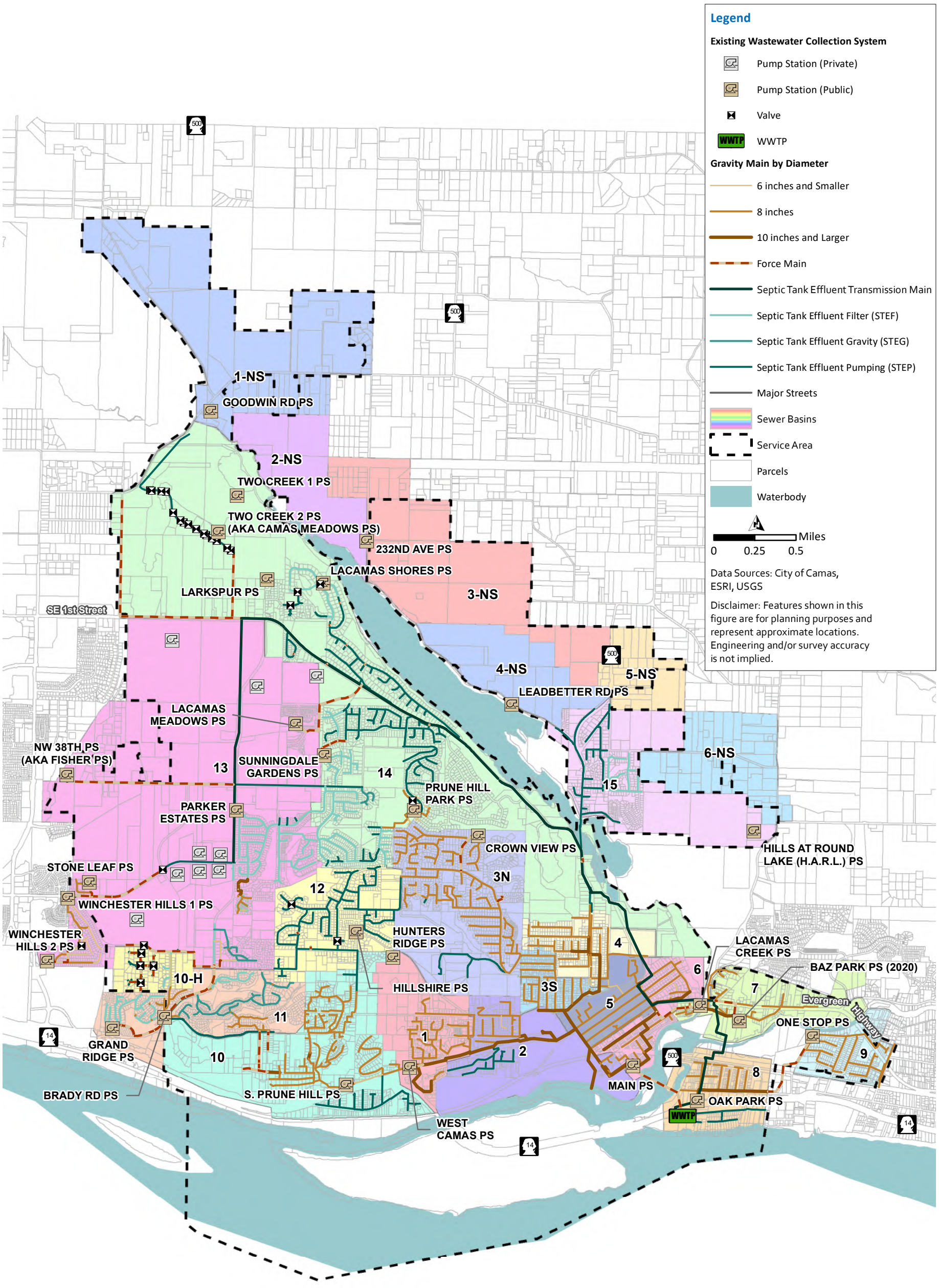


Figure ES.2 Existing Wastewater Collection System

Last Revised: June 17, 2022 pw:\\IO-PW-INT.Carollo.local:Carollo\Documents\Client\WA\Camas\11418A00\GIS\MXD\Existing_Wastewater_System.mxd



Figure ES.3 WWTF Aerial Image with Site Plan

ES.5 Infiltration and Inflow Program

Chapter 5 of this plan summarizes the City's efforts to reduce I/I from 2016 through 2020 and the quantifiable, positive improvement that has been accomplished in reducing I/I. Infiltration and inflow consist of two components which may combine or act independently to increase flow volume and peak flows in the sewer system. If too much I/I enters the sewer system such that the sewer system is operating at or above its capacity, sanitary sewer overflows (SSO) could occur. More dilute wastewater can also be more difficult to treat under percent removal NPDES permits such as those held by the City.

In 2016, the City commissioned an evaluation of the collection system to document existing infiltration and inflow as a condition of their new stormwater permit. The results of this study showed that there was excessive inflow compared to the EPA's guidelines. Since 2016, the City initiated an I/I reduction program and has completed improvement projects each year, totaling well over $1 million. A follow up study completed in 2020 showed significant improvements in I/I and improved WWTF performance. Table ES.4 summarizes the improvements in per capita I/I observed in the City's collection system. The City is continuing to invest in the collection system to further reduce I/I through a pipeline repair and replacement program along with improvements to two key lift stations: Crown View pump station and Lacamas Creek pump station.

Table ES.4 Per Capita I/I Compared to EPA Criteria

Parameter	EPA Criteria for Excessive I/I (gpcd)	I/I Value for Camas in 2014 (gpcd)	Current I/I Value for Camas (gpcd)
EPA Excessive Infiltration Criteria	120	80	46
EPA Excessive Inflow Criteria	275	348	176

Notes:
Abbreviations: gpcd - gallons per capita day.

ES.6 System Analysis

Chapter 6 describes the hydraulic modeling analysis conducted for gravity pipes and pump stations in the modeled portion of the City's collection system. The modeled collection system is primarily large gravity sewers which represent a skeletonized version of the system that does not include the septic tank effluent infrastructure. The analysis identified capacity deficiencies associated with current and projected future use and recommends improvements to alleviate any identified concerns. The collection system was evaluated applying three planning scenarios:

- **Existing:** Matching existing conditions.
- **2035:** Incorporating flows related to growth through 2035 as identified in the City's comprehensive plan.
- **Build-Out:** Development of the full service area including urban growth boundary.

Performance and design criteria for the conveyance system are outlined below:

- **Performance Criteria:** During PWWF for the design storm, water levels should not exceed a maximum depth to diameter flow ratio (d/D) of 1.2 for build-out conditions, and a d/D of 1.0 for existing conditions. No surcharging (d/D>1.0) is allowed at manholes where the distance between crown of pipe and manhole rim is less than three feet.
- **Design Criteria:** New sewers shall be designed to flow at a maximum d/D of 1.0 at peak flow rates for both existing and build-out conditions.

The City's lift stations should have sufficient firm capacity to pump the PWWF during the design storm with the largest pump out of service. Other pump station and force main design criteria are presented in Chapter 2 of the Plan.

ES.6.1 Gravity Collection System Evaluation

For each planning scenario, the associated PWWF was routed through the hydraulic model. The peak hydraulic grade line in manholes and gravity pipelines was compared to the established performance criteria. Under existing conditions there are seven potential problem areas where the capacity is deficient to convey the PWWF. Two additional deficiency areas were identified in the build-out scenario.

ES.6.2 Lift Station Evaluation

The City's hydraulic model includes five out of the seven lift stations located in the gravity collection system. The estimated current and future PWWFs were compared to the five lift station firm capacities in the hydraulic model. For the two lift stations not in the model, firm capacity was compared to projected influent flows. Four of the seven lift stations did not meet the firm capacity criteria under current conditions and the deficiencies were exacerbated under build-out conditions.

ES.6.3 Recommended Improvements

When an increase in capacity is required, existing sewers can be upsized to a larger diameter pipe, or parallel or relief sewers can be constructed. Table ES.5 summarizes the recommended pipe capacity improvement project details.

It is recommended that the Main, South Prune Hill, West Camas, and Crown View Plaza PSs all be upgraded to provide pump redundancy under existing PWWF conditions. These stations do not meet the required firm capacity, based on the City's performance criteria. Table ES.6 summarizes the recommended lift station improvement project details.

Table ES.5 Recommended Pipe Capacity Improvements Projects

Project ID	Improvement Type	Location	Existing Size (inch)	Proposed Size (inch)	Length (feet)	Phase
P-1	Gravity	NW Fargo Street between NW 23rd and NW 19th Avenue	8	12	1,007	Short-term
P-2	Gravity	Division Street between NW 18th and NW 11th Avenue	8	12	2,043	Short-term
P-3	Gravity	NW 6th Place, just upstream of South Prune Hills PS	8 10	12 12	188 616	Short-term
P-4	Gravity	NW 6th Place between South Prune Hills PS and West Camas PS	10	12	588	Short-term
P-5	Gravity	NW 6th Avenue downstream of West Camas PS and through Forest Home Park	12 12	15 18	311 1,340	Short-term
P-6	Gravity	NW 6th Avenue between NW 7th Avenue and SE Adams Street	12 8	18 21	817 401	Short-term
P-7	Gravity	NE and SE Adams Street between SE 3rd Avenue and NW 6th Avenue	21 24	24 27	773 925	Short-term
P-8	Gravity	NW 18th Loop	8	12	609	Long-term
P-9	Gravity	NE 15th Avenue between NE Garfield Street and NE Franklin Street	8	18	256	Long-term

Table ES.6 Recommended Lift Station Improvement Projects

Project ID	Improvement Type	Location	Description	Phase
PS-1	Gravity	South Prune Hills	Add pump capable of pumping 664 gpm.	Existing
PS-2	Gravity	West Camas	Add pump capable of pumping 723 gpm.	Existing
PS-3	Gravity	Crown View Hill	Add pump capable of pumping 382 gpm.	Existing
PS-4	Gravity	Main	Add pump capable of pumping 1,831 gpm.	Existing
PS-5	Gravity	Lacamas Shores, Sunningdale Gardens, Winchester Hills 2	Add flow monitors and pressure sensors to get a better understanding of what happens during peak flows and their capacity to aid in future capital improvement planning.	Existing

Notes:
Abbreviations: gpm - gallons per minute.

ES.7 Wastewater Treatment Facility

Chapter 7 summarizes efforts to identify shortfalls in WWTF capacity that will prevent the City from reliably treating and disposing of projected flow and loads in compliance with their NPDES permit at the end of the planning period (i.e., year 2035). To address the identified deficiencies, an alternatives analysis of the most viable improvement options was conducted, which resulted in the development of 14 projects to be incorporated into the Plan's capital improvement program (CIP). Table ES. 7 summarizes the recommended WWTF improvement project details.

Table ES.7 Recommended WWTF Improvement Projects

Project ID	Description	Improvement Type	Phase
TP-1	This project will improve the aeration basin's performance and increase treatment capacity.	Capacity	Short-Term
TP-2	This project includes the replacement of an aging secondary clarifier and replacement of RAS pumps for another secondary clarifier.	Capacity/Condition	Short-Term
TP-3	This project replaces two of the existing aeration blowers with larger high-speed turbo blowers to meet projected aeration demands	Capacity	Short-Term
TP-4	This project enhances plant hydraulics in several areas and includes the replacement of obsolete UV disinfection equipment.	Condition/ Capacity	Short-Term
TP-5	This project increases the effluent pump station's capacity, as required, to pump 100% of 2035's projected PHFs to the outfall in the Columbia River by replacing the existing effluent pumps with larger units.	Capacity	Short-Term
TP-6	This project replaces the existing grit-separation equipment, including hydrocyclones and grit classifiers, and increases the capacity of the odor control systems servicing the grit-handling area and dewatering building, which will extend the life and reduce maintenance of new installed equipment.	Condition	Short-Term
TP-7	This replaces the existing thickened primary sudge pumps with new progressive cavity pumps.	Condition	Long-Term
TP-8	This project replaces the existing digested sludge pumps with new double-disc piston-style pumps.	Condition	Long-Term
TP-9	This project rehabilitates the existing dewatering centrifuge and modifies the space to accommodate a standby unit for redundancy.	Condition	Short-Term
TP-10	This project repairs the existing plant drain pump station No. 1's structure and replaces its pumps.	Capacity/ Condition	Short-Term
TP-11	This project prepares a SCADA master plan that will provide the City with a roadmap to prioritize and implement planned system upgrades designed to address system deficiencies and enhance facility operation. This project includes an in-depth investigation of the existing SCADA control system for the City's WWTF and associated remote sites.	Planning	Short-Term

Project ID	Description	Improvement Type	Phase
TP-12	This project upgrades the existing SCADA system to provide redundancy and take advantage of modern features, including advanced data analysis, report generation, and secure remote accessibility	Network	Short-Term
TP-13	This project includes replaces existing Modicon Quantum hardware with new, standardized PLCs and RIO cabinets for all process areas at the WWTF.	Network	Short-Term
TP-14	This project plans for a future secondary treatment expansion to accommodate flows and loads outside the planning windows.	Planning	Long-Term

ES.8 Operations and Maintenance

Chapter 8 provides an overview of the City's wastewater utility organization, staffing, and operations and maintenance (O&M) program. City staff for the drinking water system and sewer system are combined. The staff works to provide effective and efficient service for utility rate payers through regular operation and maintenance activities on these systems as outlined in the program included in this Chapter.

ES.9 Capital Improvement Plan

The CIP presented in Chapter 9 includes projects needed to accommodate growth, repair and replace aged infrastructure, and attain level of service goals. The CIP is organized and prioritized in two separate project categories short-term (2022-2031) and long term (2032-2041) periods. Projects are grouped into pipeline, pump station, STEP, I/I, maintenance, treatment plant, and general types of infrastructure work. The CIP consists of the cost estimates and schedules for the recommended improvements. Table ES.8 summarizes the recommended CIP projects and estimated project costs. Approximately $41,000,000 of capital improvement projects have been identified for the short-term and an additional $21,435,00 in improvement projects have been identified for the long-term.

ES.10 Financial Analysis

Chapter 10 presents the financial analysis performed as part of this Plan to assess program needs that will allow the City's sewer utility to remain financially viable throughout the planning period. This financial viability analysis considered the historical financial conditions, current and identified future financial and policy obligations, O&M needs, and the financial impacts of the capital projects identified in this Plan. The results of this analysis indicate that rates must increase to provide revenue sufficient to cover all utility financial obligations, including the addition of new debt and partial cash funding of the capital program through 2031. In addition to the adopted annual increases of 3.30 percent in 2022 and 2023, annual 1.75 percent adjustments from 2024 through 2026 should provide for continued financial viability while maintaining generally affordable rates.

Table ES.8 Capital Improvement Plan Summary

City of Camas
General Sewer Plan
Capital Improvement Plan

Project		CIP Project Subtotal[1]	Total CIP Cost Estimate	CIP Phasing												Project Type		
				2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Short-term (2022-2031)	Long-term (2032-2041)	Growth	Repair & Replacement	Level of Service
Capital Improvement Plan Summary																		
Gravity Pipeline																		
P-01	NW Fargo St Upsize	$ 354,000	$ 644,000	$ -	$ 644,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 644,000	$ -	0%	0%	100%
P-02	Division St Upsize	$ 717,000	$ 1,306,000	$ -	$ 1,306,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,306,000	$ -	0%	0%	100%
P-03	NW 6th Pl West Upsize	$ 282,000	$ 514,000	$ -	$ 514,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 514,000	$ -	0%	0%	100%
P-04	NW 6th Pl East Upsize	$ 207,000	$ 376,000	$ -	$ 376,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 376,000	$ -	0%	0%	100%
P-05	NW 6th Ave West Upsize	$ 454,000	$ 825,000	$ -	$ 825,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 825,000	$ -	0%	0%	100%
P-06	NW 6th Ave East Upsize	$ 339,000	$ 617,000	$ -	$ 617,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 617,000	$ -	0%	0%	100%
P-07	Adams St Upsize	$ 678,000	$ 1,235,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 554,000	$ 681,000	$ -	$ 1,235,000	$ -	50%	0%	50%
P-08	NW 18th Loop Upsize	$ 214,000	$ 389,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 389,000	50%	0%	50%
P-09	NE 15th Ave Upsize	$ 98,000	$ 179,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 179,000	50%	0%	50%
	Gravity Subtotal		**$ 6,085,000**	**$ -**	**$ 4,282,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 554,000**	**$ 681,000**	**$ -**	**$ 5,517,000**	**$ 568,000**			
Pump Station																		
PS-01	South Prune Hills Pump Station Improvements	$ 280,000	$ 510,000	$ -	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 510,000	$ -	0%	0%	100%
PS-02	West Camas Pump Station Improvements	$ 280,000	$ 510,000	$ -	$ -	$ -	$ -	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ 510,000	$ -	50%	0%	50%
PS-03	Crown View Hill Pump Station Improvements	$ 280,000	$ 510,000	$ -	$ -	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 510,000	$ -	0%	0%	100%
PS-04	Main Pump Station Improvements	$ 280,000	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 510,000	$ -	$ 510,000	$ -	50%	0%	50%
PS-05	Upgrade Pump Station Telemetry	$ 320,000	$ 14,560,000	$ -	$ -	$ -	$ 1,747,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,747,000	$ 12,813,000	50%	0%	50%
	Pump Station Subtotal		**$ 16,600,000**	**$ -**	**$ 510,000**	**$ 510,000**	**$ 1,747,000**	**$ 510,000**	**$ -**	**$ -**	**$ -**	**$ 510,000**	**$ -**	**$ 3,787,000**	**$ 12,813,000**			
General																		
G-01	Gravity Collection System Model	$ 270,000	$ 491,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 491,000	75%	0%	25%
	General Subtotal		**$ 491,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 491,000**			
STEP																		
S-01	STEP Main Flows	$ 126,000	$ 229,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 229,000	75%	0%	25%
S-02	STEP Main Modeling	$ 53,000	$ 96,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 96,000	75%	0%	25%
S-03	STEP Main Condition Assessment/ Cleaning	$ 451,000	$ 821,000	$ -	$ -	$ 821,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 821,000	$ -	0%	0%	100%
	STEP System Subtotal		**$ 1,146,000**	**$ -**	**$ -**	**$ 821,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 821,000**	**$ 325,000**			
Inflow and Infiltration																		
I&I-01	Ongoing I&I Program	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	50%	0%	50%
	Inflow and Infiltration Subtotal		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**			
Maintenance																		
M-01	WWTP R&R	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000,000	$ -	0%	100%	0%
M-02	Pump Station R&R	$ 12,000,000	$ 12,000,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 6,000,000	$ 6,000,000	0%	100%	0%
M-03	Sewer Main R&R	$ 3,000,000	$ 3,000,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,500,000	$ 1,500,000	0%	100%	0%
M-04	STEP Tank R&R	$ 2,800,000	$ 5,095,000	$ -	$ 1,019,000	$ 1,019,000	$ 1,019,000	$ 1,019,000	$ 1,019,000	$ -	$ -	$ -	$ -	$ 5,095,000	$ -	0%	100%	0%
	Maintenance Subtotal		**$ 22,095,000**	**$ 2,750,000**	**$ 1,769,000**	**$ 1,769,000**	**$ 1,769,000**	**$ 1,769,000**	**$ 1,769,000**	**$ 750,000**	**$ 750,000**	**$ 750,000**	**$ 750,000**	**$ 14,595,000**	**$ 7,500,000**			
Treatment Plant																		
TP-01	Aeration Basin Improvements	$ 189,223	$ 376,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 376,000	$ -	$ -	$ -	$ 376,000	$ -	80%	20%	0%
TP-02	Secondary Clarifier Improvements	$ 2,785,535	$ 5,539,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,539,000	$ -	$ -	$ 5,539,000	$ -	50%	50%	0%
TP-03	Aeration Blower Replacement	$ 936,557	$ 1,862,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,862,000	$ -	$ 1,862,000	$ -	100%	0%	0%
TP-04	Disinfection Building / Hydraulic Improvements	$ 629,472	$ 1,252,000	$ -	$ 1,252,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,252,000	$ -	20%	80%	0%
TP-05	Effluent Pump Station Improvements	$ 641,550	$ 1,276,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,276,000	$ -	$ -	$ -	$ 1,276,000	$ -	100%	0%	0%
TP-06	Grit Separation / Odor Control Improvements	$ 507,998	$ 1,010,000	$ -	$ -	$ -	$ 1,010,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,010,000	$ -	0%	100%	0%
TP-07	TPS Pump Replacement	$ 77,520	$ 154,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 154,000	0%	100%	0%
TP-08	Sludge Recirculation Pump Replacement	$ 256,077	$ 509,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 509,000	0%	100%	0%
TP-09	Mechanical Dewatering Improvements	$ 828,992	$ 1,648,000	$ -	$ -	$ -	$ -	$ 1,648,000	$ -	$ -	$ -	$ -	$ -	$ 1,648,000	$ -	0%	100%	0%
TP-10	Plant Drain Pump Station No. 1 Improvements	$ 260,057	$ 517,000	$ -	$ 517,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 517,000	$ -	50%	50%	0%
TP-11	SCADA Master Plan	$ 208,964	$ 209,000	$ -	$ -	$ 209,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 209,000	$ -	50%	50%	0%
TP-12	SCADA Improvements	$ 324,439	$ 645,000	$ -	$ -	$ -	$ 645,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 645,000	$ -	50%	50%	0%
TP-13	PLC & RIO Improvements	$ 978,424	$ 1,946,000	$ -	$ -	$ -	$ 1,946,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,946,000	$ -	50%	50%	0%
TP-14	Secondary Treatment Expansion Planning	$ 75,000	$ 75,000			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000	100%	0%	0%
	Treatment Plant Subtotal		**$ 17,018,000**	**$ -**	**$ 1,769,000**	**$ 209,000**	**$ 3,601,000**	**$ 1,648,000**	**$ -**	**$ 1,652,000**	**$ 5,539,000**	**$ 1,862,000**	**$ -**	**$ 16,280,000**	**$ 738,000**			
CIP Total			**$ 63,435,000**	**$ 2,750,000**	**$ 8,330,000**	**$ 3,309,000**	**$ 7,117,000**	**$ 3,927,000**	**$ 1,769,000**	**$ 2,402,000**	**$ 6,843,000**	**$ 3,803,000**	**$ 750,000**	**$ 41,000,000**	**$ 22,435,000**	**$ 17,495,700**	**$ 30,920,800**	**$ 15,018,500**
Annual Cost			$ 3,172,000	$ 2,750,000	$ 8,330,000	$ 3,309,000	$ 7,117,000	$ 3,927,000	$ 1,769,000	$ 2,402,000	$ 6,843,000	$ 3,803,000	$ 750,000	$ 4,100,000	$ 2,244,000	$ 875,000	$ 1,546,000	$ 751,000

Notes:
1. CIP Project Subtotal is project cost before contingency costs are added. CIP Project Cost = Estimated Construction Cost. Total CIP Project Cost = Estimated Construction Cost plus merkups for contingency, construction overhead (as applicable), engineering, and administration.
2. Part of existing City CIP Project.

Chapter 1
INTRODUCTION

1.1 Introduction

The purpose of the City of Camas's (City) General Sewer Plan (Plan) is to present policies and an assessment of the system to recommend facility improvements. The Plan is intended to provide a road map for accommodating growth and maintaining a high level of service for existing customers. The existing system is aging and will continue to require investment to maintain a high level of service.

The Plan results from an evaluation of the existing sanitary sewer system which provides the groundwork for recommendations to resolve existing deficiencies and concerns, as well as accommodating growth. This chapter presents the objectives of this Plan, and a brief overview of the City's wastewater collection system. A list of abbreviations is provided in the Table of Contents to assist the reader in understanding the information presented in this Plan.

This Plan and recommended improvements were prepared in accordance with requirements of Washington Administrative Code (WAC) 173-240-050, which is administered by the Washington State Department of Ecology (Ecology) and meets the requirements of the Washington Growth Management Act (GMA).

This Plan addresses the following key issues:

- The need and timing of the replacement of older, deteriorating sanitary sewer facilities within large, neighborhood-size areas within the City.
- The evaluation of the City's system capacity to address both system deficiency and potential development.
- The evaluation of sanitary sewer lift stations and force mains for removal, rehabilitation, and replacement.
- The City's Infiltration and Inflow (I/I) program to evaluate options and needs for I/I reduction.
- Implementation of recommended improvements by priority which maintains affordable rates for the system users.

1.2 Background and Goals

The City is located in Clark County, Washington near the border of Washington and Oregon. It is next to Vancouver, Washington along the Columbia River as shown in Figure 1.1. The City owns and operates most of the sewer collection system within the City limits and its urban growth boundary (UGB). The collection system is a combination of gravity sewers, pump stations, force mains, and septic tank effluent Pump (STEP) systems. Wastewater is collected and treated by the City at the Camas Wastewater Treatment Plant and then discharged to the Columbia River.

The City completed its last General Sewer Plan in 2010. The Plan provides a recognized framework for making decisions about Camas's sanitary sewer service area which includes

properties both inside the City and UGB limits. It is intended to aid decision-makers as well as users, including Wastewater Utility, City Council members, the Mayor, City staff, builders, developers, community groups, and other government agencies.

1.3 Referenced Documents

The following documents were referenced in the preparation of this Plan:

- City of Camas 2010 General Sewer Plan.
- Camas 2035 Comprehensive Plan.
- Camas Code of Ordinances.
- Washington Administrative Code, Title 173. Defines the structure of general sewer plans.
- Criteria for Sewage Works Design (Ecology, 2008). Provides guidance for the design of municipal sewer systems and establishes minimum requirements in the State of Washington.
- Camas 2016 Water System Plan.

1.4 Washington State Requirements

The goals of this Plan, to meet the requirements from the Washington State Criteria for Sewage Works Design, include:

- Prepare the Plan in compliance with WAC Chapter 173-240-050.

Each WAC requirement is detailed in Table 1.1 as well as the location within the plan.

Table 1.1 WAC Plan Requirements

Requirement	Location in Plan
Purpose and need for the proposed plan	Chapter 1
Discussion of who will own, operate, and maintain the system	Chapter 2
Existing and proposed service boundaries	Chapter 4
Layout map including:	
• Proposed sewers and areas proposed to be served by each.	Figures 4.1 and 4.2
• Boundary lines of municipality or district and vicinity.	Figure 1.1
• Existing sewers and areas served by each.	Figure 4.2
• Topography and elevations of existing and proposed ground.	Figure 4.3
• Information on streams, lakes, other bodies of water, and discharges.	Figure 4.6 and 4.8
• Information on water systems.	Figure 4.8
Population trends and methods used to determine those trends	Chapter 3
Information on existing wastewater facilities in the area	Chapter 4, Chapter 7
Discussion of infiltration and inflow problems	Chapter 5
Discussion of the provisions for treatment, discharge, and reuse	Chapter 6, Chapter 7
Information on facilities producing industrial wastewater	Chapter 4
Information on existing wells or other water supply sources	Chapter 4
Discussion of alternatives evaluated, and alternatives chosen	Chapter 6, Chapter 7
Information on existing and proposed cost per service	Chapter 10
Statements regarding compliance with SEPA and, if applicable, NEPA	Appendix A

Notes:
Abbreviations: SEPA – Washington State Environmental Policy Act; NEPA – National Environmental Policy Act.

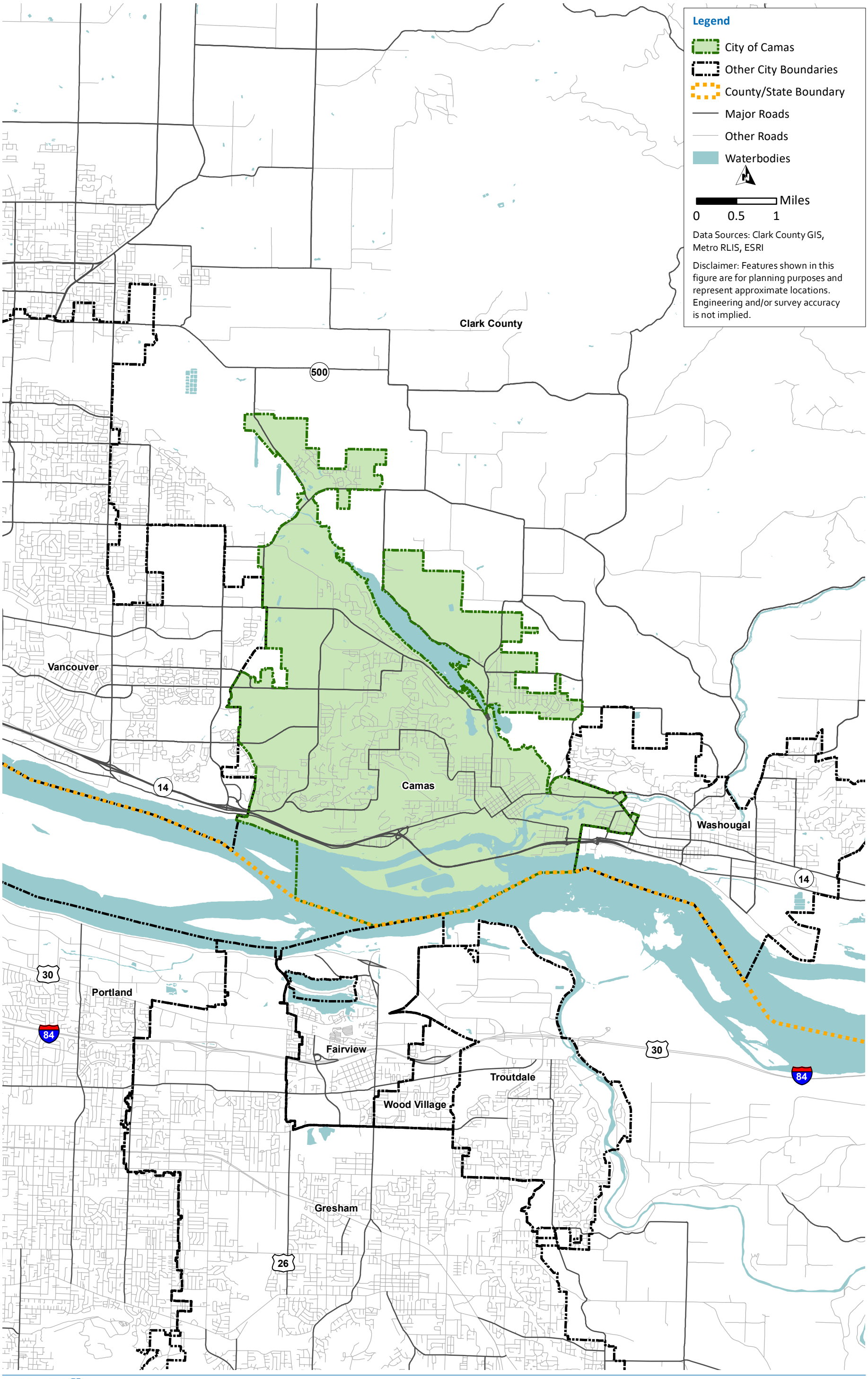


Figure 1.1 Vicinity Map

1.5 Report Organization

This Plan contains ten chapters, followed by appendices that provide supporting documentation for the information presented in the report. The chapters are briefly described below:

- **Chapter 1 - Introduction:** This chapter presents the need for this Plan and the objectives of the study. Lists of abbreviations and reference materials are also provided to assist the reader in understanding the information presented.
- **Chapter 2 - Regulations, Policies, and Criteria:** This chapter documents applicable regulations, summarizes City policies impacting long-term sewer system planning, and presents the City's design criteria which are relevant to sewer system planning.
- **Chapter 3 - Basis of Planning:** This chapter presents an evaluation of historical wastewater flows and loads through the City's collection system and entering the wastewater treatment facility (WWTF). This chapter also establishes the WWTF's flow and load projections based upon future population growth for a 2035 projection and build out.
- **Chapter 4 - Existing System:** This chapter describes the City's existing sewer collection system, adjacent sewer service areas, and WWTF.
- **Chapter 5 - I/I Program:** This Chapter focuses on summarizing the City's efforts on I/I reduction from 2016 through 2018. It summarizes the amount of I/I for these years and specific projects completed to address I/I.
- **Chapter 6 - Collection System:** This chapter presents an evaluation of the available capacity of the existing system to convey current and future sewer flows. Recommendations are provided for improvement projects to address capacity deficiencies and level of service goals.
- **Chapter 7 - Wastewater Treatment Facility:** This chapter summarizes the WWTF Engineering report including condition of existing processes, capacity of existing processes and recommendations that will allow the City to reliably and cost-effectively serve their customers now and into the future.
- **Chapter 8 - Operations and Maintenance:** This chapter provides an overview of the City's Wastewater Utility organization, staffing, and operation and maintenance (O&M) program. This chapter documents existing practices and identifies changes that may improve system operation and maintenance.
- **Chapter 9 - Capital Improvement Program:** This chapter describes the improvements necessary to resolve existing and future deficiencies and accommodate growth. The proposed improvements are also listed by priority and project type.
- **Chapter 10 - Financial Analysis:** This chapter evaluates the financial status of the City's wastewater utility and the ability to finance CIP projects.

Additionally, Technical Memoranda (TM) are included in the appendices as follows:

- **Appendix E - TM 01: Hydraulic Model Update and Calibration.**

Other appendices are included as follows:

- **Appendix A - Approvals.**
- **Appendix B - Agency Comment Letters and Responses.**
- **Appendix C - Demographic Projections.**
- **Appendix D - Flow Monitoring Report.**

- **Appendix E - TM 01: Hydraulic Model Update and Calibration.**
- **Appendix F - I/I Program Reports.**
- **Appendix G - Local Limits Program Reports.**
- **Appendix H - Wastewater Treatment Plant Permits.**
- **Appendix I - Wastewater Treatment Engineering Report.**
- **Appendix J - Spill Response Plan.**
- **Appendix K - CIP Project Sheet.**
- **Appendix L - Financial Backup.**
- **Appendix M - O&M APE Examples.**

1.6 SEPA and Approval Process

A SEPA Checklist has been prepared for this Plan and is presented in Appendix A. It is anticipated that this proposed Plan will not have a probable significant adverse impact on the environment and that an environmental impact statement (EIS) will not be required. However, many of the projects proposed herein will require SEPA checklists and an engineering determination will be made with each individual project.

This Plan includes review by adjacent utility systems. All comments are included in Appendix B, Agency Comment Letters and Responses.

1.7 Acknowledgements

Carollo Engineers, Inc. (Carollo) and their team members would like to acknowledge and thank the following individuals for their efforts and assistance in completing this Plan. Their cooperation and courtesy in obtaining a variety of necessary information were valuable components in completing and producing this report:

- Bob Busch, City of Camas, Wastewater Treatment Plant Operations Supervisor.
- Sam Adams, City of Camas, Utilities Manager.

Chapter 2

POLICIES AND CRITERIA

2.1 Introduction

The City of Camas (City) is responsible for managing and operating its wastewater system in accordance with all local, state, and federal regulations. To best manage the wastewater system and comply with regulations, the City has adopted wastewater system policies and criteria. These policies guide the development and financing of the infrastructure required to provide wastewater service and document the City's commitments to current wastewater system customers as well as those considering service from the City. The following sections outline the City's policies and design criteria that are relevant to sewer system planning. Existing policies are listed in Table 2.2 through Table 2.5. Proposed new policies are also listed in each table. These policies and criteria will guide the planning process throughout this General Sewer Plan (Plan).

The policies and criteria are organized into the following categories:

- Table 2.1 - Service Policies and Extensions.
- Table 2.2 - Environmental Stewardship.
- Table 2.3 to Table 2.5 - Design Policies and Criteria.
- Table 2.6 - Financial Policies.

2.2 Sewer Service

Table 2.1 summarizes the existing policies regarding the wastewater service area and extension of sewer service to additional customers. The City is committed to serving customers in its sewer service area in accordance with established policies. The current sewer service area includes approximately 7,400 acres within its corporate boundaries. The future service area has been defined as the City's Urban Growth Boundary (UGB).

Table 2.1 Service Policies and Extensions

Subject	Policy	Source
Service Area	Where service is available, require connection to public water for domestic and irrigation needs and connection to sewer systems. The intent is to not wait for the malfunction of a well or septic system if service is available.	Camas 2035 Comprehensive Plan U-1
Service Area	Within UGAs, the City should be the sole provider of urban services.	Camas 2035 Comprehensive Plan U-4
Service Area	Extend public sanitary sewer service, which is required within urban areas, throughout urban areas. Service may be provided outside urban areas to serve areas where imminent health hazards exist.	Camas 2035 Comprehensive Plan SS-1
Utility Extension	Do not extend utilities without annexation or commitments for annexation. Exceptions may be made in cases where human health is threatened. In areas where utilities presently extend beyond City limits, but are within UGAs, the City should plan development jointly with the County. A joint development must be consistent with City standards.	Camas 2035 Comprehensive Plan U-5
System Ownership	The sanitary sewage disposal system of the city, including the treatment plant and all other parts of such system and all additions and improvements thereto and extensions thereof, which may be made hereafter, shall be considered as a part of and belonging to the water works utility of the city. The cost of the construction and installation of the hereinafter provided additions, improvements and extensions and the cost of maintenance and operation of such system as improved shall be charged to the water works utility of the city, and any rates and charges which may be collected hereafter for sewage disposal service shall be paid into the "water and sewer revenue fund" of the city, to be hereafter created.	(CMC) 13.60.010
Ownership of System - Commercial and Industrial	All STEP systems serving commercial, industrial, and other nonresidential properties shall be owned by the owner of the subject property, except for the service box at the point where the STEP system connects to the city sanitary sewer system, which shall be owned by the city. The owner shall be responsible for maintaining all components of the STEP system and its ownership and shall be responsible for pumping the STEP tank as needed and for disposing of the waste in an approved manner. The owner shall further be responsible for paying all electrical costs associated with the operation of the STEP system.	CMC 13.62.060(B)
Ownership of System - Residential	After inspection and acceptance of an installed STEP system on residential property, the city shall be the owner of all components of the STEP system with the exception of the sewer line from the structure to the tank, which shall be owned by the property owner. The city will be responsible for maintaining the components of the STEP system owned by the city, and in addition will be responsible for pumping the STEP tank and disposing of waste material when required. The owner will be responsible for maintaining the sewer line connecting the tank to the structure on the subject property. The owner will further be responsible for paying for all electrical costs associated with the operation of the STEP system.	CMC 13.62.060(A)
Construction	On and after May 1, 1949, it shall be unlawful to construct any means of sewerage or excreta disposal such as septic tanks without having first obtained a permit from the city health officer or his authorized representative.	CMC 13.60.040
Sewer Lien and Ownership	The city shall have a lien against premises to which sewer service is available for delinquent and unpaid charges for sewer services, for penalties levied pursuant to Section 13.60.050(B), for unpaid connection charges, and for unpaid sewer system development charges. All such delinquent charges shall bear interest at the rate of eight percent per annum. Such lien shall be superior to all other liens and encumbrances except general taxes and local and special assessments.	CMC 13.60.055(A)
Connections	All property owners whose property abuts a street or alley in which there is a public sanitary sewer or which is within one hundred fifty feet of a public sanitary sewer may be required to connect their private drains and sewers to the city sanitary sewer system at the direction of the city engineer. Those properties which abut a street or alley in which there is a public sanitary sewer or which are located within one hundred fifty feet of a public sanitary sewer, and which are located within a designated health hazard area or which pose a threat to the general health, shall be connected to the sanitary sewer. Such connection shall be in the most direct manner possible and with a separate connection for each residence or structure.	CMC 13.60.050(A)
Prohibited Connection	Prohibit construction of new private wells and subsurface sewage disposal systems in new developments.	Camas 2035 Comprehensive Plan U-2

Subject	Policy	Source
Application to Connect a STEP System	Any property owner seeking to connect his property to the sanitary sewer system of the city by means of a STEP system shall file an application with the public works department on a form provided by the city. The application shall contain the name and address of the owner, the location of the property to be connected to the sanitary sewer system, the nature of the structure to be constructed on the subject property, the proposed use of the subject property, the proposed location of the STEP system, the design of the STEP system, and such other information as the public works department may require. Upon receipt of any such application, the public works director, or his authorized designee, shall review the application and grant the same if he determines that the subject property is suitable for use of a STEP sanitary sewer system, and if the design, location and other information set forth in the application comply with the standards and specifications adopted by the city for STEP systems and the criteria set forth in this chapter.	CMC 13.62.030
Installation Responsibility of a STEP system	The individual owner shall be responsible for and shall pay for the installation of the STEP/ STE system, including but not limited to, service connection per CMC 13.64.050 if required, the tank, pump apparatus, control box, electrical wiring, conduit, plumbing from the structure to the tank, plumbing from the tank to the service box, excavation and backfill material. The city shall, prior to installation, determine the appropriate size tank.	CMC 13.62.040(A)
Sewer Responsibility	Sanitary sewers shall be provided to each lot at no cost to the city and designed in accordance with city standards: • Detached units shall have their own sewer service and STEP or STEF or conventional gravity system as required. • Duplex units may have up to two sewer services at the discretion of the engineering and public works departments. • Multifamily units shall have one sewer lateral per building. • Commercial or industrial units shall have privately owned and maintained sewer systems acceptable to the city.	CMC 17.19.040(C)
Right-of-Entry Agreement	Any owner seeking to connect his property to the sanitary sewer system of the city by means of a STEP system shall be required to execute a right-of-entry agreement authorizing the city and its employees to have access to the owner's property for the purpose of maintaining and inspecting the STEP system and appurtenances thereto. Such right-of-entry agreement shall be executed upon approval of an application for a STEP system.	CMC 13.62.050
Inspection	The superintendent and other duly authorized employees of the city bearing proper credentials and identification shall be permitted to enter upon all properties for the purpose of inspecting, observing, measuring, sampling, and testing sewer connections, operations, and facilities in accordance and to ensure compliance with the provisions of this chapter. No such entry or inspection shall be made without the consent of the owner or occupant of such building or premises unless the city employee shall have obtained a search warrant, or unless exigent circumstances exist that would justify an inspection and entry without obtaining a warrant.	CMC 13.68.030
Enforcement	It shall be the duty of the city health officer or his authorized agent to enforce the provisions of Sections 13.60.020 through 13.60.110 and in the performance of this duty the health officer or his duly authorized agent is authorized to enter at any reasonable hour any premises as may be necessary in the enforcement of Sections 13.60.020 through 13.60.110.	CMC 13.60.080
FOG and Capacity	Grease, oil and sand interceptors shall be provided, when in the opinion of the superintendent, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, and other harmful ingredients, except that such interceptors shall not be required for private living quarters. All interceptors shall be of a type and capacity approved by the superintendent and shall be located as to be readily and easily accessible for cleaning and inspection.	CMC 13.68.020(H)
Private System - Flush toilet	Every residence, place of business or other building or place where persons congregate, reside or are employed and which does not abut a street or alley in which there is a public sanitary sewer shall be provided with a private water-flush toilet by the owner or agent of the premises; said water-flush toilet system to be built or rebuilt, constructed and maintained in such a manner as to meet the requirements of construction and maintenance hereinafter described.	CMC 13.60.060

Notes:
Abbreviations: CMC - Camas Code of Ordinances; FOG - fats, oil, and grease; STE - septic tank effluent; STEF - septic tank effluent filter; STEP - septic tank effluent pump; UGA - urban growth area.

2.2.1 Environmental Stewardship

The following section summarizes existing policies regarding environmental stewardship.

Table 2.2 Environmental Stewardship Policies

Subject	Policy	Source
Allowable Discharges	Examples of allowable discharges include the following: • Broken water mains. • Diverted stream flows. • Rising ground waters. • Uncontaminated ground water infiltration, as defined in 40 CFR 35.2005(20). • Uncontaminated pumped ground water. • Foundation drains. • Air conditioning condensation. • Irrigation water from agricultural sources that is commingled with urban stormwater. • Springs. • Water from crawl space pumps. • Footing drains. • Flows from riparian habitats and wetlands. • Discharges from emergency firefighting activities.	CMC 14.04.070
Conditional Discharges	The following types of discharges shall not be considered illegal discharges for the purposes of this chapter if they meet the stated conditions, or unless the Director determines that the type of discharge, whether singly or in combination with others, is causing or is likely to cause pollution of surface water or groundwater: • Potable water, including water from water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary and in volumes and velocities controlled to prevent re-suspension of sediments in the stormwater system. • Lawn watering and other irrigation runoff are permitted but shall be minimized. • De-chlorinated swimming pool discharges. These discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary and in volumes and velocities controlled to prevent re-suspension of sediments in the stormwater system. • Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents are permitted if the amount of street wash and dust control water used in minimized. At active construction sites street sweeping must be performed prior to washing the street. • Non-stormwater discharges covered by another NPDES permit, provided, that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations; and provided, that written approval has been granted for any discharge to the storm drain system. • Other non-stormwater discharges. The discharges shall be in compliance with the requirements of a SWPPP, reviewed and approved by the city, which addresses control of such discharges by applying AKART to prevent contaminants from entering surface or ground water.	CMC 14.04.080
Septic System Elimination	Coordinate with Clark County to eliminate septic systems.	Camas 2035 Comprehensive Plan U-5
Illicit Connections	The following connections, both past, current, and future, to the stormwater system are expressly prohibited: • The construction, use, maintenance, or continued existence of illicit connections to the storm drain system is prohibited. • This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection. • A person is considered to be in violation of this chapter if the person connects a line conveying sewage to the MS4 or allows such a connection to continue.	CMC 14.04.090
Wastewater Discharges	Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described water or wastes to any public sewer: • Any liquid or vapor having a temperature higher than 150 °F. • Any water or waste which may contain more than 100 ppm by weight, of FOG. • Any gasoline, benzene, naphtha, fuel oil, motor oil, lubricants or other flammable or explosive liquid, solid or gas. • Any garbage that has not been properly shredded. • Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works. • Any waters or wastes having a pH lower than 5.5 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works. • Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the sewage treatment plant. • Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant. • Any noxious or malodorous gas or substance capable of creating a public nuisance.	CMC 13.68.020(C)

Notes:
Abbreviations: °F - degrees Fahrenheit; AKART - all known, available and reasonable methods of prevention, control and treatment; CFR - Code of Federal Regulations; MS4 - Municipal Separate Storm Sewer System; NPDES - National Pollutant Discharge Elimination System, ppm - parts per million; SWPP - stormwater pollution prevention plan

2.2.2 Design Criteria and Standards

The City's wastewater system design standards, design details, specifications, and construction standards are documented in the Camas Design Standards Manual (2019) available from this City's Public Works department website. Additional design requirements and recommendations applicable to the City's sewer system are found in the Washington State Department of Ecology's (Ecology) *Criteria for Sewage Works Design* book, also known as the Orange Book. Current design criteria policies are outlined in Table 2.3.

The following section summarizes the existing and proposed policies regarding system design. It is recommended that the proposed new policies listed below be adopted by the City. Within this Plan, the capacity limitations of the collection system are evaluated against the proposed new design criteria policies.

Table 2.3 Design Criteria Policies

Subject	Policy	Source
Design	• Sewer systems shall be designed and constructed to achieve total containment of sanitary wastes and maximum exclusion of I/I. No new combined sewers will be approved.	Orange Book Section C1-1.3
Sewer location	• Siting of public sanitary sewer mains and MHs shall be restricted to the public right-of-way and/or easement dedicated for this utility.	Orange Book SectionC1-1.5
Design Period	• Service laterals shall be designed for the ultimate development of the parcel being served. • Collection sewers (that is, laterals and submains) shall be designed for the ultimate development of the tributary area. • Selection of the design period for trunk and interceptor sewers shall be based on an evaluation of economic, functional, and other considerations.	Orange Book Section C1-3.2
Design Flows	• Sewer systems shall be designed on the basis of per capita flows for the design period in conjunction with a peaking factor or approved alternative methods. • Generally, the sewers shall be designed to carry at least the peak hourly flow when operating at capacity. Peak hourly flow should be the design average daily flow in conjunction with a peaking factor.	Orange Book Section C1-3.3
Lift Station Design Criteria	• The firm capacity of a pumping station shall be equal to or greater than the peak hourly design flow. Because mechanical and electrical equipment is typically designed for a 20-year life, it is recommended that the peak design flow be based on a 20-year forecast or greater. • The number of pumps selected shall allow the station to provide the peak design flow with the largest pump out of order. • The station shall be designed to remain fully operational during the 100- year flood/wave event.	Orange Book Sections C2-1.2.1 C2-1.2.3 C2-1.1
Lift Station Pump	• Pumps should be designed for pumping sewage and capable of passing solids at least three inches in diameter. Pump suction and discharge should be four inches or greater.	Orange Book Section C2-1.2.4
Design Storm	• In accordance with all applicable federal, state, and local regulations, the City should design its wastewater system facilities to adequately and reliably convey peak hour flows associated with a Design Storm event without overflowing or discharging to any water bodies. The Design Storm is defined as a 20-year interval, 24-hour storm recorded at Portland International Airport rain gauge.	Proposed New Policy
Emergency Back-up Power	• All sewage pump stations should be designed with capability for emergency power in case the primary electrical feed is out of service. A portable engine generator unit that is plugged into a pigtail at the pump station commonly provides emergency power for small pump stations. Larger pump stations should have permanent engine generator units with automatic transfer switches to transfer the electrical feed from the primary to the standby unit when a power failure is detected by the instrumentation and control system.	Orange Book Section C2-1.8.3
Surcharging	• The City's design criteria require the depth of flow versus the diameter of the pipe (d/D) ratio to be equal to or less than 1 during the design storm (no surcharging).	Proposed New Policy
Inflow/ Infiltration	• Future development shall be designed for a peak inflow and infiltration rate of 1,100 gpad.	Proposed New Policy

Notes:
Abbreviations: d/D - depth versus diameter; gpad - gallons per acre per day; MH - manhole.

2.2.2.1 Wastewater Treatment Plant Design Criteria

The Ecology maintains requirements for hydraulic and loading capacities as well as the redundancy of treatment processes and equipment. These requirements are presented in the Orange Book, Ecology's guidelines for WWTF design (2008) and are derived from the Federal standards developed by the U.S. Environmental Protection Agency (EPA). Flow requirements are detailed in Table 2.4.

Ecology's criteria for designation of WWTFs are divided into three reliability classes based on the nature of their receiving water. Corresponding redundancy and reliability requirements are presented in Table 2.5 based on Ecology's guidelines and Federal standards. These requirements are the basis of the capacity analysis.

Table 2.4 Flow Requirement

WWTF Component	Flow Requirement	Source
Influent Screens	A backup screen designed for mechanical or manual screening must be provided. Influent screens must accommodate all flows.	(1)
Primary Clarifiers	Units must be sufficient in number and size to allow peak hour design flow including recirculation flow for overflow rate and weir loading rate. Surface overflow rates recommended are 400 to 600 gpd/sq ft at average design flow and 1,200 to 1,500 gpd/sq ft at peak design flow.	(1)
Primary Sludge Pumps	A backup pump must be provided that that matches the largest pump and motor. Pumps must handle peak design flows with the largest units out of service.	(1)
Degritting Cyclone and Grit Classifier	The system must contain components to remove grit and other heavy inorganic solids.	(1), (2)
Aeration Basins	A backup basin will not be required. At least two equal volume basins must be provided. All units in service for peak flow and loading conditions.	(1)
Internal Recycle Pumps	A backup pump must be provided that that matches the largest pump and motor. Pumps must handle peak design flows with the largest units out of service.	(1), (2)
Aeration Systems	A sufficient number of aerators to enable the design oxygen transfer to be maintained with the largest unit out of service.	(1), (2)
Secondary Clarifiers	Units must be sufficient in number and size to allow PHDF including recirculation flow for overflow rate and weir loading rate.	(1)
RAS Pumps	A backup pump must be provided that that matches the largest pump and motor. Pumps must handle peak design flows with the largest units out of service.	(1)
WAS Pumps	A backup pump must be provided that that matches the largest pump and motor. Pumps must handle peak design flows with the largest units out of service.	(1)
Effluent Filters	Secondary effluent polishing filters must pass all flows requiring tertiary treatment.	(1)
UV Channel	Equipment sized to provide maximum day design flow with to meet disinfection requirements and accommodate peak hour design flow hydraulically.	(1)
Effluent Pump Station	A backup pump must be provided that that matches the largest pump and motor. Pumps must handle peak design flows with the largest units out of service.	(1)
Gravity Thickener	Redundant units provided for equipment maintenance. Ability to thicken and dewater maximum sludge production with all units in service.	(1) (2)
Rotary Drum Thickener	Redundant units provided for equipment maintenance. Ability to thicken and dewater maximum sludge production with all units in service.	(1) (2)
Primary Anaerobic Digesters	Redundant units provided for equipment maintenance. Ability to thicken and dewater maximum sludge production with all units in service.	(1) (2)
Digested Sludge Pumps	A backup pump must be provided that that matches the largest pump and motor. Pumps must handle peak design flows with the largest units out of service.	(1)
Dewatering Centrifuge	Redundant units provided for equipment maintenance. Ability to thicken and dewater maximum sludge production with all units in service.	(1) (2)
Biosolids Dryer	Redundant units provided for equipment maintenance. Ability to thicken and dewater maximum sludge production with all units in service.	(1) (2)

Notes:
(1) Criteria for Sewage Works Design (Ecology, 2008).
(2) Design Criteria for Mechanical, Electric, and Fluid Systems and Component Reliability (EPA, 1974).
Abbreviations: gpd/sg ft - gallons per day per square foot; PHDF - peak hour demand flow; RAS - return activated sludge; UV - ultraviolet; WAS - waste activated sludge.

Table 2.5 Wastewater Treatment Plant Redundancy and Reliability Requirements

WWTF Component	Flow Criteria	Load Requirement	Redundancy
Influent Screens	Pass all flows	-	1 Unit Out of Service
Primary Clarifiers	PHF + Recirculation	Peak Hour Design Load (1)	All Units in Service
Primary Sludge Pumps	Peak Instantaneous Design Flow	Maximum Daily Design Load	1 Unit Out of Service
Degritting Cyclone	PHF	-	Minimum 2 Units
Grit Classifier	PHF	-	1 Unit Out of Service
Aeration Basins	Maximum Week Design Flow Maximum Daily Design Flow	Maximum Daily Design Load Maximum Daily Design Load	All Units in Service All Units in Service
Internal Recycle Pumps	PHF	-	1 Unit Out of Service
Aeration Systems	-	Peak Hour Design Load (2)	1 Unit Out of Service
Secondary Clarifiers	PHF + Recirculation	Peak Hour Design Load (1)	All Units in Service
RAS Pumps	MMF	-	1 Unit Out of Service
WAS Pumps	Peak Instantaneous Design Flow	Maximum Daily Design Load	1 Unit Out of service
Effluent Filters	All flows requiring tertiary treatment	-	-
UV Channel	PHF	-	1 Unit Out of Service
Effluent Pump Station	Peak Instantaneous Design Flow	-	1 Unit Out of Service
Gravity Thickener	-	Maximum Daily Design Load (2)	1 Unit Out of Service
Rotary Drum Thickener	-	Maximum Daily Design Load (2)	1 Unit Out of Service
Primary Anaerobic Digesters	-	Maximum Daily Design Load (2)	1 Unit Out of Service
Digested Sludge Pumps	-	-	1 Unit Out of Service
Dewatering Centrifuge	-	Maximum Daily Design Load (2)	1 Unit Out of Service
Biosolids Dryer	-	Maximum Daily Design Load (2)	1 Unit Out of Service

Notes:
(1) Total suspended solids (TSS) loading only.
(2) 5-day biochemical oxygen demand (BOD_5) loading only.
Abbreviations: PHF - peak hour flow; MMF - maximum monthly flow

2.2.3 Financial Policies

The City's financial polies support the operation of the wastewater utility. A summary of financial polices applicable to the Plan are outlined in Table 2.6.

Table 2.6 Financial Policies

Subject	Policy	Source
Credits	Those properties that have been disconnected from the city sewer system since January 1, 1972, shall receive a credit for the prior connection. The credit for the prior connection shall be in an amount equal to the sewer system development charge for the use classification of the prior connection. The sewer system development charge imposed under this chapter shall be the difference between the amount due under the present use classification less the amount that would have been assessed under the use classification for the prior connection, provided however, that the city shall not be required to reimburse the property owner in the event the credit exceeds the sewer system development charge for the new connection.	CMC 13.72.040(A)
Credits	Those properties that are not presently connected to the city's sewer system but which have been assessed and paid a monthly penalty pursuant to Section 13.60.050(B) shall receive a credit against the sewer system development charge in an amount equal to the total monthly penalties paid prior to connection, provided however, that the city shall not be required to reimburse the property owner in the event the credit exceeds the sewer system development charge for the new connection.	CMC 13.72.040(B)
Violation	Any person, firm or corporation who violates or refuses or fails to comply with any of the provisions of Sections 13.60.020 through 13.60.110 shall be guilty of a misdemeanor and shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars or imprisoned in the city jail for a period of thirty days or by both such fine and prison term.	CMC 13.60.090
Inflow Connection	There is imposed upon those property owners who are within the area served by the sanitary system and who refuse to connect to such sanitary sewer system a penalty in an amount equal to the charge that would have been made for sewer service if such property had been connected to the sanitary sewer system. Such penalties as provided herein shall accrue monthly until such property is connected to the sanitary sewer system. All penalties collected pursuant to this provision shall be considered revenue of the sanitary sewer system.	CMC 13.60.050(B)
Sewer Service Development	Pursuant to the authority conferred upon cities and towns by RCW 35.92.020 and 35.92.025, the city council of the city finds that property owners who seek to connect property to the sewer system of the city should be assessed a charge in order that such property shall bear its equitable share of the cost of the sewer system. The council further finds that the charge should be based upon the property owner's anticipated use of the sewer system as related to the historical cost of the sewer system and the projected cost of additions to the sewer system to meet new demand. That portion of the charge based upon the historical costs of the sewer system shall be measured by the undepreciated value of the sewer system and plant in service at the time the charge is imposed. That portion of the charge based upon the projected cost of future improvements shall be based upon appropriate studies by engineers and/or financial consultants. The charge imposed by this chapter shall be denominated as a "sewer system development charge" and shall be in addition to any sewer connection or permit fees imposed by other ordinances of the city.	CMC 13.72.010
Damage to STEP	The cost of repairing any damage to a STEP system which has resulted from the negligence, gross negligence, or intentional acts of the owner shall be the responsibility of the owner. This responsibility includes any clogging which may result due to improper use of the STEP system by the owner.	CMC 13.62.070
Connection Charges for STEP	Except as hereinafter provided, the connection charge for connecting a STEP/STE sewer system to the Camas municipal sewer system shall be the cost of materials, the costs of labor for city personnel at then prevailing rate for such personnel, and the amount of any fees or charges required to be paid to any third parties in order to make such connection.	CMC 13.64.050(A)
Connection Charges for STEP	The connection charge for connecting a STEP/STE sewer system to the Camas municipal sanitary sewer system with a one-inch service line or less shall be as per the fee schedule established by the city council per resolution, or the actual cost to the city calculated in accordance with subsection A of this section, whichever is greater.	CMC 13.64.050(B)
Connection Charges for STEP	No connection charge will be assessed if a service line has already been installed connecting the subject property to the city sanitary sewer system.	CMC 13.64.050(C)

Notes:
Abbreviations: RWC - Revised Code of Washington.

2.2.4 Regulatory Requirements

The City's criteria is developed based on federal and state statues, regulations, and permits. These laws help to determine the design criteria for the City's collection, treatment, and disposal facilities. These regulatory requirements are outlined in Table 2.7.

Table 2.7 Regulatory Requirements

Subject	Policy
Federal Clean Water Act Condition S1	Condition S.1 of the City's permit requires the treatment plant effluent to meet limits for BOD_5, TSS, fecal coliform bacteria, pH, and total ammonia.
Federal Clean Water Act Condition S2	Condition S.2.lists monitoring requirements including influent and effluent flow, BOD_5, TSS, pH, temperature, total ammonia, fecal coliform, priority pollutant metals, oil and grease and cyanide. A program to address oil and grease is also required. The City must monitor twice per 5 years for effluent whole effluent toxicity and conduct quarterly and yearly priority pollutant monitoring of its influent and effluent in support of its industrial pretreatment program. Additionally, per the terms of the City's coverage under the Statewide Biosolids permit, the City must annually test its biosolids for pollutants and compliance with pathogen reduction and vector attraction reduction criteria.
Federal Clean Water Act Condition S4	Condition S.4.A specifies the WWTF design capacity for maximum month BOD_5 loading is 5,616 lbs/day and 6,405 lbs/day for TSS. The peak hour flow, dry weather monthly average, and maximum month average flow capacities for the WWTF are 11.09, 2.86 and 6.10 mgd, respectively. Condition S.4.B requires the City to prepare a plan to maintain adequate capacity when flows and loadings to the WWTF exceed 85% of design capacity for 3-consecutive months.
National Environmental Policy Act	The NEPA was established in 1969 and requires federal agencies to determine environmental impacts on all projects requiring federal permits or funding. Federally delegated activities such as NPDES permits or Section 401 Certification are considered state actions and do not require NEPA compliance. If a project involves federal action (through, for example, an Army Corps of Engineers Section 404 permit), and is determined to be environmentally insignificant, a (FONSI) is issued, otherwise an Environmental Assessment (EA) or Environmental Impact Statement (EIS) would be required. NEPA is not applicable to projects that do not include a federal component.
Federal Clean Air Act	The Federal Clean Air Act requires all wastewater facilities to plan to meet the air quality limitations of the region. The City falls in the jurisdiction of the Southwest Clean Air Agency (SWCAA). The SWCAA is responsible for enforcing federal, state and local outdoor air quality standards and regulations in Clark, Cowlitz, Lewis, Skamania and Wahkiakum counties of southwest Washington state. The Camas generator is permitted by SWCAA.
State Water Pollution Control Act	The intent of the state Water Pollution Control Act is to "maintain the highest possible control standards to ensure the purity of all waters of the state consistent with public health and the enjoyment…the propagation and protection of wildlife, birds, game, fish and other aquatic life, and the industrial development of the state." Under the RCW 90.48 and the (WAC) 173-240, Ecology issues permits for wastewater treatment facilities and land application of wastewater under WAC 246-271.
Criteria for Sewage Works Design, Ecology	Ecology has published design criteria for collection systems and wastewater treatment plants. While these criteria are not legally binding, their use is strongly encouraged by Ecology since the criteria are used by the agency to review engineering reports for upgrading wastewater treatment systems. Commonly referred to as the "Orange Book," these design criteria primarily emphasize unit processes through secondary treatment, and also includes criteria for planning and design of wastewater collection systems. Any expansion or modification of the City collection system and/or WWTF plant will require continued conformance with Ecology criteria.
Certification of Operators of Wastewater Treatment Plants, WAC 173-230	Wastewater treatment plant operators are certified by the state Water and Wastewater Operators Certification Board. The operator assigned overall responsibility for operation of a wastewater treatment plant is defined by WAC 173-230 as the "operator in responsible charge." This individual must have state certification at or above the classification rating of the plant. The City WWTF is currently assigned a Class 4 rating and the operating staff assigned to the plant have the required certification. (One of the operators has a Class 4 certification; two have Class 3 certification, and one has Class 2 certification).
Surface-Water Quality Standards (WAC 173-201A)	In the State of Washington, WAC 173-201A establishes water quality standards for surface waters based on maintaining public health, recreational use and protection of fish, shellfish, and wildlife. Surface water quality standards include five groups: AA (extraordinary), A (excellent), B (good), C (fair), and Lake Class. Each class has its own characteristic use and measurable criteria. Measurable parameters used to distinguish the different surface water classifications include fecal coliform levels, dissolved oxygen concentration, temperature, pH, and turbidity. The surface water criteria include 29 toxic substances, including ammonia, residual chlorine, several heavy metals, polychlorinated biphenyls (PCBs), and pesticides.
State Environmental Policy Act	WAC 173-240-050 requires a statement in all wastewater comprehensive plans regarding proposed projects in compliance with the SEPA, if applicable. The capital improvements proposed in this plan will fall under SEPA regulations. A SEPA checklist is included in Appendix A of this report for use in the environmental review for the project. In most cases a DNS is issued; however, if a project will have a probable significant adverse environmental impact an EIS will be required.
Accreditation of Environmental Laboratories (WAC 173-050)	The State of Washington established a requirement that all laboratories reporting data to comply with NPDES permits must be generated by an accredited laboratory. This accreditation program establishes specific tasks for QA/QC that are intended to ensure the integrity of laboratory procedures. Accreditation requirements must be met for any on-site laboratory or outside laboratory used to analyze samples. Only accredited laboratories may be used for analyses reported for compliance with NPDES permits. In planning for an on-site laboratory, staffing must be sufficient to allow for QA/QC procedures to be performed. The Camas WWTF lab is currently accredited for determination of the following parameters TSS, BOD_5, ammonia, dissolved oxygen, pH and fecal coliform.
Minimal Standards for Solid Waste Handling (WAC 173-304)	Grit and screenings are not subject to the sludge regulations in WAC 173-308, but their disposal is regulated under the state solid waste regulations, WAC 173-304. Waste placed in a municipal solid waste landfill must not contain free liquids, nor exhibit any of the criteria of a hazardous waste as defined by WAC 173-303. To be placed in a municipal solid waste landfill, grit, screenings, and incinerator ash must pass the paint filter test. This test determines the amount of free liquids associated within the solids, and includes the TCLP test, which determines if the waste has hazardous characteristics.
Shoreline Management Act	The Shoreline Management Act of 1971 (RCW 90.58) establishes a broad policy giving preference to shoreline uses that protect water quality and the natural environment, depend on proximity to the water, and preserve or enhance public access to the water. The Shoreline Management Act jurisdiction extends to lakes or reservoirs of 20 acres or greater, streams with a mean annual flow of 20 cfs or greater, marine waters, and an area inland 200 ft from the ordinary high-water mark. Projects are reviewed by local governments according to state guidelines and a local Shoreline Master Program. The Camas wastewater treatment plant and portions of the collection system are located within shoreline areas.

Notes:
Abbreviations: cfs - cubic feet per second; DNS - determination of non-significance; FONSI - finding of no significant impact; lbs/day - pounds per day; mgd - million gallons per day; NEPA - National Environmental Policy Act; TCLP - toxic characteristic leachate procedure; QA/QC - quality assurance and quality control; WAC - Washington Administrative Code

2.2.4.1 NPDES Permit

Table 2.8 presents a brief overview of relevant design criteria and effluent limitations contained in the City's WWTF NPDES Permit No. WA0020249. The City's current permit was issued September 15, 2015 and effective October 1, 2015. This NPDES permit places limits on various water quality parameters, flow rates, and waste loading pertaining to the discharge of treated effluent from the WWTF.

Table 2.8 NPDES Influent Design Criteria and Effluent Limits

NPDES Influent Design Criteria and Effluent Limits		
NPDES Influent Design Criteria		
Parameter		Value
MMF		6.1 mgd
Monthly Average Dry Weather Flow		2.86 mgd
BOD_5 Max Month Loading		5,616 lbs/day
TSS Max Month Loading		8,011 lbs/day
NH_3-N Max Month Loading		1,956 lbs/day
NPDES Effluent Limits		
Parameter	Average Monthly Limit	Average Weekly Limit
BOD_5	• 20 mg/L • 74% removal of influent • 1,017 lbs/day	• 30 mg/L • 1,525 lbs/day
TSS	• 20 mg/L • 76% removal of influent • 1,017 lbs/day	• 30 mg/L • 1,525 lbs/day
Fecal Coliform Bacteria(1)	• 200 organisms/100 mL	• 400 organisms/100 mL
NH_3-N Summer(2)	• 20 mg/L	• N/A
NH_3-N Winter	• 7 mg/L	• N/A

Notes:
(1) Geometric mean.
(2) Summer ammonia limits apply to the months of June through September.
Abbreviations: mg/L - milligrams per liter; mL - milliliter; NH_3-N - ammonia.

Chapter 3

BASIS OF PLANNING

3.1 Introduction

This chapter presents an evaluation of historical wastewater flows and loads through the City of Camas's (City's) collection system and entering the wastewater treatment facility (WWTF). This chapter establishes the WWTF's flow and load projections based upon future population growth through 2035.

The remainder of this Chapter is divided into four sections:

- Section 3.2 provides definitions for the wastewater flow terminology used in this chapter, as it is not commonly used outside of planning and design evaluations.
- Section 3.3 presents the collection system flow monitoring results, which are used to set a baseline for flow projections and development of the hydraulic model.
- Section 3.4 presents projected flows and loads for the City's collection system, which are used in hydraulic modelling evaluations.
- Section 3.5 presents projected flows and loads for the WWTF, which are used in unit process capacity evaluations.

The collection system and WWTF projections are based on demographic growth projections from the *2035 Comprehensive Plan*. However, slightly different methodologies are used to project wastewater flows in the collection system and WWTF due to the requirements of the analyses and availability of data. Two major factors drive these differences. First, the collection system uses flow monitoring data from four-month period in the winter of 2018 and 2019, while the WWTF analysis uses historical influent data from 2015 through 2018. Second, the WWTF flows ware only projected for 2035, while collection system flows are projected for 2035 and buildout period. Collection system piping is typically sized using the buildout period projections since these pipes have a 75-year service life.

3.2 Definitions

Wastewater flows are analyzed by separating dry weather flow from wet weather flow to establish base flows. These base flows identified during dry weather are then used as the basis to project both wet and dry weather flows. Due to the separate collection system and WWTF projections established, the following terminology was utilized to differentiate the various flow parameters:

- **Influent Dry Weather Flow (IDWF)** is the average daily flow during the two driest months of the year (July and August). The IDWF includes the base flow generated by the City's residential and commercial connections plus the dry weather groundwater infiltration (GWI) component. For the City, the IDWF was estimated throughout the service area based on the historical influent flow data from the WWTF.

- **Average Dry Weather Flow (ADWF)** establishes a similar flow parameter as IDWF; ADWF was differentiated as it was based upon collection system flow monitoring data period of record that differs from the IDWF.
- **Average Annual Flow/Load (AAF/AAL)** is the average flow or load that occurs over a calendar year. AAF and AAL were estimated based on the historical influent flow and load data from the City's WWTF.
- **Maximum Month Flow/Load (MMF/MML)** is the maximum 30-day running average influent flow observed at the WWTF during a calendar year. MMF and MML were estimated based on the historical influent flow and load data from the City's WWTF.
- **Peak Day Flow/Load (PDF/PDL)** is the maximum 24-hour average flow and load observed at the WWTF during a calendar year. PDF and PDL were estimated based on the historical influent flow and load data from the City's WWTF.
- **Peak Hour Flow (PHF)** is the highest observed hourly flow that occurs during the design storm. Wet weather inflow and infiltration (I/I) causes flows in the collection system to increase. PHF is typically used for designing sewers and lift stations. Therefore, the PHF and the collection system "Design Flow" are synonymous and will be used interchangeably throughout this Plan.

3.3 Collection System Flow Monitoring Results

The City contracted with ADS to conduct a temporary flow monitoring program within the City's sanitary sewer collection system. The purposes of the Flow Monitoring Program were to collect data for correlating real collection system flows with the hydraulic model's predicted flows, evaluate the system's capacity, and estimate basin I/I. The temporary flow monitoring data was collected from November 16, 2018, to March 18, 2019. The "Camas Flow Monitoring Report 2019" prepared by ADS summarizes the flow monitoring program and was submitted to the City as a stand-alone report. The report can be found as Appendix D - Temporary Flow Monitoring and RDII Analysis (ADS, 2019).

3.3.1 Average Dry Weather Flow Data

Average dry weather flow projections are derived from land use category data and corresponding wastewater flow factors. This method assumes that areas with similar land uses, such as low-density residential parcels, produce equivalent quantities of wastewater flow on a per area basis. System-wide flows can be compared to recorded flows obtained from temporary collection system flow monitors, or from the treatment plant influent flow meter to verify accuracy. This method of estimating base flows is an industry standard providing sufficiently accurate data for planning purposes.

3.3.1.1 ADWF Development

Existing ADWFs for each basin were estimated using data from the Camas flow monitoring report for each of the flow monitoring basins. ADWF was then developed using the driest days from the flow monitoring period based on the following set of minimum criteria:

- Less than 0.1 inch of rain in the previous day.
- Less than 0.4 inches of rain in the previous 3 days.
- Less than 1.0 inch of rain in the previous 5 days.
- In addition, those dry days that exhibited unusual flow patterns were not used to generate net dry day flow values for a basin.

Characteristic dry weather 24-hour diurnal flow patterns were developed for each basin from hourly data. The hourly flow data were also used to calibrate the hydraulic model for the observed dry weather flows during the flow monitoring period. Hourly patterns for weekday and weekend flows vary and were separated to better define dry weather flow. An example of the dry weather flow diurnal patterns from Flow Meter 5-1-1, are shown in Figure 3.1.

Carollo Engineers, Inc. (Carollo) estimated the average weekday and weekend dry weather levels and velocities at each site from the data provided by ADS for use in the model calibration process.

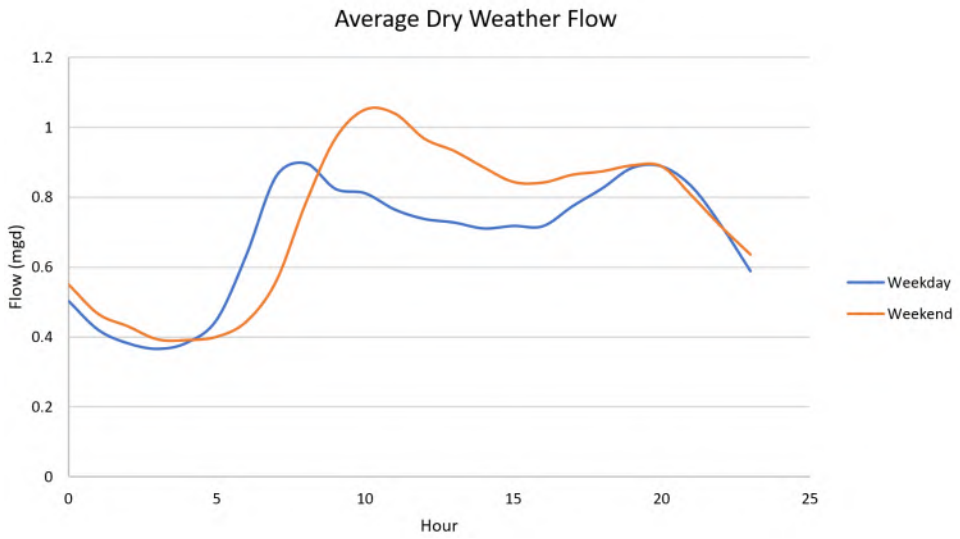


Figure 3.1 Typical Weekday vs Weekend Dry Weather Flow Variation (Meter 5-1-1)

Further detail on dry weather flow (DWF) development can be found in Appendix E - Hydraulic Model Development (Carollo, 2020).

3.3.2 Rainfall Data

An important part of the flow monitoring program is the collection and analysis of rainfall data. Three significant rainfall events occurred during the flow monitoring period, as well as other minor events. The storms recorded during this period caused an I/I response in the collection system, therefore were appropriate for I/I analysis and model calibration purposes. Further detail on the three storms used to calibrate the model can be found in Appendix E - Hydraulic Model Development (Carollo, 2020).

3.3.3 Wet Weather Flow Data

The flow monitoring data were also evaluated to determine how the collection system responds to wet weather events. As mentioned above, the flow monitoring program captured three main rainfall events. The rainfall event that occurred on December 23, 2018, was associated with the largest rainfall dependent infiltration and inflow (RDI/I) response during the flow monitoring period and is the most appropriate to be used for RDI/I analysis.

Figure 3.2 shows an example of the wet weather response at Meter 5-1-1 during the December 23, 2018, rainfall event. This figure also illustrates the volume of RDI/I that entered the system from the collection system upstream of Meter 5-1-1. The light grey line represents the

ADWF, while the green line represents the measured flow during the storm event. As can be seen in the figure, the flow increased by 4 to 8 times ADWF due to RDI/I entering the system during the wet weather events.

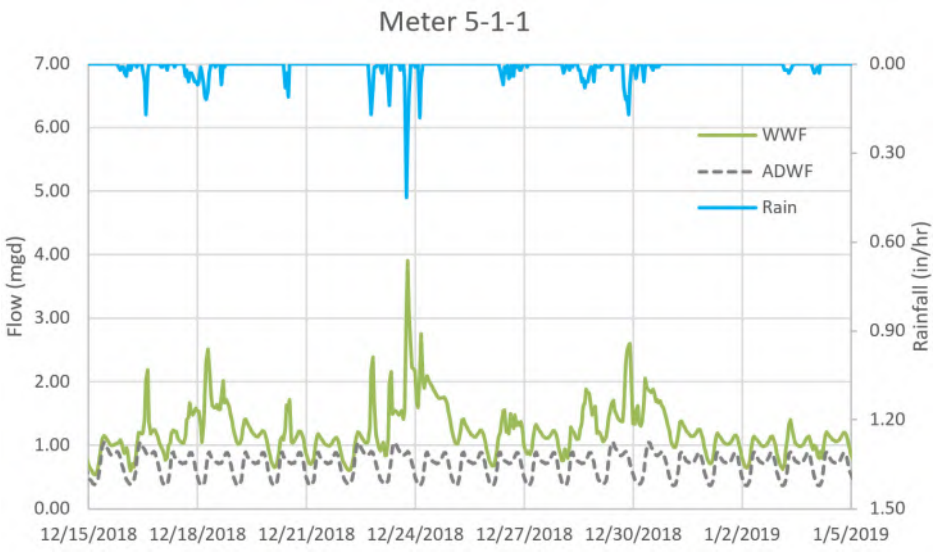


Figure 3.2 Example Wet Weather Response (Meter 5-1-1)

3.4 Collection System Flow Projections

Wastewater collection systems has several distinct flow sources based on the contributors in the service area:

1. Residential flow and base infiltration.
2. Commercial and industrial flow.
3. Wet weather I/I.

The flow from these sources have been grouped into these categories based on typical analytical procedures and the availability of information for each source. Residential flows include contributions from single family homes and multifamily units. The Washington State Department of Ecology (Ecology) issues discharge permits for the City's large industrial customers since the City does not have a pretreatment program in place. Wet weather I/I is caused by rainfall events and includes contributions from connected impervious areas such as roof drains and catch basins (inflow), and groundwater (infiltration) leaking into the collection system. The sum of these components is the complete flow through the collection system into the WWTF.

The flows throughout the collection system were estimated using the calibrated hydraulic model to predict dry and wet weather flows, as presented in Appendix E - Hydraulic Model Development (Carollo, 2021).

3.4.1 Sewered Population

Population projections are determined from the *2035 Comprehensive Plan*, the *Water SystemPlan* (Carollo Engineers, 2016), and the North Urban Growth Area Buildout Memo (BergerABAM, 2014), which are summarized by year in Table 3.1. Additional details on the

methods for population projection are available in Appendix E - Hydraulic Model Development (Carollo, 2021).

Table 3.1 Population Summary

Year	Population Projections	Source
2020	26,065	(1) (2)
2035	36,000	(3)

Notes:
(1) Population data from the Comprehensive Plan was provided for 2015.
(2) The 2020 population was taken from April 2020 census data. https://www.census.gov/quickfacts/fact/table/camascitywashington/PST045219.
(3) Population data from the Water System Plan and the North Shore Population Estimate Memo was provided for 2035. Half of the North Shore area was assumed to be developed.

3.4.2 Land Use

Land use designations and regulations provide important information for evaluating sewer system capacity. Existing and future land use information is an integral component in projecting wastewater generation within the service area. The type of land use in an area will affect the volume of the wastewater generated. Adequately estimating the generation of wastewater from various land use types is important in sizing collection system facilities.

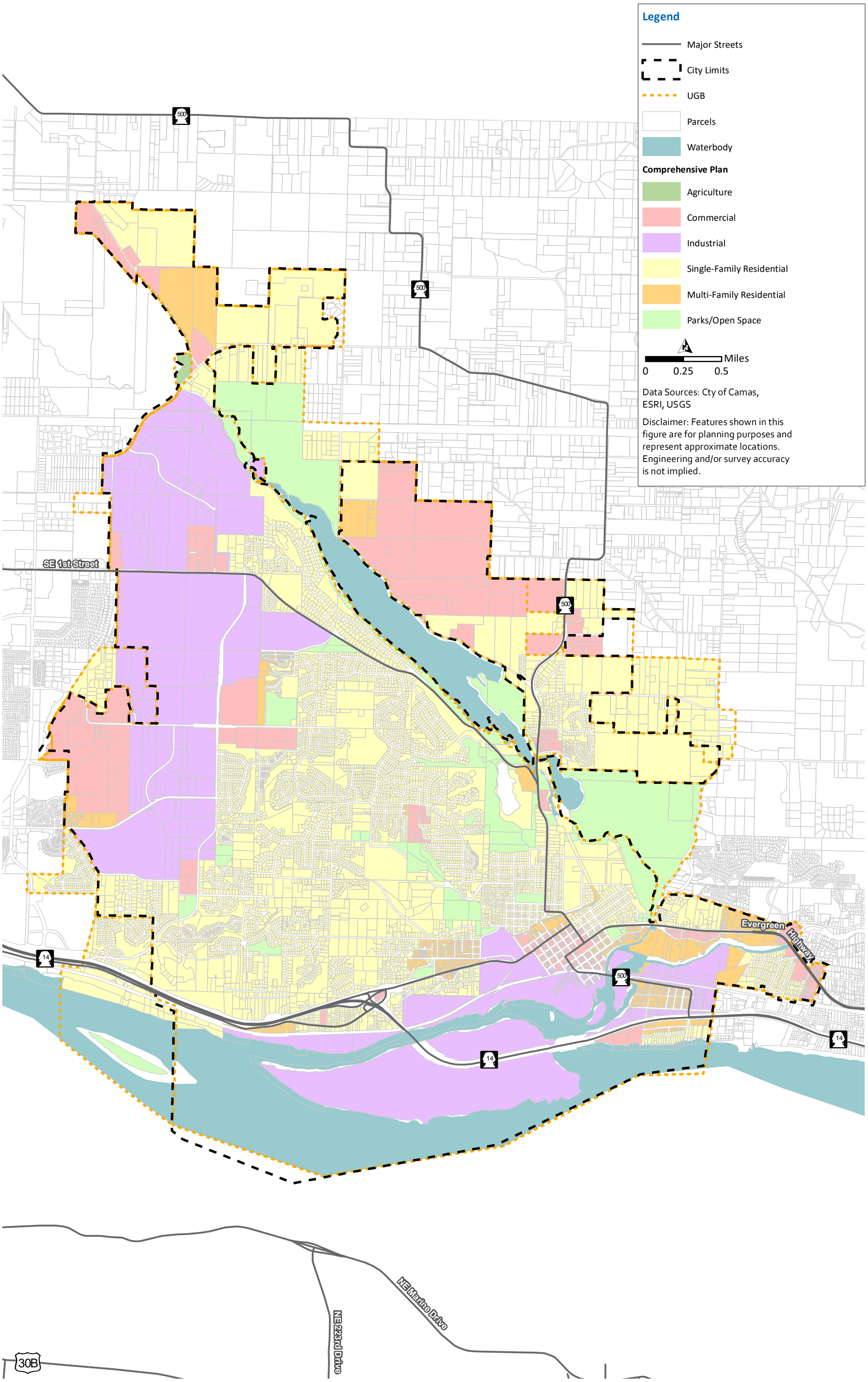
The City has six major land use categories for parcels within the UGB, as shown in Figure 3.3, which are sub-divided into the nine categories used in the *2035 Comprehensive Plan*. Acreage totals for each land use category are summarized by acreage in Table 3.2.

Table 3.2 Comprehensive Plan Land Use Summary

Comprehensive Plan Designation	Total Acreage[1]
Single Family High	425
Single Family Medium	3,617
Single Family Low	871
Multi Family High	246
Multi Family Low	279
Commercial	992
Industrial	2427
Parks[2]	851
Open Space/Green Space	492
Gross Total	10,200
Rights-of-Way and Stormwater Facilities	-27.7%[3]
Net Total	7,375

Notes:
(1) Total area within each comprehensive plan designation within the urban growth boundary.
(2) Applies only to land held in public trust.
(3) Based on typical County infrastructure deduction used in Clark County Buildable Lands Report.

Maps of the City's existing and future land use within the Service Area were developed with data provided by the City's Planning Department. Existing development information was taken from zoning data. Additional details on developing flows by land use type can be found in Appendix E - Hydraulic Model Development (Carollo, 2020).



Last Revised: February 11, 2022 pw:\\IO-PW-INT.Carollo.local:Carollo\Documents\Client\WA\Camas\11418A00\GIS\MXD\Fig4_CompPlan_LU.mxd

Figure 3.3 Land Use

3.4.3 Wastewater Flow Factors

Relationships between land use and wastewater generation were developed to project wastewater flows and allocate future flows to the collection system. These relationships, called wastewater flow factors, are established based on the average wastewater flow generated for each existing land use type. The land use flow factors were established to project the estimated ADWF through future development of the City's wastewater collection system and project future flows within the Study Area boundary.

Average wastewater flow coefficients are volume rates, usually expressed in gallons per acre per day (gpad), applied to either gross or net acres to calculate average day flow generated from a particular land use. A flow coefficient was developed for each of the land use classifications that were discussed in Section 3.4.2. The flow coefficient provides a means to transform a land use category from acreage into wastewater flow. The resulting flow is then applied to the appropriate sewer area in the sewer system model. Wastewater flow coefficients for residential areas typically range between 500 to 3,000 gpad, and commercial or industrial areas might range from 1,000 to 4,000 gpad, with typical values averaging approximately 1,500 gpad. Land uses designated as open space and parks are assumed to generate negligible amounts of sewage flow, and as a result have a flow coefficient of zero. Additional detail on the development of these flow factors is provided in Appendix E - Hydraulic Model Development (Carollo, 2021). Table 3.3 summarizes the flow factors used to project dry weather flows.

Table 3.3 Wastewater Flow Factor Development Summary

Land Use Type	Developed Area (acres)	Wastewater Flow Factor (gpad)	Existing ADWF (mgd)
Single Family Low	95	450	0.04
Single-Family Medium	693	670	0.46
Single Family High	22	800	0.02
Multi-Family Low	11	1,250	0.01
Multi-Family High	123	1,520	0.19
Commercial	110	1,270	0.14
Industrial	98	1,000	0.10
Agriculture	0	0	0.00
Park/Open Space	117	0	0.00
		Total Estimated Existing ADWF	**0.96**
		Measured Existing ADWF	**0.97**
		Percent Difference	**-0.2%**

3.4.4 Industrial Customer Flows

The City currently has three major industrial customers which must submit industrial discharge monitoring reports to Ecology for various flows, constituents, and characteristics as a condition of their discharge permits. The collective AAF from these contributors is 0.92 million gallons per day (mgd) with a PDF of 1.1 mgd as shown in Table 3.4. These flows can represent a large portion of influent flows for the WWTF. Flow data was taken from available DMR data from 2017 to 2022, as reported to and recorded on the Department of Ecology's Water Quality Permitting and Reporting Information System (PARIS).

Table 3.4 Industrial Customer Flows

Industry	MDF (gpd)	PDF (gpd)	AAF (gpd)
Wafertech Industries	525,000	737,000	629,408
Analog Devices	222,100	381,697	288,812
nLIGHT	156	9,971	3,014
All Flows	747,256	1,128,668	921,234

Notes:
Abbreviations: gpd – gallons per day; MDF - minimum daily flow.

3.4.5 Hydraulic Model Dry Weather Flow Projections

Developing an accurate estimate of the future quantity of wastewater generated at buildout of the collection system is an important step in sizing sewer system facilities for future scenarios. To estimate ADWF for specific areas, such as individual wastewater basins, dry weather flows are typically estimated based on the area contributing to flows and flow factors developed for each land use type. This method is developed based on the assumption that areas with similar land uses, such as low-density residential parcels, produce equivalent quantities of wastewater flow. System-wide flows can be compared to known flows at flow monitors, or at the treatment plant to verify accuracy of planning flow factors based on current development and measured flows. This method of estimating base flows is an industry standard for planning and provides sufficiently accurate data for planning purposes. Table 3.5 outlines the projected ADWFs for each flow monitoring basin for current, 2035, and buildout conditions.

Table 3.5 ADWF Projections for Hydraulic Modelling

Flow Meter Basin	Existing ADWF (mgd)	2035 ADWF (mgd)	Buildout ADWF (mgd)
Basin 5-1-1	0.53	1.25	2.12
Basin 5-1-2	0.15	0.25	0.38
Basin 10-10-12	0.17	0.19	0.22
Basin 8-1-1	0.12	0.13	0.13

3.4.6 Design Storm

Design storms are rainfall events used to analyze the performance of a collection system during peak flows and volumes and have a specific recurrence interval and rainfall duration. The design storm is used for sizing projects. The National Oceanic and Atmospheric Administration (NOAA) publishes isopluvial (rainfall contour) maps[1] that approximate the total rainfall depth for a range of storm size recurrence intervals for standardized storm durations.

The first step in the development or selection of the design storm is to define its recurrence interval and rainfall duration. The recurrence interval is based on the probability that a given rainfall event will occur or be exceeded in any given year. For example, a "100-year storm" means there is a 1 in 100 chance that a storm as large as, or larger, than this event will occur at a specific location in any year. Duration is the length of time in which the rainfall occurs.

[1] Miller, J., R. Frederick, and R, Tracey. Precipitation-Frequency Atlas of the Western United States, Volume IX-Washington. Washington DC, NOAA 1973.

Discrete storm events are established based on the period of time that there is no rainfall between rain events. A 20-year recurrence interval is recommended to match the pump station life cycle sizing in Ecology's Criteria for Sewage Works Design book (Orange Book); therefore the collection system must also be able to convey a 20-year storm.

The NOAA information is based on older data and does not provide a hydrograph corresponding to the accumulated rainfall. To find a suitable storm hydrograph, a statistical analysis on historical rainfall records recorded by the City and other nearby gauges was conducted. 20-year rainfall records from the City's HYDRA Rainfall Network and a 60-year record from the Portland International Airport were used to select a 20-year occurrence rainfall event on December 6, 2015. This storm had 3.37 inches of rainfall in 24 hours, which was consistent with 20-year recurrence intervals from other regional rain gauges. However, we will refer to this event as a 10-year design storm as it aligns with a 10-year recurrence defined by NOAA.

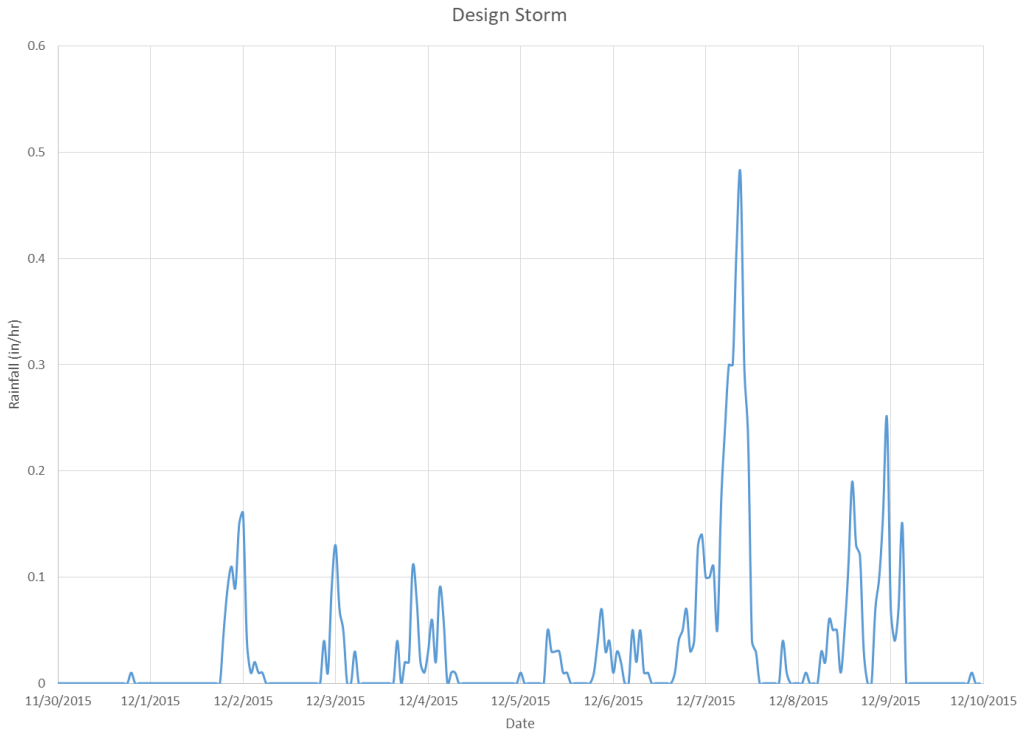


Figure 3.4 Design Storm Hyetograph

3.4.7 Hydraulic Model Wet Weather Flow Projections

To predict future Peak Wet Weather Flow (PWWF), I/I in the future service area must be defined. It is assumed that maintenance will keep up with system degradation, so no net change in I/I was used for future modeling scenarios within the existing service area. Additional area was added to the model for future scenarios in the North Shore that will add additional I/I flows into the system. The North Shore scenarios used the calibrated I/I parameters from Basin 8-1-1, as Basin 8-1-1 has a low I/I response indicative of recent construction. This corresponded to an I/I flow rate of 2000 gpad. Table 3.6 outlines the projected PWWF's for each flow monitoring basin for current, 2035, and buildout conditions. To properly convey the flows throughout the system to find the true peaks, significant upsizing was done on the piping and pump station capacity to eliminate hydraulic restrictions.

Table 3.6 PWWF Flow Projections for Hydraulic Modelling

Flow Meter Basin	Existing PWWF (mgd)	2035 PWWF (mgd)	Buildout PWWF (mgd)
Basin 5-1-1	4.63	11.38	12.76
Basin 5-1-2	0.39	1.51	1.66
Basin 10-10-12	0.54	0.56	0.59
Basin 8-1-1	0.43	0.44	0.44

3.4.8 Hydraulic Model Flow Projections Summary

Table 3.7 presents the total projected ADWF and PWWF for the three planning periods for the modeled portion of the system (gravity and Septic Tank Effluent Pump [STEP] that is upstream of gravity). The table also includes the ratio between PWWF to ADWF, called the Peaking Factor, which ranges from 5.7 to 8.2.

Table 3.7 Flow Projections Summary

Planning Horizon	ADWF (mgd)	PWWF (mgd)	Peaking Factor (PWWF:ADWF)
2018	0.80	5.45	6.8
2035	1.63	13.33	8.2
Buildout	2.63	14.86	5.7

3.5 WWTF Flow and Load Projections

The City's WWTF receives flows from the gravity collection system, septic tank effluent, and the septage receiving station. The sum of these flows is greater than the collection system flow projections because that analysis only focused on the portion of the system included in the hydraulic model and did not include septic tank flows, which make up to 50 percent of the total influent flow. Thus, load and peak hour flow projections were developed independently for the WWTF based on measured influent flows and wastewater characteristics, typical septage and STEP system characteristics, and population growth projections. The City expects that half of additional plant flow from population growth within the service area will come from the gravity sewer system, while the other half of the additional flow will come from the STEP system.

The influent flow projections developed for the WWTF are summarized in Table 3.8. Note that the 2035 PHF projection was developed by multiplying the projected PDF of 10.8 mgd by a diurnal peaking factor of 1.25 recorded during a peak flow event in February 2017. Additionally, it is assumed that no additional flow enters the collection system due to inflow and infiltration (I/I) as the City mitigates existing sources of I/I and installs new sewer and STEP system connections which do not contribute to overall I/I.

Table 3.8 WWTF Influent Flow Projection

Flow Parameter	2021 Flow (mgd)	2035 Flow (mgd)
ADWF	2.2	3.4
AAF	2.8	4.0
MMF	4.8	6.2
PDF	8.4	10.8
PHF	10.0	13.5

Wastewater loading data are important for sizing several critical treatment processes. The wastewater loading components of principal interest are the 5-day biological oxygen demand (BOD_5), the total suspended solids (TSS), and ammonia (NH4). Influent loading was projected using the same method described for influent flow projections. Historical values for BOD_5, TSS, and NH_3 and projections to 2035 are detailed in Table 3.9 and Figure 3.5 below.

Table 3.9 Current and Projected WWTF Loads

Load Parameter	2021 Load (ppd)	2035 Load (ppd)
Sewered Population[(1)]	18,900[(1)]	36,000
BOD_5 (ppd)		
Average Annual	2,400	6,000
Max Month	3,300	8,200
Max Week	4,300	10,600
Peak Day	5,300	13,000
TSS (ppd)		
Average Annual	2,400	6,300
Max Month	3,300	10,500
Max Week	4,300	17,000
Peak Day	5,300	19,300
Ammonia (ppd)		
Average Annual	900	1,400
Max Month	1,100	2,000
Peak Day	1,800	4,300

Notes:
(1) Current sewered population is based on 2035 Comprehensive Plan.

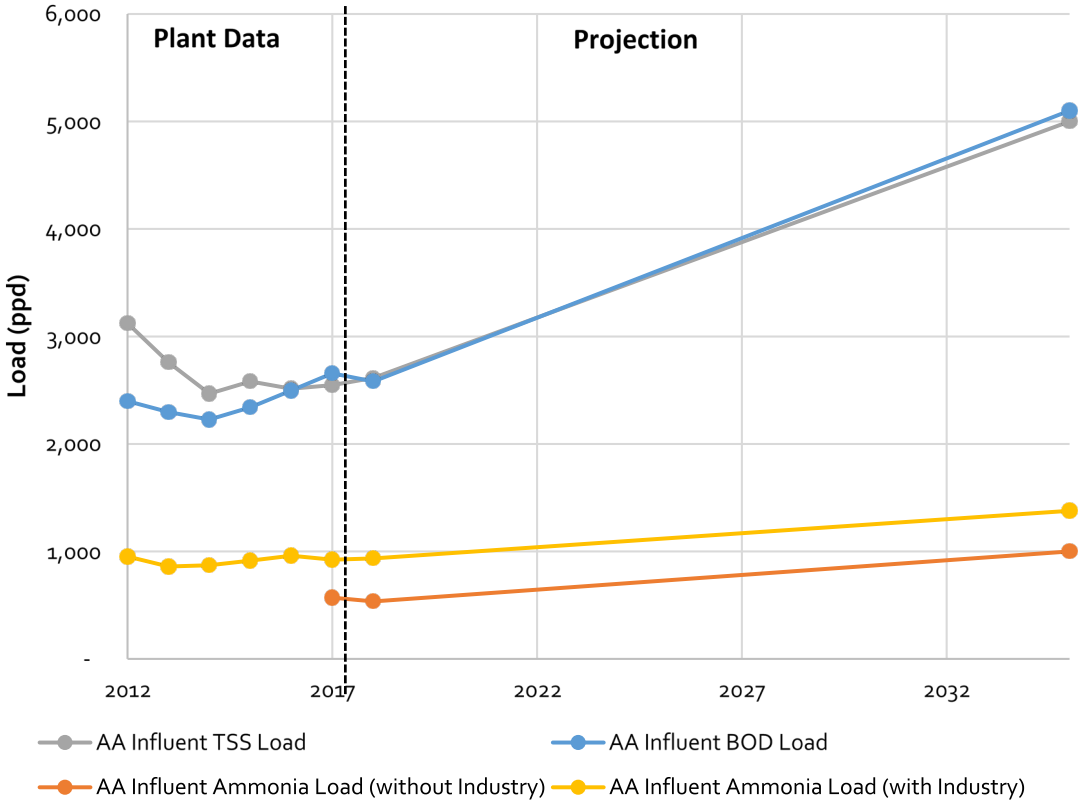


Figure 3.5 Current and Projected WWTF Loads

Chapter 4

EXISTING SYSTEM

4.1 Introduction

The purpose of a sewage collection system is to adequately convey sewage to locations where it can be treated and safely discharged. This chapter describes the City of Camas's (City's) existing sewer collection system, adjacent sewer service areas, and wastewater treatment facility (WWTF). The City's collection system utilizes both conventional gravity sewer with lift stations (LS) as well as Septic Tank Effluent (STE) Pumping Stations (STEP), Septic Tank Effluent Filter Systems (STEF), and Septic Tank Effluent Gravity Systems (STEG) to convey wastewater to the WWTF. These systems are influenced by the natural environment, critical areas, and the service area which are summarized in this Chapter.

This chapter will serve as the framework on which to base the General Sewer Plan (Plan), which was last updated in 2010. These considerations establish the basis of planning for the demographic and system analysis which will be the framework for identifying potential for development within the established service area. Consideration for the adequacy of the system to serve the anticipated development within the service area study boundaries is also reliant upon existing system characteristics.

4.2 Sewer Service Area

The City's service area is shown in Figure 4.1. The service area contains approximately 7,400 acres. The current service area includes the City limits and the future service area extends to the Urban Growth Area (UGA). Adjacent sewer systems include City of Vancouver, the Discovery Clean Water Alliance (CWA), and City of Washougal. These systems are described in greater detail in Section 4.5.

4.3 Collection System

The City's sewer system is comprised of four major facility types:

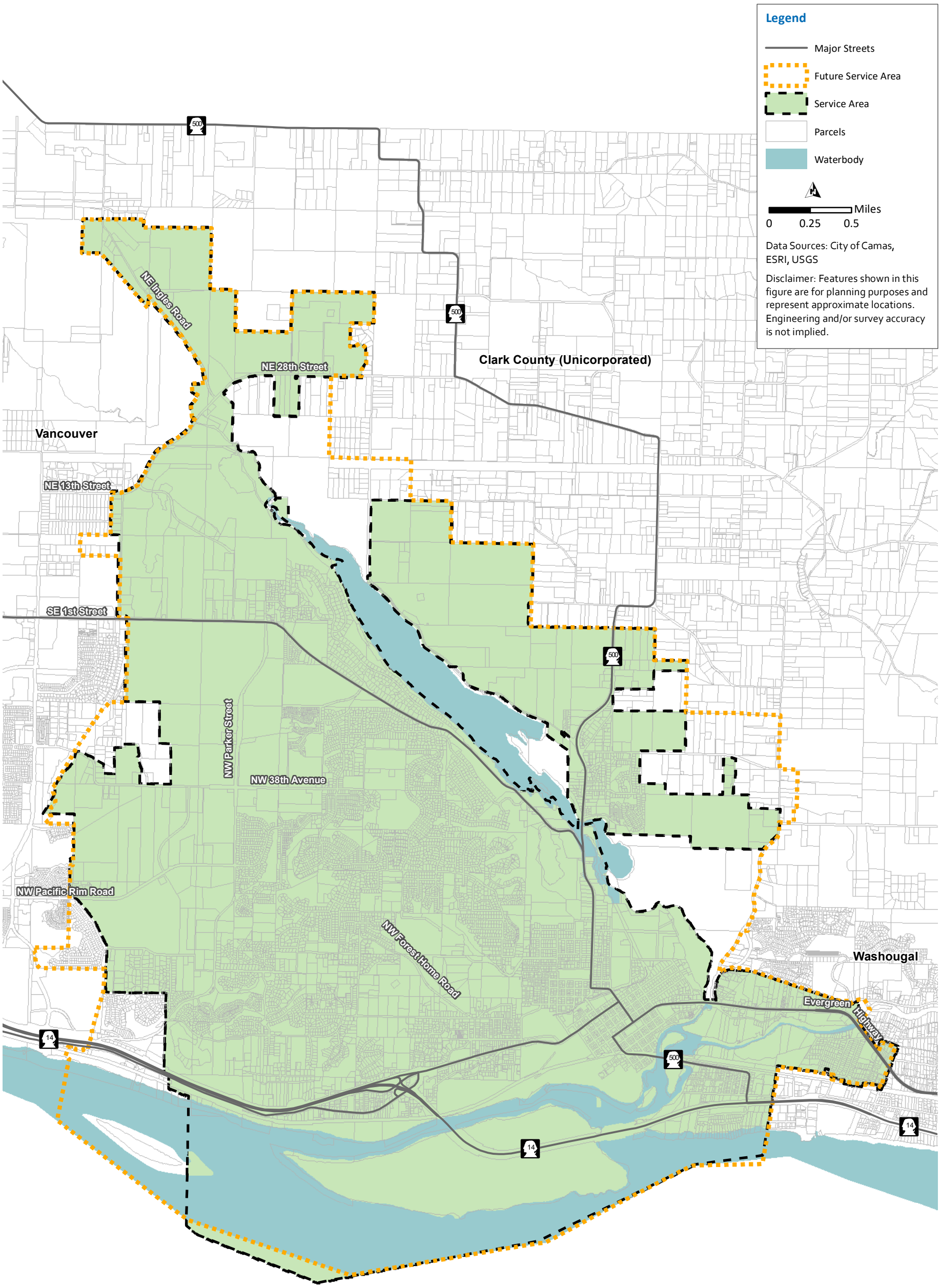
1. Conventional Gravity Sewer.
2. STE Systems.
3. STEP Transmission Mains.
4. Lift Stations (LS) with Force Mains.

The conventional gravity sewer system is the most common sewer conveyance method in the region and relies on a downward slope throughout the profile to convey flow to a WWTF or intermediate LS. In addition to the conventional gravity sewer system and LS, three STE systems are utilized in the City's collection system: STEF, STEG, and STEP, which are explained in further detail in Section 4.3.2. Twenty-nine LS are located within the service area which convey sewage and STE for treatment where gravity sewers are not effective. Properties within the sewer service area outside of the gravity sewer portion of the City's collection system use on-site septic tank systems which provide some wastewater treatment, solids settling, and digestion. Similar to LS, STEP systems allow service where gravity systems may not be effective, or which were originally located outside the public boundaries of a public sewer system service area.

Figure 4.2 and Table 4.1 below details the pipe infrastructure in the City's system by sewer type. As previously mentioned, the infrastructure is predominantly gravity sewer and nearly half of the City's pipelines serve STE systems.

Table 4.1 Summary of Pipe Infrastructure by Type

Sewer Type	Pipe Length (feet)	Pipe Length (miles)
Gravity Main	236,200	44.7
Force Main	38,260	7.2
STEP Main	255,070	48.3
STEP Bypass Main	8,040	1.5
Total	**537,570**	**101.8**



carollo

Last Revised: February 11, 2022 pw:\\IO-PW-INT.Carollo.local:Carollo\Documents\Client\WA\Camas\11418A00\GIS\MXD\Sewer_Service_A_11x117

Figure 4.1 Sewer Service Area

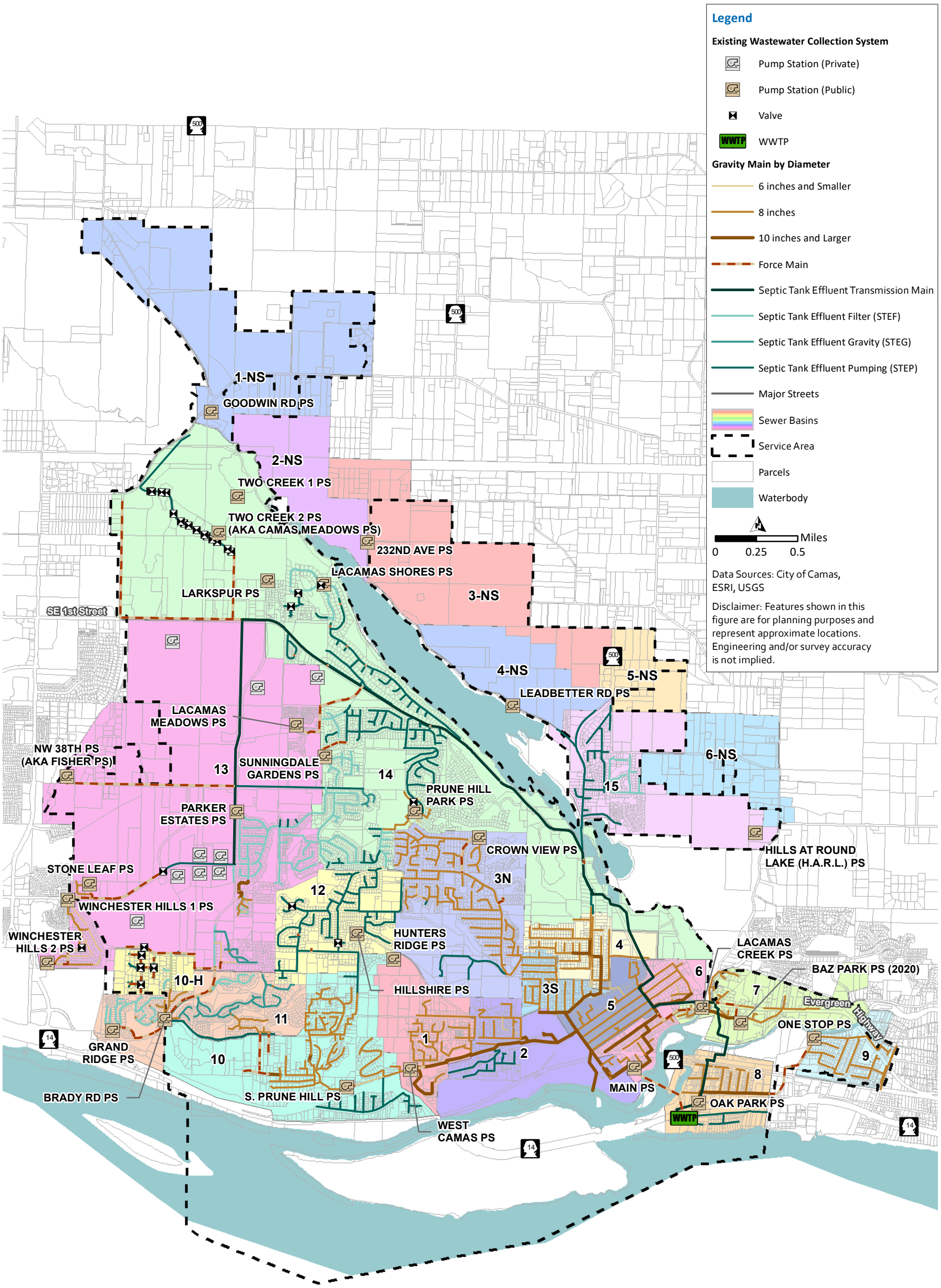


Figure 4.2 Existing Wastewater Collection System

4.3.1 Gravity System

Portions of the system served by conventional gravity sewers date from its beginning in the 1920's and includes the following basins identified in Figure 4.2: Downtown, Oak Park, Parkers Landing, basins along the Columbia River and State Route (SR) 14, and portions of Prune Hill. The North Shore area is and will continue to be served from conventional gravity sewers. Properties served by STE systems are located on the northern and western sides of the City.

The earliest portions of the gravity sewer system was constructed with vitrified clay pipe (VCP). Much of this VCP was later replaced with cast iron, concrete, and eventually polyvinyl chloride (PVC). Therefore, the relative age of sanitary sewer can be identified by the material type. The system utilizes a pipe diameter ranging from four inch to 24-inch segments where the majority of the system is eight inches or less in diameter. A summary of pipe infrastructure by diameter is shown in Table 4.2.

Table 4.2 Summary of Gravity Sewer Infrastructure by Size

Pipe Diameter (inches)	Pipe Length (feet)	Pipe Length (miles)
4	40	0.01
6	13,760	2.6
8	191,920	36.3
10	9,380	1.8
12	9,640	1.8
15	2,610	0.5
18	3,570	0.7
21	3,140	0.6
24	1,150	0.2
27	980	0.2

4.3.2 STE Systems

Starting in the 1985, the City required new customers in the western portion of the service area to be served using the STE system. Due to the City's topography and shallow bedrock, the STE systems allowed the City to serve areas without the costly installation of gravity sewers. The three STE systems address site specific challenges within the City's collection system. STEP systems consist of a septic tank equipped with a pump at the outlet to convey effluent flows to the STEP transmission main, rather than an on-site drain field. STEG systems consist of a septic tank with an outlet that conveys effluent flows by gravity to the STE transmission main. STEF systems utilize a siphon to convey effluent flows to the STE transmission main. Figure 4.2 shows the STEF, STEG, and STEP systems and STE transmission mains within the City's conventional gravity collection system.

The City owns and maintains residential STE systems. The City pumps out the septage from the STE systems on a five-to-seven-year cycle. Commercial and Industrial systems are owned and maintained by the property owner. The City receives and treats septage from both systems at the WWTF.

Table 4.3 Summary of STE Infrastructure by Size

Pipe Diameter (inches)	Pipe Length (feet)	Pipe Length (miles)
Unknown	40	0.01
1	1,880	0.4
2	50,235	9.5
3	9,740	1.9
4	23,680	4.5
6	57,440	10.9
8	40,980	7.8
10	25,950	4.9
12	320	0.06
18	2,450	0.5
21	230	0.04

4.3.3 STEP Transmission Main

The STEP transmission main is a transmission main that conveys STE system flows and major industrial dischargers to the WWTF. The pressurized transmission main is shown in Figure 4.2, The STEP main is approximately 36,970 linear feet in length and is 21-inches to 24-inches in diameter. The transmission main conveys flows directly to the WWTF without receiving flows from the other sewer systems.

4.3.4 Lift Stations

The City currently operates twenty-nine LS, whose characteristics are summarized in Table 4.4. Of these twenty-nine LS, thirteen serve the gravity system and fifteen serve the STE systems. One LS is dedicated to odor control. The LS are identified in Figure 4.2. There are approximately 51,460 ft, or 9.7 miles, of force main associated with the LS ranging from 4-inches to 18-inches in diameter. The majority of LS serve relatively small service areas and have capacities less than 500 gallons per minute (gpm). The Main LS, with a capacity of 7,700 gpm station, conveys the majority of the gravity system to the WWTF through an 18-inch diameter force main under Lacamas Creek.

Table 4.4 Summary of Lift Stations

	Lift Station	Location	Basin Number	STE or RAW	Quantity of Pumps	Pump Motor Size (HP)	Pump Capacity (gpm, ea.)	Total Station Capacity (gpm, 1 standby)	TDH (feet)
1	232nd Avenue	Near 618 NE 232rd Avenue	2-NS	RAW	2*	15.2	365	365	87
2	Baz Park	1906 NE 3rd Loop	7	RAW	2	7.5	488	488	38
3	Brady Road	919 NW Brady Road	11	STE	2	35	511	511	60
4	Camas Meadows	6902 NW Morgan Way	14	STE	2	35	221	221	222
5	Crown View	3222 NW Ivy Lane	3	RAW	2	20	222	222	124
6	Fisher	5870 NW 38th	13	STE	2	23	126	126	206
7	Goodwin Rd	2305 NE Goodwin Road	1-NS	RAW	2*	15.2	300	300	94
8	Grand Ridge	843 NW Grande Ridge Road	11	STE	2	11	133	133	160
9	Hills at Round Lake (HARL)	1960 NE Tanoak Drive	15	STE	2	11	256.9	256.9	93.2
10	Hillshire	2303 NW Artz Court.	12	RAW	2	10	175	175	70.1
11	Hunters Ridge	2021 NW 17th Avenue	1	RAW	2	23	152	152	174
12	Lacamas Creek	1641 NE 3rd Avenue	7	RAW	2*	25	950	950	67
13	Lacamas Meadows	3263 NE 45th Avenue	13	STE	2	23	173	173	203
14	Lacamas Shores	6230 NW El Rey Drive	14	STE	2	23	195	195	168
15	Larkspur	6162 NW Larkspur	14	STE	2	23	264	264	154
16	Leadbetter Rd	1050 SE Leadbetter Road	4-NS	RAW	2*	26.6	605	605	111
17	Lower (aka South) Prune Hill	2381 NW 6th Place	10	RAW	2	10	600	600	39
18	Main Station	480 SE 3rd Avenue	5	RAW	3	125	3850	7700	85
19	Oak Park	907 SE Polk Street	8	RAW	2	10	350	350	57
20	One Stop	200 SE Yale	9	RAW	2	5	231	231	36.2
21	Parker Estates	3436 NW Parker	13	STE	2	20	339	339	103
22	Prune Hill Park	3403 NW Sierra Drive	14	STE	2	7.5	350	350	53
23	Stone Leaf	5713 NW 26th Avenue	13	STE	2	23	423	423	81.2
24	Sunningdale Gardens	4043 NW Dahlia Loop	14	STE	2	10	260	260	63
25	Two Creeks	7402 NW Morgan Way	14	STE	2	10	166	166	70.7
26	West Camas	1625 NW 6th Place	1	RAW	2	30	1000	1000	74
27	Winchester Hills 1	19617 SE 34th Street	13	STE	2	6.5	97.9	97.9	66.7
28	Winchester Hills 2	19320 SE 42nd Circle	13	STE	2	5	125	125	65
29	Remote Odor Control Station	325 NE 23rd Avenue	14	N/A	N/A	N/A	N/A	N/A	N/A

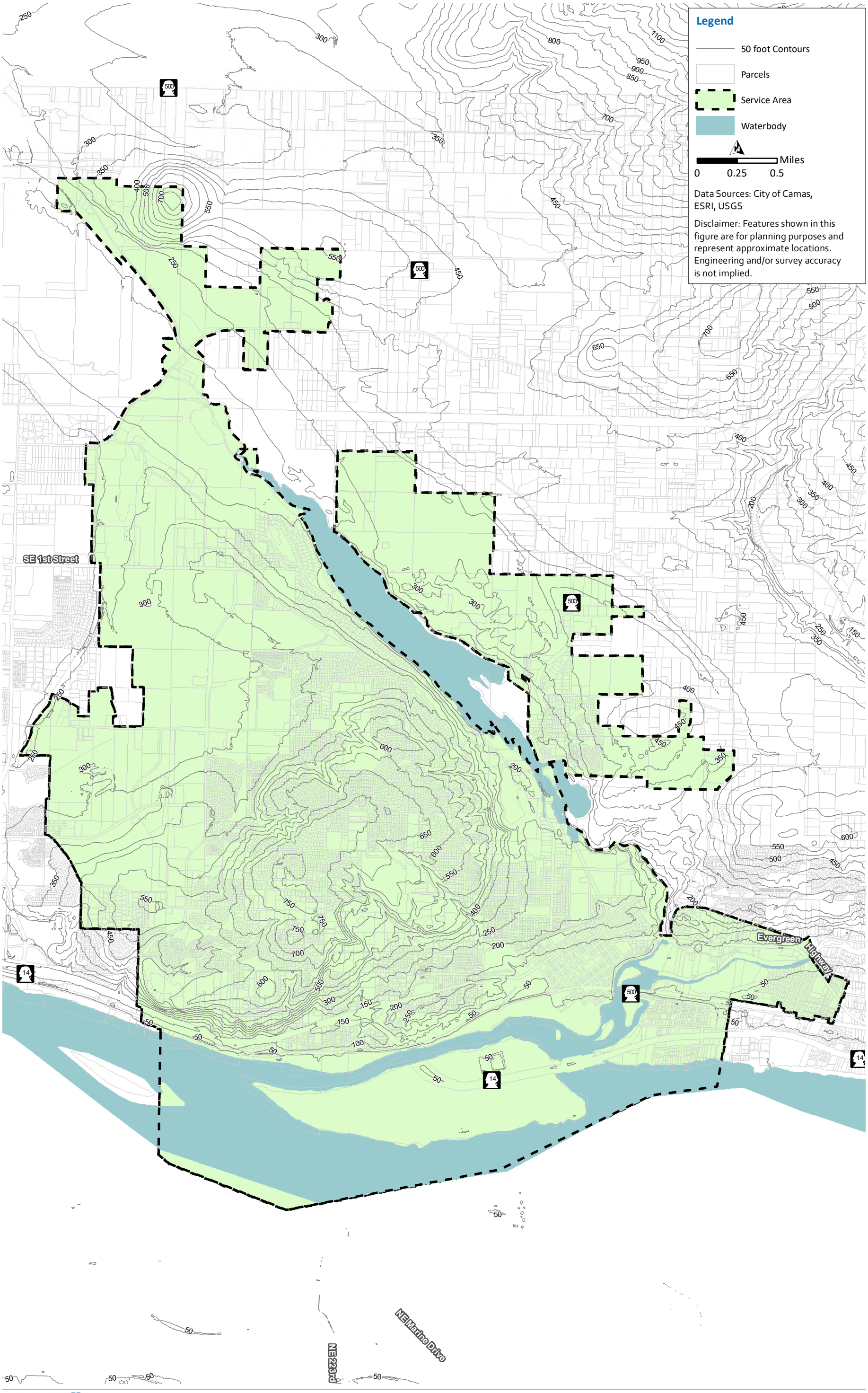


Figure 4.3 Topography

4.4 Wastewater Treatment Facility

The City's WWTF is located along the Columbia River in the southeastern portion of its sewer service area. The WWTF was originally constructed in 1972 and has had several modifications since that time. The first major upgrade and expansion of liquid stream processes was completed in February of 2000. A subsequent Phase 2A upgrade, primarily addressing solids treatment, including anaerobic digesters and sludge drying facilities, was completed in 2012. Phase 2B, completed in 2014 improved blower controls, added a third secondary clarifier, new effluent filters, and digester gas treatment facilities.

The facility process flow diagram is shown in Figure 4.4. An aerial view of the WWTF with each unit process and building identified is shown in Figure 4.5. The liquid stream treatment begins with climbing bar screens at the plant headworks to remove larger material which is washed, compacted, and disposed of at a landfill. Primary solids-liquid separation occurs in two circular primary clarifiers with the primary effluent discharging to a splitter box where it is combined with return activated sludge (RAS) from the secondary clarifiers (SC) and split between three aeration basins (ABs), where biomass is aerated to promote biological oxidation and improve water quality. Secondary treatment in the ABs consists of influent channel selector zones followed by two aerated and three anoxic zones to remove carbonaceous material and reduce ammonia concentrations. Magnesium hydroxide ($Mg(OH)_2$) is added at the SC splitter box to provide supplemental alkalinity.

Mixed liquor from the three ABs is combined and split between three secondary clarifiers. The three clarifiers provide separation of the biomass from the secondary treatment processes (termed activated sludge) and discharge of liquid effluent to two mechanical disc filters. Ultraviolet (UV) disinfection is provided in an open channel system with four banks of UV lamps prior to discharge to the outfall in the Columbia River.

The effluent either flows by gravity or is pumped to the outfall via the three effluent pumps, which are operated with two duty and one standby configuration. Transitions between gravity and pumped effluent flow are performed automatically when the pumps are placed in "auto" mode. When the Columbia River level rises, gravity effluent discharge is stopped by closing the flap gate in the effluent manhole. The existing outfall is a 36-inch corrugated metal pipe (CMP) and extends approximately 850 feet south into the Columbia River channel. The diffuser portion of the outfall is located along the outer 150 feet of the pipe and is equipped with 16 vertical risers, with each oriented vertically with rubber Tideflex check valve-type nozzles. The vertical risers discharge effluent perpendicular to the flow of the Columbia River.

Solids from the primary clarifiers are first conveyed to two hydro-cyclones and a classifier for degritting then thickened in the gravity thickener. Thickened primary sludge (TPS) is then pumped to anaerobic digesters. Solids from the secondary clarifiers are moved by a sludge-scraper mechanism to a wet well and then withdrawn by pumps. The settled solids (RAS) are pumped back to the aeration basin splitter box. Excess activated sludge wasted (WAS) from SC Number 3 is sent to a storage tank and thickened in a rotary drum thickener. Thickened primary and secondary solids are then combined in anaerobic digesters for stabilization, removal of volatile solids, and production of biogas. Dewatering of the digested sludge is accomplished through a centrifuge and then conveyed to a belt dryer, which evaporates most of the remaining water content in the biosolids. The dewatered and dried biosolids are dried to achieve Class A

and are hauled off-site for land application. Odors are controlled at the plant through unit-specific odor control ductwork. The odorous air is then blown through a bark media biofilter.

The unit capacity for each major unit at the WWTF is summarized in Table 4.5.

Table 4.5 Unit Process Capacity

Unit	Number of Units	Design Criteria[1]
Bar Screens		
Climbing Bar Screens	2	• Perforation Size: 1/4 in (6 mm)
Manual Coarse Bar Screen (Bypass)	1	• Bar Spacing: 3/4 in (19 mm)
Primary Clarifiers	2	• Diameter: 60 ft (each) • Depth: 10 feet • Volume: 211,500 gallons
Aeration Basins	3	• Volume: 100,800 ft^3 (each)
Aerobic	3	• Total Volume: 176,400 ft^3
Anoxic	2	• Total Volume: 108,360 ft^3
Selector (SAx)	3	• SAx-1 Volume: 2,700 ft^3 • SAx-2 Volume: 1,600 ft^3 • SAx-3 Volume: 4,500 ft^3 • SAx-4 Volume: 9,000 ft^3
Secondary Clarifiers		
SC Number 1	1	• Diameter: 75 feet • Depth: 13 feet • Volume: 424,000 gallons
SC Number 2	1	• Diameter: 75 feet • Depth: 17 feet • Volume: 461,800 gallons
SC Number 3	1	• Diameter: 75 feet • Depth: 14 feet • Volume: 462,700 gallons
Effluent Disc Filters	2	• Capacity: 3.0 mgd (each)
UV Disinfection[1]	4	• Peak Day Process Flow: 10.04 mgd
Hydrocyclones	2	• Capacity: 220 gpm
Gravity Thickener	1	• Diameter: 30 feet • Depth: 10 feet
Anaerobic Digesters	2	• Volume: 24,500 ft^3 (each)
Centrifuge	1	• Capacity: 130 gpm
Rotary Screen Thickener	1	• Capacity: 100-300 gpm

Notes:
Abbreviations: ft^3 - cubic feet; mm - millimeter.

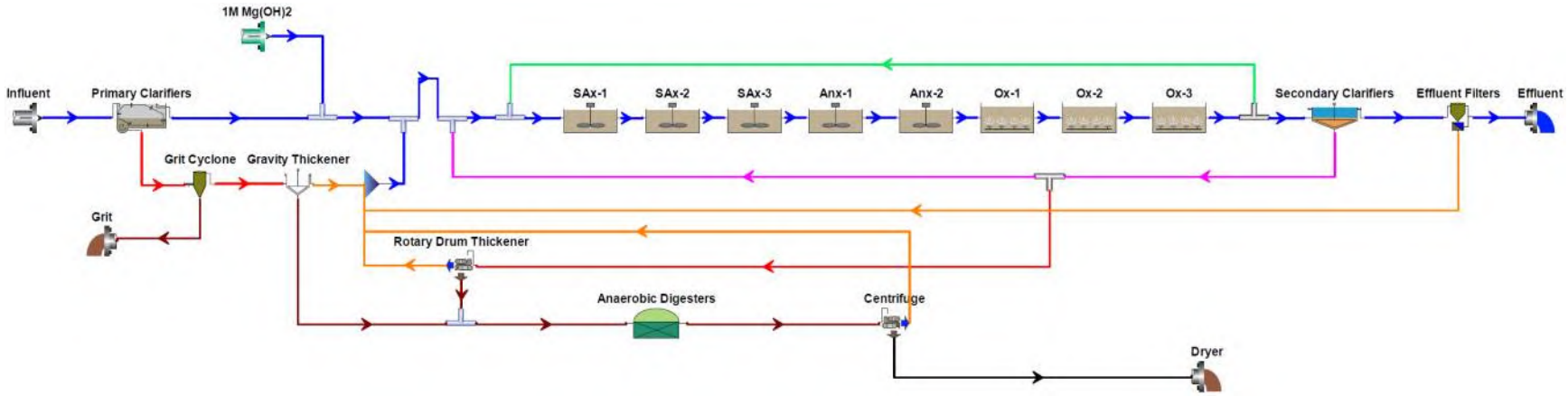


Figure 4.4 BioWin Process Flow Diagram



Figure 4.5 WWTF Aerial Image with Site Plan

4.4.1 Recent Plant Upgrades

As noted, several upgrades have taken place at the WWTF since the previous General Sewer Plan (Gray and Osborne, 2010), which have increased capacity and efficiency:

- **WWTF Improvements Phase 2A (2012):** Several improvements took place with this design to improve the following:
  - The addition of solids handling equipment which includes a rotary screen thickener, two anaerobic digesters, a waste gas burner, and sludge holding tank.
  - Modifications to headworks which includes the addition of Bar Screen No. 2 and Washer/Compactor No. 2.
  - Installation of the Plant Drain Pump Station No. 2, Biofilter No. 2, and the Septage/Centrate/ WAS Storage Tank.
  - Reduction to the height of the aeration basins (AB) and the addition of baffle walls within the selector zone.
- **WWTF Improvements Phase 2B (2014):** This project focused on modifications to the sludge storage area, the addition of Secondary Clarifier No. 3, modification of Secondary Clarifier No. 2, and addition of two effluent disk filters.
- **Installation of a Thermal Dryer (2012):** This allowed the facility to produce Class A Biosolids for land application.

Additionally, two studies have been completed focusing on assessing the condition of equipment. The WWTF and Pump Station Condition Assessment Report (HDR, 2018) recommended several improvements in the immediate term which include an odor control evaluation, polymer usage evaluation, replacement/upgrading grit hydrocyclones and classifiers, modeling of the AB's, blower filter replacement, a cross connection evaluation, supervisory control and data acquisition (SCADA) upgrade, replacement of variable frequency drive (VFDs) in the equipment building and plant effluent building, and replacement of pH and dissolved oxygen (DO) analyzers. An additional condition assessment was completed on the gravity thickener which identified six major components which were severely deteriorated as well as the conduit and wiring within.

4.4.2 Plant Flows

The WWTF receives influent flows from the Main and Oak Park pump stations and a septage truck unloading station. STEP flows in the collection system are conveyed to the plant through the Main and Oak Park pump stations. The combined flow from the pump stations and septage truck unloading station are measured by a Parshall flume. The combined flow measured by the Parshall flume is recorded as the WWTF influent flow.

The WWTF has a five-year average annual flow (AAF) of 2.8 mgd from the collection system with approximately 33 percent of the AAF from industrial users. This relatively high percentage of industrial users increases the influent ammonia concentrations but decreases the total suspended solids (TSS) and biochemical oxygen demand (BOD) concentrations resulting in a high nitrogen and low carbon influent compared to a typical municipal facility. The previously described STEP and STEF system which contributes nearly 60 percent of the average day dry weather influent flows also contributes to unique influent characteristics when brought into the facility due to an estimated 35 percent reduction of BOD in the 5-day test (BOD_5) and a 60 percent reduction of TSS in the septic tank. Although septic tank solids are also returned to the facility through septic delivery, these solids also have reduced BOD_5 and TSS loadings due to

the nearly five-year detention time. National Pollution Discharge Elimination System (NPDES) effluent discharge limitations, prohibitions, and requirements are similar to other municipal facilities with standard 30/30 monthly TSS and BOD concentration limits with a mandatory 85 percent reduction in each. However, the WWTF has ammonia limits of 20 mg/L (NH_3 as N) in the summer and seven mg/L (NH_3 as N) in the winter.

4.4.3 NPDES Violations

The current NPDES permit was effective October 1, 2015, and expired September 30, 2020, but as of February 2022 the City is working with Ecology on an extension request. The plant has had few permit violations since issuance of the latest permit, with the last violation occurring in October 2019. These violations include minimum pH value, average monthly ammonia concentration, average weekly TSS concentration and load, and average weekly BOD_5 concentration and load. A list of permit violations is shown in Table 4.6. The violations in 2017 occurred due to a toxic slug introduced in the influent which reduced the viable mixed liquor population resulting in floating sludge and higher than expected discharge concentrations from the secondary clarifiers which overwhelmed the filters pushing a higher percentage of flow through the filter by-pass.

Table 4.6 Five-Year NPDES Permit Violation Summary

Violation Date	Type / Parameter	Measurement Value(2)	Effluent Limit(2)
October 2019	pH Daily Minimum	5.9	6 (min)
February 2018	Ammonia Winter(1) Monthly Average	13.2 mg/L	7 mg/L
February 2017	TSS Weekly Average	51.5 mg/L 3,532 ppd(2)	30 mg/L 1,525 ppd
February 2017	BOD_5 Weekly Average	41.2 mg/L 2,623 ppd	30 mg/L 1,525 ppd

Notes:
(1) Winter Ammonia limits apply to the months of October through May.
Abbreviations: mg/L - milligrams per liter; ppd - pounds per day.

4.5 Adjacent Sewer Service Areas

Four sewer service areas with their own WWTFs are within a 20-mile radius of the Camas WWTF. All of the facilities listed in Table 4.7 have Columbia River outfalls. Distances vary from the closest, Washougal WWTF, approximately 3.5 miles away, to the farthest, Salmon Creek WWTF, approximately 20 miles away.

Table 4.7 Adjacent Service Areas WWTFs

Facility/Service Area	MMF (mgd)(1)	Biological Treatment Process	Disinfection	Biosolids
Salmon Creek (Clark County)	10.3	Aeration Basins	UV	Land Applied
Marine Park (Vancouver)	16.1	Aeration Basins	UV	Incinerated
Westside (Vancouver)	28.3	Aeration Basins	UV	Incinerated
Washougal	2.2	Oxidation Ditch	UV	Lagoon

Notes:
Abbreviations: MMF - maximum monthly flow.

All of these nearby treatment facilities utilize activated sludge treatment processes and UV disinfection; however, the greatest variation in treatment can be seen in the processing of biosolids. Salmon Creek WWTF operates similarly to Camas through the land application of biosolids. Marine Park and Westside incinerate of solids produced at those City of Vancouver facilities.

4.5.1 City of Vancouver

The City of Vancouver currently uses 716 miles of sanitary sewer and forty-one pump stations to convey sewage to Vancouver's Marine Park and Westside WWTFs. Vancouver's collection system is divided into three basins currently: the Westside Basin, Eastside Basin, and Diversion Basin. Wastewater generated in the Eastside Basin is conveyed to and treated exclusively at the Marine Park facility. Diversion Basin wastewater is conveyed to and treated at either the Marine Park or Westside WWTF. Westside Basin sewage is conveyed to and treated exclusively at the Westside Treatment Facility.

The largest nearby treatment facility is Westside in Vancouver at 28.3 mgd average annual flow. Altogether, Marine Park and Westside WWTFs serve 195,000 residents per2022 census data. Currently, Marine Park does not treat its solids on-site and instead conveys them to Westside through a force main and gravity sewer. Once at Westside, a fluidized bed furnace incinerates scum and solids from the primary and secondary clarifiers at both plants.

4.5.2 City of Washougal

The City of Washougal currently operates fourteen LS throughout the City and conveys sewage through more than 1.5 miles of force mains to the Washougal Treatment Plant. The treatment plant consists of an oxidation ditch followed by a secondary clarifier and UV disinfection. Similar to other pants in the region, effluent is discharged to the Columbia River.

4.5.3 Clark County

Clark County formed the Discovery Clean Water Alliance (CWA) in January 2013 to provide framework for regional wastewater collection. The CWA serves unincorporated Clark County, the City of Battle Ground, the City of Ridgefield, and Clark Regional Wastewater District.

Nearby Salmon Creek WWTF is part of the CWA and serves approximately 100,000 residents. Although the average annual flow is typically between 8-10 mgd, the plant has the capacity to treat up to 15 mgd. Future expansion is underway to improve the Columbia River outfall as well as increase capacity to 17.5 mgd. Odor control will be built as well due to odorous air present particularly during the summer and early fall.

4.6 Natural Environment and Critical Areas

Topics considered to describe the existing system's natural environment include topography, soils and geology, and climate including rainfall. Critical areas within the natural environment highlight the connection between the sewer system and these characteristics. Critical areas include wetlands, critical aquifer recharge areas (CARA), geologically hazardous areas, frequently flooded areas, and fish and wildlife habitat conservation areas.

4.6.1 Natural Environment

Relatively steep topography with slow to moderate infiltration rates comprise a majority of the City's geography. The City enjoys moderate temperatures between the average high of 62 degrees Fahrenheit (°F) and average low of 37°F. Heavy rainfall, characteristic of the Pacific Northwest region, provides an average annual precipitation of 84 inches while snowfall is not typically heavy, annually averaging 9 inches.

4.6.1.1 Topographical Characteristics

As shown in Figure 4.3, elevation ranges from slightly above sea level (20 feet) to greater than 750 feet in the City. Steep slopes comprise a large portion of the landscape which range from 5 to 15 percent. A relatively flat plateau is present at the most central portion of the City near Prune Hill while the older, denser zones lie along the Columbia River. Similarly, the UGA was developed on a steep slope with the plateau at 470 feet elevation residing just outside of the City Limits.

4.6.1.2 Soils and Geology

According to the National Resources Conservation Service (NRCS), Clark County is approximately 5 percent cinebar stony silt loam with 30 to 70 percent slopes. However, the City is a much higher percentage of Lauren gravelly loam from 0 to 8 percent slopes and Hesson Clay loam from 0 to 8 percent slopes. These soil types are categorized as hydrological soil groups B and C, respectively, which indicate slow to moderate infiltration rates when wet with a slow to moderate rate of water transmission. This indicates moderate runoff coefficients for the region. Additional details on the soil groups are available in Figure 4.2.

4.6.1.3 Climate

The City's climate is characterized by a combination of rainfall, wind, and temperature patterns for the nearby region. The average high temperature is 62°F and the average low is 37°F. The temperature is known to vary from 36°F to 84°F throughout the year with a warm season from June to September. Altogether, summers last approximately three months with warm weather and winters are cold with the heaviest rainfall occurring late November or early December.

Historical precipitation data was gathered from Airport Way #2 Rain Gage (Station 111) of the City of Portland HYDRA Rainfall Network. The average five-year rainfall patterns indicate the November through February period averaging five inches per month or more with a peak in January at approximately 6.4 inches. The maximum annual rainfall occurred in 2017 at 53.24 inches total which is 32 percent greater than the average. The driest month of the year is typically July with no rainfall recorded for 2017 and 2018. The average annual rainfall patterns are detailed in Table 4.4. Average annual snowfall is nine inches and average annual precipitation is approximately 84 inches.

Table 4.8 City of Portland Station Precipitation 2017-2022

Year	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	**Annual**
2017	4.25	11.63	9.02	5.33	2.64	1.49	0	0.12	2.54	5.33	7.06	3.83	**53.24**
2018	6.08	2.85	3.16	5.54	0.27	1.99	0	0.08	1.11	3.61	3.29	6.09	**34.07**
2019	3.31	5.2	1.7	4.46	1.77	2.13	0.28	1.25	3.85	1.8	1.73	4.73	**32.21**
2020	9.6	2.59	3.37	1.29	3.42	3.11	0.04	0.59	2.53	1.92	6.14	6.03	**40.63**
2021	7.64	4.36	2.41	0.5	1.6	0	0.02	0.09	4.09	4.87	7.8	8.89	**42.27**
2022	7.25	3.14	-	-	-	-	-	-	-	-	-	-	**-**
Average	**6.36**	**4.96**	**3.93**	**3.42**	**1.94**	**1.74**	**0.07**	**0.43**	**2.82**	**3.51**	**5.20**	**5.91**	**40.30**
Minimum	**3.31**	**2.59**	**1.70**	**0.50**	**0.27**	**0.00**	**0.00**	**0.08**	**1.11**	**1.80**	**1.73**	**3.83**	**16.92**
Maximum	**9.60**	**11.63**	**9.02**	**5.54**	**3.42**	**3.11**	**0.28**	**1.25**	**4.09**	**5.33**	**7.80**	**8.89**	**69.96**

4.6.2 Critical Areas

Critical areas define crucial components for planning in an area including protected lands, e.g., wetlands, CARAs, and conservation areas, as well as areas with greater risk to its inhabitants, e.g., frequently flooded areas and geologically hazardous areas. Identifying these areas allows for the mitigation of unnecessary risk or harm to protected lands; additionally, policies in the *Camas 2035 Comprehensive Plan* (Camas, 2016) outline goals to protect and restore these sites.

4.6.2.1 Wetlands

Ecology currently rates wetlands based upon several key factors including their 'ability to be replaced, sensitivity to disturbances, rarity, functional performance, and importance in biodiversity' (Ecology, 2006). These levels include categories I-IV with a Category I wetland requiring the greatest protection. As defined by the wetland rating system, Category I wetlands have valuable biodiversity and hydrogeomorphic functionality in pollutant removal, stormwater storage, and even buffering natural disasters.

Within the City, there are >1,200 acres of recognized wetland which are protected by several local, state, and federal ordinances and laws including the Growth Management Act, Critical Areas Ordinance, Clean Water Acts, and City municipal code (CMC) 18.31.050. These regulations entail the study of a wetland's functionality and that adverse impacts be avoided or reduced. Figure 4.6 illustrates the City's wetlands delineated using reports filed with the city and published data.

4.6.2.2 Critical Aquifer Recharge Areas

The majority of raw water supply for the City is provided by groundwater resources. This critical resource is protected by the CARA ordinance and the CMC. CMC 16.70.050 focuses on Aquifer Recharge Areas and required reports for proposed activities.

CARAs are located in multiple regions of the City and surrounding areas. Currently, two wellhead protected areas are within the City limits with the southernmost protected area extending beyond the UGA. Figure 4.4 shows these regions in relation to wells which serve more than 20 people.

4.6.2.3 Frequently Flooded Areas

Frequently flooded areas are defined as regions with >1 percent chance of flooding per year. These regions are near surface water bodies which include Lacamas Lake, Columbia River, Washougal River, Jones Creek, Boulder Creek, Round Leaf Lake, and Fallen Leaf Lake. Due to low elevations, portions of the southeastern region of the City are located within the 100-and 500-year Federal Emergency Management Agency (FEMA) floodplain. Construction regulations focus on decreasing flood hazards of the structure which area detailed in a critical area report.

4.6.2.4 Geologically Hazardous Areas

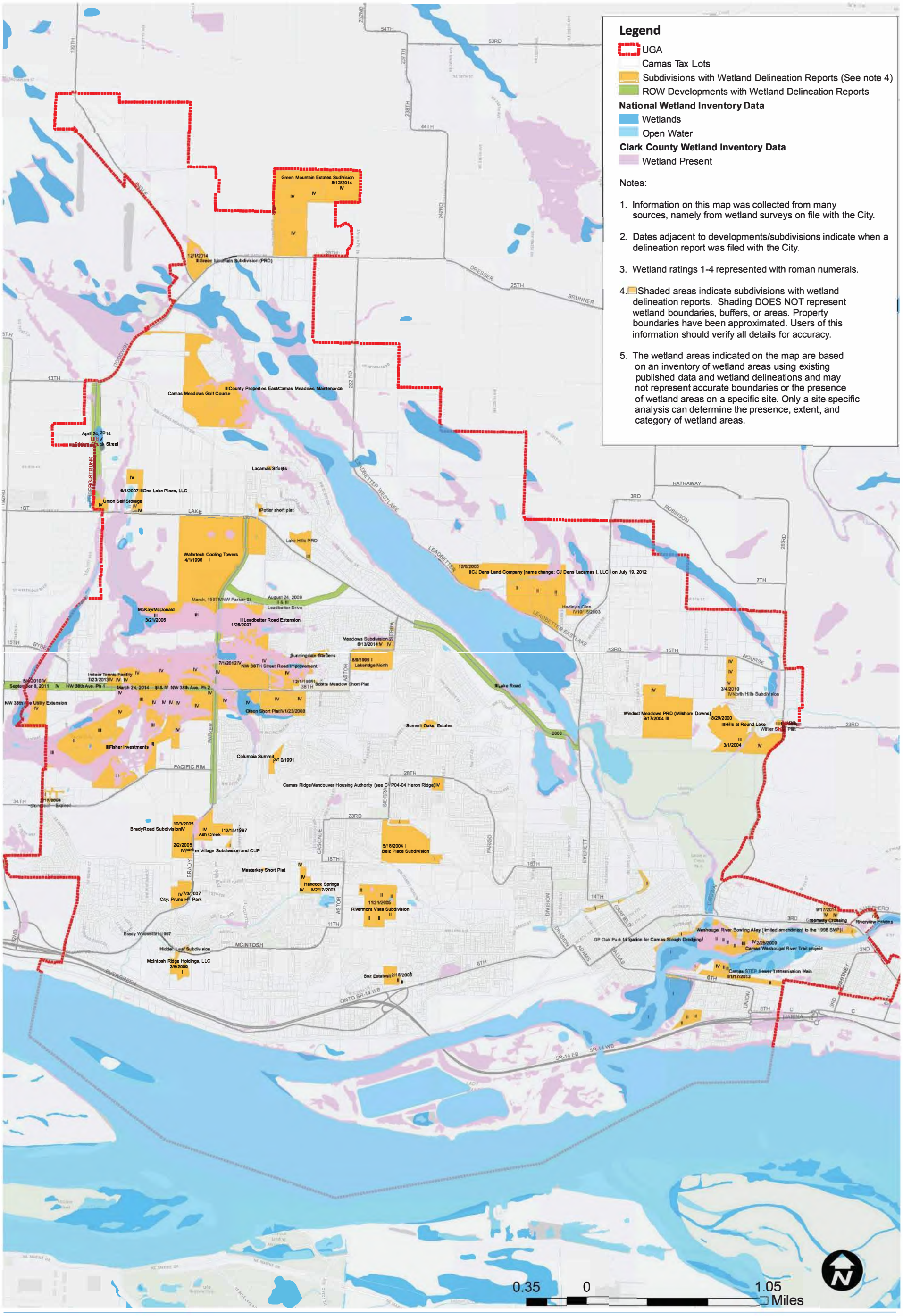
Geologically hazardous areas are typically defined by the possibility of natural disasters including earthquakes and volcanic activity. These hazard potentials are then increased by the presence of steep slopes prone to landslide, particular soil groups prone to liquefaction, and other circumstances which have the potential to compound emergency scenarios. The United State currently operates on a Category 1-4 system to determine building code stringency as it pertains to natural disasters where category 4 is the most stringent. The City is rated as a Category 4 which indicates a high potential for landslides and other events.

In Chapter 40.430, Clark County defines three types of geologic hazard areas which include seismic, landslide, and steep slope. The county's Geologic Hazard regulation requires developers to have a Geologic Hazard Area Study completed on any property which is identified in a hazard area.

4.6.2.5 Fish and Wildlife Habitat Conservation Areas

As defined in the City's 2035 Comprehensive Plan, one of the primary plans for the City is to protect "habitat and safe passage for wildlife from Green Mountain to the Columbia River" (Camas, 2035). Multiple threatened species have been found to inhabit or pass through the region, and regulations are currently in place to prevent harm to any habitat including Washington Administrative Code (WAC) 365-190-130. These regions are defined as Fish and Wildlife Habitat Conservation Areas which are protected.

Regulations include completing a habitat assessment before construction. These regulations impact any proposed sanitary sewer pipelines or pump stations in order to protect the fish and wildlife habitat.



carollo

Last Revised: February 11, 2022 pw:\\IO-PW-INT.Carollo.local:Carollo\Documents\Client\WA\Camas\11418A00\GIS\MXD\Figure 4.6 Camas Wetlands Map.mxd

Figure 4-6 Camas Wetlands Map

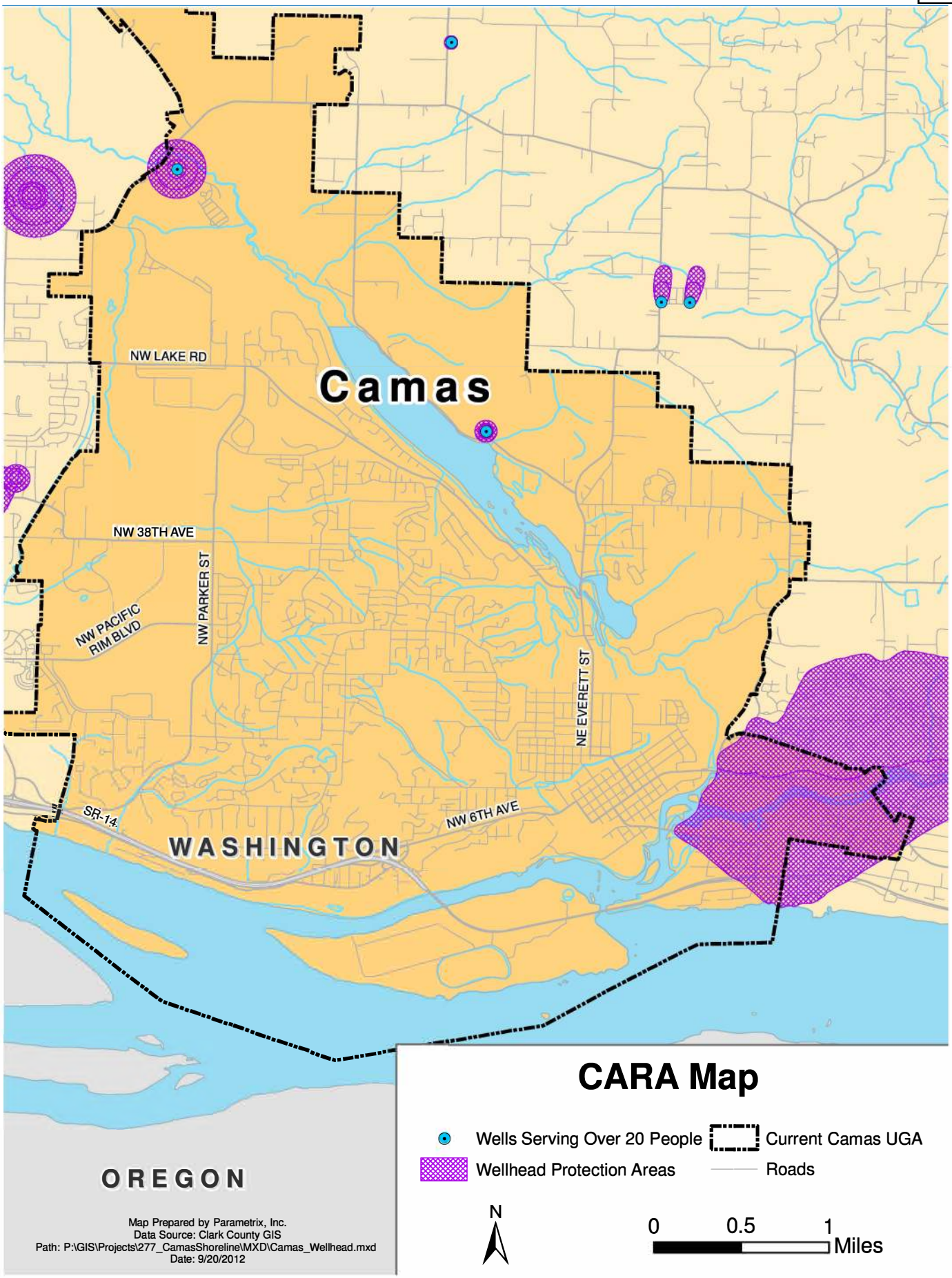


Figure 4.7 CARA Ma

4.7 Water System

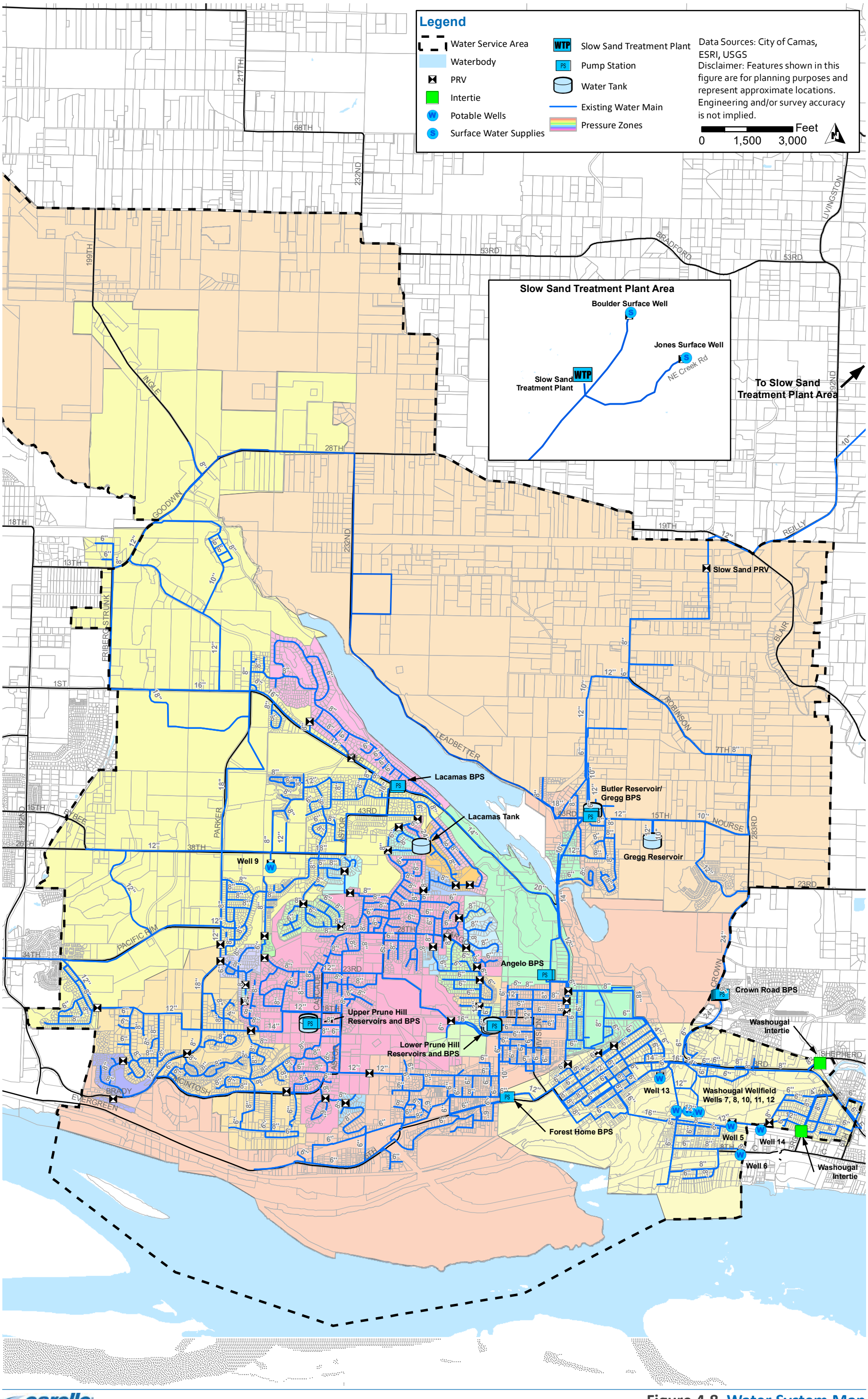
The City owns and operates a multi-source municipal water system, shown in Figure 4.8, which uses ground water and surface water to supply, treat, store, and distribute potable water to residential and commercial customers. The City currently obtains its water from ten groundwater wells and two surface water resources. The wellhead protection areas are regulated to prevent leakage from the sanitary sewer system from infiltrating a well; these areas are shown in Figure 4.9. The surface water resources include the Jones Creek Intake constructed in 1913 and the Boulder Creek Intake constructed in 1931. These intakes are permitted to flow at 1,570 gpm and have lower operating expense than groundwater sources. The ten groundwater wells are located in the 343 Zone excluding Well 9 which is located in the 544 Zone.

The City currently maintains the capacity to store 8.45 million gallons (MG) at multiple facilities including Butler Reservoir (1.2 MG), Gregg Reservoir (0.1 MG), Lacamas Reservoir (2.0 MG), Lower Prune Hill Reservoirs (2.0 MG), and the Upper Prune Hill Reservoirs (3.15 MG). This capacity is available for normal and emergency conditions, such as fire suppression. Service is provided to customers across five major pressure zones and 18 subzones. Eight booster pump stations are used to move water between pressure zones. Table 4.9 below lists the booster pump stations and their capacities.

Table 4.9 Camas Booster Pump Stations

Booster Pump Station	Capacity (gpm)
Butler	1,400
New Gregg	1,000
Forest Home	3,500
Lower Prune Hill	2,500
Lacamas	2,500
Angelo	4,000
Upper Prune Hill	2,900
Crown Road	1,600

The City owns over 143 miles of pipelines in its water transmission and distribution system compared to only 87.5 miles of collection system. Approximately 47 percent of the pipeline is Ductile Iron followed by Cast Iron at 15 percent. Additionally, the distribution system includes numerous meters, isolation valves, and hydrants. An emergency intertie is available with the City of Washougal as well while an agreement with the City of Vancouver includes the use of two fire hydrants located at SE 1st and Friberg.



carollo

Last Revised: February 11, 2022 pw:\\IO-PW-INT.Carollo.local:Carollo\Documents\Client\WA\Camas\11418A00\GIS\MXD\Figure 4.8 Water System Map.mxd

Figure 4.8 Water System Map

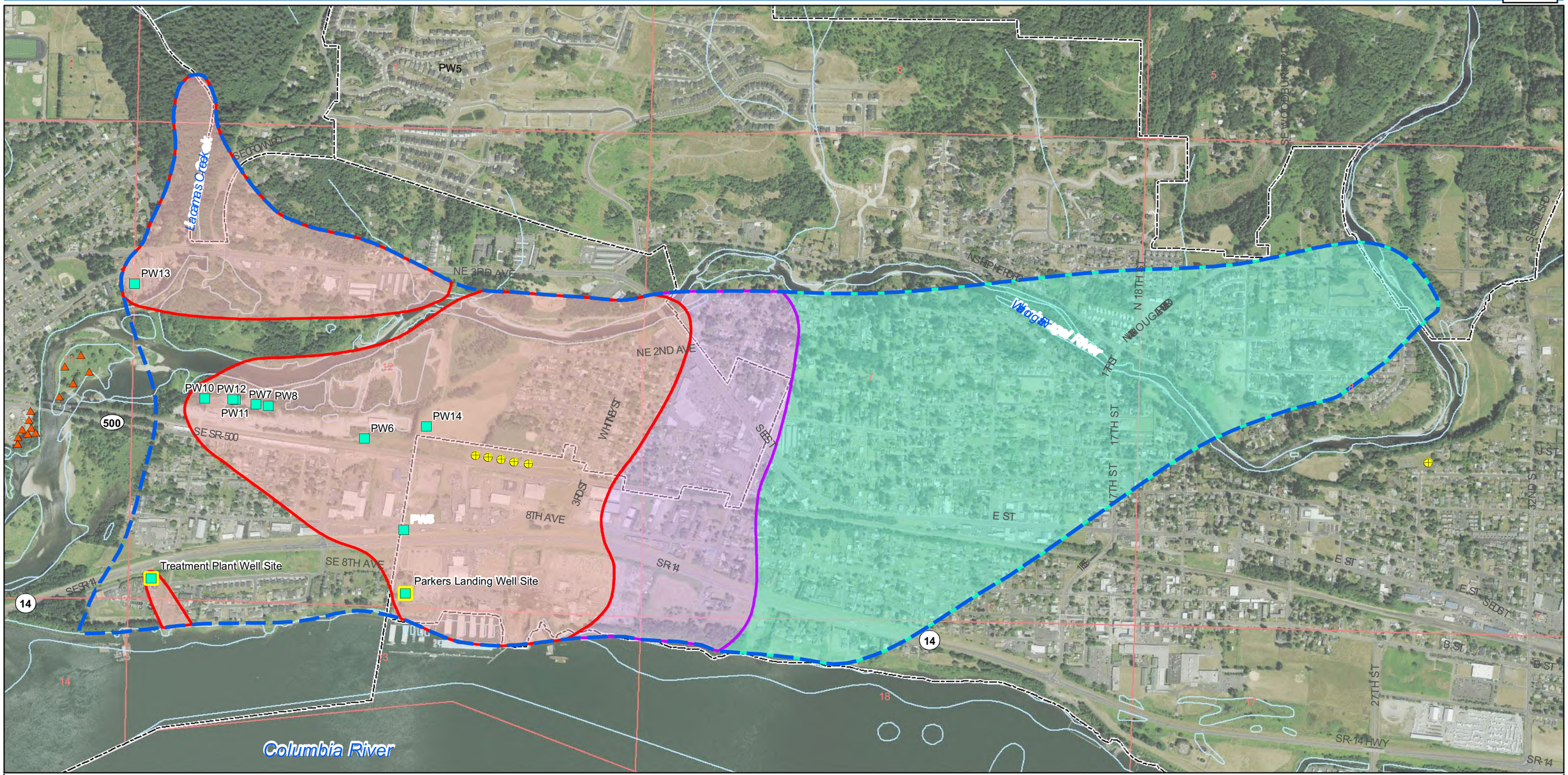


Figure 4.9 Wellhead Protection Capture Zones

Last Revised: February 11, 2022 pw:\\IO-PW-INT.Carollo.local:Carollo\Documents\Client\WA\ Camas \11418A00\GIS\MXD\ExistingWastewater_Collection_System_w_Contours.mxd

Chapter 5

INFLOW / INFILTRATION PROGRAM

5.1 Introduction

Special condition S.4.E of the City's 2015 National Pollutant Discharge Elimination System (NPDES) Permit required the City to submit an annual Inflow and Infiltration (I/I) Analysis Report. The City received lower than typical treatment plant process removal efficiencies in their 2015 NPDES permit to account for the dilute Septic Tank Effluent Pump (STEP); Septic Tank Effluent Filter (STEF); and Septic Tank Effluent Gravity (STEG), which contribute approximately half of the plant influent, as well as low strength industrial wastewater. This accounts for the lower biological solids loading expected from septic tank effluent, which makes removal efficiency more difficult to achieve at the WWTF. This lower treatment standard could also potentially mask excessive I/I. Therefore, the City was required to conduct an Annual I/I Analysis report to prove the City is controlling I/I. The City completed the following reports: Infiltration and Inflow Study (Gray & Osborne, 2016); the May 2016-April 2017 Annual Inflow and Infiltration Report; the May 2017-April 2018 Annual Inflow and Infiltration Report; and the May 2018- April 2019 Annual Inflow and Infiltration Report. In 2020 an Infiltration and Inflow Follow-Up Study (Gray & Osborne, 2020) was completed to document improvements within the City's collection system. This section references findings from these reports as well as generally describing the City's I/I program.

Infiltration and inflow consist of two components which may combine or act independently to increase flow volume and peak flows in the sewer system. If too much I/I enters the sewer system such that the sewer system is operating at or above its capacity, sanitary sewer overflows (SSO) could occur. More dilute waste can also be difficult to treat if using percent removal criteria as the basis, as noted above. Proper attention to the lower than typical biological solids loading under these conditions is warranted in design and operation of the WWTF. The definitions of infiltration and inflows are described below:

- **Infiltration:** Infiltration is defined as stormwater or groundwater flows that enter the sewer system by percolating through the soil and then through defects in pipelines, manholes (MH), and joints. Examples of infiltration entry points are cracks in pipelines, misaligned joints, and root penetration. Due to this process, infiltration may be seen hours after a storm has occurred.
- **Inflow:** Inflow may be seen immediately after or during the storm. Inflow occurs when stormwater enters the sewer system via storm drain cross connections, leaky MH covers, or cleanouts. Examples of inflow entry points are roof drains and downspout connections, leaky MH covers, and illegal storm drain connections. Gross pipeline or system structural defects can be severe enough to allow storm or groundwater to enter the system rapidly and exhibit response time characteristics that could be categorized as inflow.

Key adverse effects of I/I on wastewater collection and treatment facilities include:

- Surcharging of sewer MHs.
- Sewage backups in facilities.
- Hydraulic overloading of unit processes at the wastewater treatment facility (WWTF).
- Reduced treatment efficiency at the WWTF due to dilute concentrations.
- Prematurely reaching capacity for collection systems and/or WWTF components.

This Chapter focuses on summarizing the City's efforts on I/I reduction from 2016 through 2020 and the quantifiable, positive improvement that has been accomplished in reducing I/I. It summarizes the amount of I/I for these years and specific projects completed to address I/I.

This Chapter focuses on summarizing the City's efforts on I/I reduction from 2016 through 2020 and the quantifiable, positive improvement that has been accomplished in reducing I/I. It summarizes the amount of I/I for these years and specific projects completed to address I/I.

5.2 Historical I/I Control Efforts

The City has conducted I/I studies since 1977. The City has spent more than $4.55 million in collection system I/I work and $750,000 in wastewater treatment facility improvements to address I/I flows.

The 1977 I/I Report attributed approximately 2.6 million gallons per day (mgd) to infiltration and 2.1 mgd to inflow. Major infiltration sources identified included roof and foundation drains, catch basins and multi-hole MH covers. By 1987, a sealing project was underway for individual sewer services.

In 1994, CH2M Hill wrote a memorandum stating that estimated I/I entering the system was 3.54 mgd and the major source was likely faulty service connections. It was concluded that a more cost-effective alternative to reducing I/I would be to increase treatment capacity.

In 1997, a Facility Plan determined the City had excessive I/I based on U.S. Environmental Protection Agency (EPA) criteria, and an 8-year sewer system rehabilitation program began based upon basins with the highest risk. During this study, a peak I/I flow of 3.4 mgd was determined.

In 2007, excessive inflow was determined at 62 gpcd for infiltration and 383 gpcd for inflow. This is based on the EPA criteria for excessive I/I to be 120 gallons per capita day (gpcd) for infiltration and 275 gpcd for inflow. At total of 26 collection system projects were identified to address capacity and condition issues, 18 of which would reduce I/I.

In 2016, the City commissioned an evaluation of the collection system to document existing infiltration and inflow as a condition of their new stormwater permit. This evaluation utilized pump station run time, WWTF flow, and precipitation records to identify basins that were yielding high I/I values. This provided data to confirm the basins with high I/I, which were 3s, 3n, 4, and 10. Then smoke testing, manhole inspection, and CCTV inspection were used to identify specific locations within basins where improvements could be made to lower I/I. The results of 2016 I/I Study were used to plan and prioritize projects in order to reduce I/I:

1. In 2020, the City commissioned a follow-up study to document the reduction in I/I achieved by implementing the recommendations of the 2016 evaluation. The specific objectives of the 2020 study included: Comparing the I/I with that measured in previous

flow monitoring efforts completed for the 2016 I/I Study to assess the efficacy of rehabilitation efforts
2. Identifying areas of the City where the I/I related peaking factor exceeds 3.4:1
3. Identifying additional areas of high I/I in order to new areas for rehabilitation

The 2020 Study demonstrated that since 2016, the City has observed a reduction in peak WWTF flows and high flow events, even though the population of the City and the extent of the sewer system have both increased over this time. Additionally, the City's WWTF no longer experiences excessive infiltration or inflow as defined by the EPA, which is examined below in Section 5.7.3.

The most recent I/I projects completed are summarized in this report. Future planned projects can be viewed in Appendix F.

5.3 Required I/I Reporting

Special condition S.4.E of the 2015 Camas WWTP NPDES permit required the City to conduct a study of inflow sources and annual analysis of I/I using the Washington State Department of Ecology's (Ecology) Information Manual for Treatment Plant Operators. Special condition S.4.E indicates the Annual I/I Report should include:

1. Average monthly flow and total precipitation for each month for the past year.
2. Maximum monthly and peak hourly hydraulic design capacity for the plant.
3. Design population equivalent for the treatment plant and population served by the facility for the past year.
4. The amount of I/I for each year since the base year and the percent of maximum monthly design capacity each year's I/I represents.
5. Percent increase or reduction in I/I for each year after the base year I/I.
6. Additional lengths of sewer lines added to collection system for the past year.

The Annual I/I reports for 2016, 2017, and 2018 and the City's I/I Program are provided in Appendix F and summarized throughout this chapter. Values in this Chapter are based on numbers that were reported in the Annual Reports. Please note that the City is updating their treatment plant capacity and values may change after completion.

5.4 Calculated I/I

Special condition S4.E.3 of the 2015 NPDES permit states that the annual period for the required I/I reporting is May 1st through April 30th. The 2016 Annual Report selected May 2011-April 2012 to be the base year to compare future I/I against, which is highlighted in Table 5.1. This base year was selected because it represents the 20-year median rainfall very closely. The average 12-month rainfall in Camas from the twenty-year period of 1997 to 2017 was 46.43 in, and from May 2011-April 2012 the rainfall was 47.60 in, which was the 50th percentile of all twenty 12-month totals and only 1.17 inches more than the twenty-year average. Additionally, using 2011-2012 as the selected base year incorporates the City's recent growth. Per permit requirements, the I/I was compared with maximum monthly hydraulic design capacity for the Camas Wastewater Treatment Plant. Additionally, I/I was compared with the previous year. The fluctuations seen in I/I in Table 5.1 are largely due to variations in rainfall. Reductions in I/I from specific projects are presented in further sections.

Table 5.1 Annual Report Calculated I/I

Year	Calculated I/I (mgd)	I/I as Percent of Design Capacity	I/I Percent Increase/Decrease
2011	1.511	25%	N/A
2012	2.340	38%	+55%
2013	0.591	10%	-75%
2014	0.985	16%	+67%
2015	2.277	37%	+131%
2016	1.920	31%	-16%
2017	1.021	17%	-47%
2018	1.052	17%	+3%

5.5 Field Investigation

Several evaluations were conducted to determine areas of excessive I/I. Field investigation methods include flow monitoring and analysis, smoke testing, MH inspection, and video inspection.

5.5.1 Flow Monitoring and Analysis

According to the NPDES permit, the City is required to:

- Quantify the level of inflow from each collection system basin or sub-basin in order to identify areas exceeding a peak day to monthly average peaking factor of 3.4:1 during the design rainfall event.
- Prioritize the list of projects to most cost effectively reduce the level of inflow to a peaking factor of 3.4:1 or less.

The analysis for flow monitoring includes evaluation of WWTF flow data, pump station run-time data, and collection system flow monitoring data. The highest-ranking storm event identified occurred on January 1, 2009 with 3.1 inches rainfall and 7.711 mgd WWTF influent followed by January 19, 2012 at 2.0 inches rainfall and 7.534 mgd WWTF influent. The design storm was estimated with the January 1, 2009, rainfall event. For pump station run-time, Crown View, Lacamas Creek, South Prune Hill, and West Camas were identified to exceed the peaking factor criterion of 3.4:1. Thus, the basins these pump stations are located in were targeted for further flow assessment.

Major storm events and corresponding WWTF influent flow are typically indicative of I/I activity in a collection system. During the 2016 I/I Study, basins of concern were Crown View (Basin 3N), Lacamas Creek (Basin 7), South Prune Hill (Basin 10), and West Camas (Basin 10) with ratio normalized to peak day of 5.904, 5.433, 3.554, and 3.299, respectively.

The highest priority flow monitoring locations are Basins 3 and 4 with the greatest I/I which exceeds the NPDES Peaking Factor criterion. Basins 3 and 4 are shown in Figure 4.2 in Chapter 4.

For the 2020 I/I Follow-up Study, temporary flow meters were installed in October 2019 in the collection system to determine the state of I/I in the City and assess the impact of previous I/I reduction projects. From this evaluation, the City was able to see areas still with peaking factors exceeding the NPDES Peaking Factor Criterion for peak day to average flow of 3.4:1.

5.5.2 Smoke Testing

Smoke testing is a typical means of conducting a physical assessment of a wastewater collection system. Smoke testing locates potential sources of I/I by blowing artificial smoke into a collection system, typically at a MH, and visually observing where the smoke escapes, indicating breaks in the collection system as well as cross connections between the sewer system and storm drain systems and roof drains.

Smoke testing was conducted from August 14 to August 26, 2015 as a part of the 2016 I/I Study. The test identified 92 locations where inflow could potentially occur where a majority was cleanouts that were either broken or without covers or where smoke was observed coming out of the ground. The highest observed sources of smoke occurred in Basin 3N, 3S, 4, and 5, as summarized in Table 5.2. A small number of roof drains and catch basins connected to the sewer system were identified. Defects were also identified near two MHs in Basin 3N through smoke testing.

Table 5.2 2015 Smoke Test Results

Basin	Cleanouts	Catch Basins	MHs	Roof Drains	"Ground Smoke" (Likely Side Sewers)	Total
1	1	0	0	0	1	2
2	3	0	0	0	1	4
3N	12	0	2	1	3	18
3S	2	0	0	1	13	16
4	4	1	0	1	6	12
5	2	1	0	1	10	14
6	0	2	0	2	3	7
7	1	0	0	0	0	1
8	4	0	0	0	1	5
9	3	0	0	0	0	3
10	6	1	0	0	3	10
Total	**38**	**5**	**2**	**6**	**41**	**92**

5.5.3 Manhole Inspection

Wastewater collection system MHs represent a relatively easy means of viewing what is occurring in a collection system because they:

- Allow for a visual inspection of flow.
- Are potential sources of I/I themselves due to deterioration or how they were constructed.
- Are insertion points for flow meters to measure flows within a collection system.

During the investigations in 1997 and 2015, all basins were tested. In the 1997 study, leaking MHs were found in Basins 1, 2, 3N, 4, 5, 6, 7, and 10. In the 2016 study, of the 95 MHs inspected in Basin 3S, 3N, 4, 5, and 7, only 14 were found to have reportable issues. Defects identified in these MHs are summarized in Table 5.3.

Table 5.3 2015 Manhole Inspection Results

Basin	Number of MHs leaking (2015)
3S	3
3N	4
4	2
5	4
7	1
Total	**14**

5.5.4 Video Inspection

The City contracts with specialist firms to perform regular closed-circuit television (CCTV) inspections of its gravity sewer system. The inspections identify structural and operational defects, such as broken pipes, cracks, grease, roots, sag, separated and offset joints, and other problems. Several structural defects identified in CCTV inspections were repaired when identified. Other defects may be addressed through increased preventative maintenance, repair, or monitoring. In 2016 as a result of the flow monitoring work completed for the 2016 I/I Study, the City selected an area of the sewer system that frequently exceeded the 3.4:1 peak to average flow ratio. This area was the section of sewer system that drains to the Crown View Lift Station, and CCTV inspections were evaluated to identify potential I/I sources. The results were used to develop a list of projects which the City incorporated into their ongoing repair and replacement program.

5.6 Identified I/I Projects

From the field investigation, projects were developed and given a level of priority based on their potential to remove I/I. Priority basins for I/I reduction were 3N, 3S, and 4. Future I/I projects are slated for the City's other basins.

High priority projects developed to guide the likely schedule of I/I mitigation projects were described as follows:

- Action explicitly required by NPDES permit.
- Disconnect catch basins from sanitary sewer and connect to storm sewer.
- Repair cleanouts with > 500 gallons per day (gpd) estimated inflow.
- Disconnect downspouts.
- Replace significantly deteriorated MHs.
- Raise MH lids to minimize inflow.
- Repair significantly deteriorated or sagging pipe, with highest priority on problems observed in Basins 3N, 3S and 4, followed by Basins 5 and 6.

With the completion of high priority work only, the sewer system is anticipated to achieve the NPDES permits required ratio of peak day to monthly average flows in all basins. If it is not reduced, then the medium high priority projects will be completed, then the medium and lastly the low. Table 5.4 includes basins targeted and total capital required to complete the projects. The suggested timeline was for high priority projects to be completed in 2016-18, medium high priority in 2019, medium priority in 2020-2025, and low priority from 2026-2029.

Table 5.4 Summary of I/I Projects and Costs Listed in 2016 I/I Study

Year	Basins	Targeted Cost(1)
2016	3N, 3S, 4	$328,000
2017	1, 2, 3N, 3S, 4, 5, 6, 10	$380,000
2018	2, 3N, 3S, 4, 5, 6, 7	$500,000
2019	5, 7, 8, 9, 10	$130,000
2020	3N	$150,000
2021	3N, 3S	$135,000
2022	3S,	$150,000
2023	3S, 4	$150,000
2024	4, 5, 8, 9	$150,000
2025	9, 10	$50,000
2026-2028	1, 2, 5, 6, 7, 8, 9	$325,000

Notes:
(1) All cost values were determined by Gray & Osborne. All values are believed to be in 2016 dollars.

The 2015 I/I report included a project schedule with all planned projects for the next 10 years. The 2016, 2017, and 2018 Annual Reports denote on the project schedule which projects have been completed.

5.7 Completed I/I Projects

As mentioned previously, five high priority projects have been completed, as shown in Table 5.5. These projects have cost the City in excess of $1.5 million dollars. The City conducted pre- and post- construction monitoring for the two largest projects, which are summarized in Section 5.7.1 and 5.7.2.

Table 5.5 Completed I/I Projects

Year	Basin	Project Title	Description	Project Cost(1)
2019	10	View Ridge Court Sewer Replacement	Replacement of sewers	$370,000(3)
2017	4	NE Dallas Street Sewer Replacements	Replacement of several sewer pipes	$129,000(3)
2017	4	NE Adams Street Sewer Replacements	Replacement of several sewer pipes	$100,000(3)
2017	4	Everett and Franklin Sewer Replacement	Replacement of sewer line from 19th and Franklin to Everett and Everett to 21st	$352,000(3)
2016	4	Franklin Street Sewer Improvement	Replace sewer line between MH 4-1-1 and MH 4-1-4	$952,883(2)
2018	3S	Mill Ditch Repair	Replaced section of sewer line between Dallas Street and Birch Street	$417,105(2)
2018	3S	Mill Ditch Repair	Rehabilitate or replace 15-inch CONC from MH 3-2-6 to 3-1-1 (1,370 feet)	

Notes:
(1) Cost values reflect actual construction costs at the time of completion.
(2) Value from the 2017 Annual Report.
(3) Value from the I/I Follow-Up Study.

5.7.1 Franklin Street Sewer Improvement Project

The Franklin Street Sewer Replacement Project was completed in October 2016. The project involved replacing and upsizing approximately 1,600 feet of sewer line that had been video inspected along Franklin Street between NE 19th Avenue and NE 14th Avenue and were found to contain cracks and sag. Table 5.6 summarizes the inflow before the project and changes in flow observed after project completion. The project effectively reduced inflow by approximately half during typical flow conditions. No reduction was seen during the largest storm monitored, which is likely due to upstream inflow sources outside of the scope of the project.

Table 5.6 Franklin Street Sewer Project I/I and Flow

Manhole	Basin Measured	Flow Meter Installed	Flow Meter Removed	Parameter (mgd)	Daily Flows (mgd)			Rainfall/ days(1)
					Min	Ave	Max	(in/day)
MH 3-2-6 Pre-Construction	4	1/5/2016	1/20/2016	Flow Inflow	0.411 0.303	0.749 0.641	1.019 0.911	0.3593
MH 3-2-6 Post-Construction	4	3/4/2017	3/30/2017	Flow Inflow	0.127 0.017	0.447 0.337	1.054 0.944	0.3362

Notes:
(1) This is the total cumulative rainfall over the duration the flow metered.

5.7.2 Mill Ditch Repair Project

The Mill Ditch Sewer Line Replacement was completed in April 2018. The project included replacing approximately 900 feet of deteriorated 15-inch concrete main with 21-inch high-density polyethylene (HDPE) pipe and manholes. Table 5.7 summarizes the inflow before the project and changes in flow observed after project completion. The project effectively reduced inflow by approximately half during typical flow conditions. Due to the timing of the project and dry spring weather, post construction flow monitoring was not completed until 2019. The increase in inflow during the largest storm monitored is likely due to differences in rainfall intensity between the pre- and post-construction periods and upstream inflow sources outside of the scope of the project.

Table 5.7 Mill Ditch Project I/I and Flow

Manhole	Basin Measured	Flow Meter Installed	Flow Meter Removed	Parameter (mgd)	Daily Flows (mgd)			Rainfall(1)
					Min	Ave	Max	(in/day)
MH 5-8-1 Pre-Construction	3N, 3S, 4	2/5/2016	2/23/2016	Flow Inflow	0.352 0.68	0.909 1.114	1.969 1.617	0.1756
MH 5-8-1 Post-Construction	3N, 3S, 4	3/19/2019	6/4/2019	Flow Inflow	0.46 0.245	0.795 0.58	2.496 2.28	0.0906

Notes:
(1) This is the total cumulative rainfall over the duration the flow metered.

5.7.3 I/I Reduction Summary

In 2020, the City commissioned a follow-up study to document the reduction in I/I achieved by implementing the recommendations of the 2016 evaluation. The purpose of this work was to compare estimated per capita I/I from the 2016 study and 2020 against EPA criteria. The EPA's threshold for excessive infiltration is 120 gallons per capita per day (gpcd) is and the threshold for

excessive inflow is 275 gpcd. The per capita infiltration flow accounts for domestic wastewater flow, infiltration, and nominal industrial and commercial flows. Inflow values are based on the maximum daily influent flow at the WWTF between 2019 and 2020.

The initial Infiltration and Inflow Study (Gray & Osborne, 2016) determined that per capita infiltration in the collection system was 80 gpcd, which was below the EPA threshold for excessive infiltration. This study determined that inflow was a much more significant source of I/I in the collection system with an estimated flow 348 gpcd, which is excessive per EPA criteria. As a result of I/I projects completed between 2016 and 2020 the City's per capita infiltration was reduced to 46 gpcd. During this same period the City's per capita inflow was reduced to 176 gpcd and is no longer considered excessive.

Table 5.8 summarizes the improvements in per capita I/I for the City's collection system.

Since 2016, the City has completed I/I reduction projects each year, totaling well over $1 million. According to the 2020 Follow-up I/I Study, along with the reduction of I/I since 2016, the performance of the WWTF has improved as well. The WWTF has not experienced an I/I related effluent violation for over three years (since February 2017). While the I/I reduction is presumably not the only reason the WWTF's efficacy has improved, reductions in I/I due to the City's reduction efforts has certainly played a crucial role.

Table 5.8 Per Capita I/I Compared to EPA Criteria

Parameter	EPA Criteria for Excessive I/I (gpcd)	I/I Value for Camas in 2014 (gpcd)	Current I/I Value for Camas (gpcd)
EPA Excessive Infiltration Criteria	120	80	46
EPA Excessive Inflow Criteria	275	348	176

5.8 Planned I/I Projects

The City has two major pump station improvements projects planned to be constructed within the next five years. These are the Crown View Pump Station Improvements project and the Lacamas Creek Pump Station Replacement project. The design for each of these projects was completed in 2020 but bidding documents have not been issued for construction. In addition, the City will continue to address I/I throughout the collection system through their ongoing repair and replacement program. The 2020 Follow-up I/I Study expects that the Crown View Pump Station Improvement will significantly reduce I/I in Basin 3n, and the Lacamas Creek project will significantly reduce I/I in Basin 7.

Table 5.9 Planned I/I Projects

Year	Basin	Project Title	Description	Project Cost
Ongoing	N/A	Gravity Main Repair and Replacement	Ongoing repair and replacement of gravity mains at end of useful life.	$150,000/year
2020	3N	Crown View Pump Station Improvements	Includes stormwater improvements to reduce I/I entering the pump station	-
2020	7	Lacamas Creek Pump Station	Includes replacing the pump station and sewer pipe	$4.03M

Chapter 6

COLLECTION SYSTEM

6.1 Introduction

The City of Camas's (City) customer base continues to increase through system expansion. With this growth, some of the City's sewer infrastructure may reach conveyance capacity. This chapter presents an evaluation of the available capacity of the existing system to convey current and future sewer flows. The City's collection system is broken up between gravity mains and septic tank effluent pumping (STEP) systems that flow to the Treatment Plant separately.

Using the City's updated sewer model, major pipes and pump stations in the modeled collection system were evaluated for meeting established capacity criteria. The modeled collection system is primarily large gravity sewers which represent a skeletonized version of the system. The City has a limited GIS inventory of the collection system so no updates to the extent of the system that is modeled could be made. The STEP system was not included in the hydraulic model. Thus, capacity evaluation was only performed for the modeled gravity portion of the collection system. An overview of the modeled collection system is shown in Figure 6.1. The current modeled service area, in pink, represents the portion of the model evaluated in the existing scenario based on flow monitoring. The system was calibrated with four flow meters, which delineated the model system into four flow monitoring basins with similar diurnal patterns and wet weather flow parameters, also shown in Figure 6.1. The 2035 year and build-out scenarios expanded the modeled service area to the NUGA in the North of the system, shown in green. Additional details on the model used to evaluate the collection system can be found in Appendix E - TM Hydraulic Model Development. This chapter identifies recommended projects that correct capacity deficiencies and will be required to serve future users.

6.2 Evaluation Criteria

Defining performance criteria is a critical step in the master planning process because it sets metrics by which the collection system infrastructure will be evaluated to meet service goals set by the City. Sewer pipe capacities are dependent on many factors, including roughness of the pipe, the maximum allowable depth of flow, or slope of pipe. The City's application of these factors and established requirements are discussed below.

It is important to differentiate performance and design criteria when judging the performance of collection system infrastructure. Design criteria establish the standards for designing and constructing new sewers. Performance criteria establish the standards that are used to analyze adequacy of existing facilities and to trigger future infrastructure needs. Performance criteria are commonly less stringent than design criteria because existing sewer systems typically have aged significantly and would require extensive reconstruction to meet standards for new design. It is generally inappropriate to use standard design criteria as performance criteria, especially when significant wet weather flows impact an existing collection system (as is the case with an aged sewer system). For instance, new sewers are designed to convey flow under non-surcharged conditions (assuming limited inflow and infiltration [I/I]), while surcharging may be permissible

during the analysis of existing sewers, especially during peak wet weather flows (PWWFs). The following sections describe the City's established design criteria and performance criteria used herein.

6.2.1 Design Criteria

The design criteria are used to size new infrastructure recommended to alleviate system deficiencies for this system evaluation.

6.2.1.1 Conveyance System

It is common practice to use diameter-based flow depth criteria for pipes when designing new gravity sewers. The depth/diameter (d/D) ratio is defined as the depth of flow in a pipe during peak flow conditions divided by the pipe's diameter. The City's Sewer Standards define the acceptable d/D values for design of new sewers under design storm conditions:

- All sewers shall be designed to flow at a d/D no greater than 1.2 at peak flow rates under build-out conditions, and d/D of 1.0 for existing condition.
- No surcharging (d/D>1) is allowed at shallow manholes. Shallow manhole are defined as manholes where the distance between crown of pipe and manhole rim is less than three feet.
- During the PWWF for design storm, water levels were not allowed to rise up to three feet below manhole rim.

6.2.1.2 Pump Stations and Force Mains

Any new pump stations recommended will need to follow the City's Sewer Standards for pump stations and force main construction to meet Department of Ecology (DOE) requirements. These are detailed in Section 2.2.2 of Chapter 2 - Policies.

6.2.2 Performance Criteria

6.2.2.1 Design Storm

The sewer system hydraulic capacity analysis was performed using a historical 10-year, 24-hour rainfall event (Station Portland Airport (PDX), HYDRA Rain Gauge Network) on December 6, 2015. This design storm is discussed in Section 3.4.6 of Chapter 3 - Basis of Planning.

For this general sewer plan (Plan), the HYDRA historical event referenced above was selected as the design storm for modeling system response and system performance evaluation to realistically represent peak wet weather conditions. The historical HYDRA event was chosen for three reasons:

- The National Oceanic and Atmospheric Administration (NOAA) Precipitation Atlas defines a 10 year, 24-hour event as 3.5 inches per 24 hours based on isopluvial lines through Camas.
- The rain gauge measured 3.37 inches per 24 hours and includes storm hydrograph data. This event had a 20-year recurrence interval based on evaluation of the historical dataset.
- The City 's historical 20-year, 24-hour volume is approximately the same as the NOAA, 10-year.

6.2.2.2 Conveyance System

When evaluating existing sewers, using a conservative d/D ratio may lead to unnecessary replacement of existing pipelines. The PWWF was defined using the standards summarized in Section 6.2.1.1.

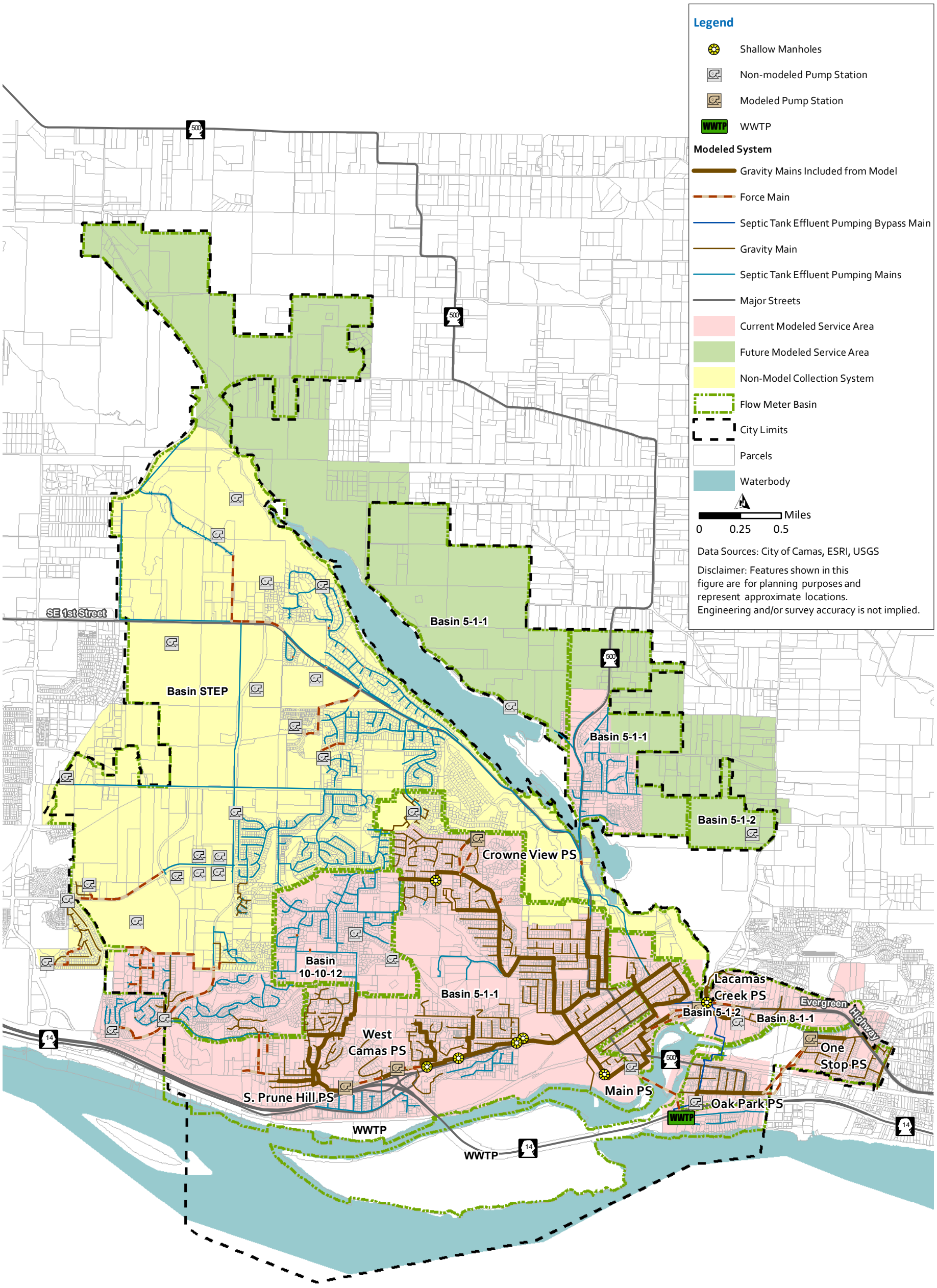
Sewer pipes were allowed to surcharge under these PWWF conditions. If the flow depth was greater than the maximum allowable Hydraulic Grade Line (HGL), then the sewer was deemed deficient and mitigation might be proposed to provide greater flow capacity. Shallow manholes locations are shown on Figure 6.1.

6.2.2.3 Pump Stations and Force Mains

The City's performance criteria for existing pump stations include firm capacity, which is capacity with largest pump out of service and force main velocities. According to City Sewer Standards:

- Firm pump capacity shall be provided to handle the PWWF from the pump station's tributary area.
- Firm pump capacity is defined as the largest pump out of service.

The evaluation of existing force mains is based on a maximum pipe velocity of eight feet per second (ft/sec) for the design storm. No such evaluation was performed in this Plan as the hydraulic model was set up with simplified pump station assumptions and did not model force mains directly.



carollo

Last Revised: March 07, 2022 pw:\\IO-PW-INT.Carollo.local:Carollo\Documents\Client\WA\Camas\11418A00\GIS\MXD\Fig6_1Shallow Manholes.mxd

Figure 6.1 Shallow Manholes

6.3 Gravity Collection System Evaluation

A capacity analysis of the modeled collection system was performed using the City's calibrated hydraulic model and using the evaluation criteria identified above in Section 6.2. The capacity analysis entailed identifying areas in the sewer system where the performance criteria for surcharging was exceeded, or where the capacity of pump stations was exceeded. The collection system was evaluated for three development scenarios:

- Existing: Matching existing conditions.
- 2035: Incorporating growth through 2035 as identified in the previous comprehensive plan.
- Build-Out: Development of the full-service area including urban growth boundary (UGB).

For the remainder of the chapter, the system evaluation will focus on the existing and build-out system. The difference between the 2035 year and build-out system were negligible in terms of collection system capacity criteria.

6.3.1 Key Causes of Deficiencies

The calibrated hydraulic model was exercised under design storm conditions and predicted results analyzed using the performance criteria to identify segments of the system not meeting that criteria. The key causes triggering deficiencies in the City's collection system include:

- Adverse slopes and misaligned inverts.
- Shallow manholes.
- Pipe restrictions caused by a single or few smaller diameter pipes between larger diameter pipes.
- Pipe diameter not sufficient to convey the PWWF.
- Pump station firm capacity not sufficient to pump the PWWF.
- Backwater condition.

6.3.2 Existing System Problem Areas

For the existing sewer collection system, the PWWF was routed through the hydraulic model to assess performance. In accordance with the established criteria for existing sewers, where the model predicted potential deficiencies, these were identified. In general, the smaller sewer mains further upstream in the system have sufficient capacity to convey existing flows during the design storm. Existing deficiencies are primarily located in Flow Monitoring Basin 5-1-1, with primary capacity issues in the downstream larger trunk lines receiving flow from smaller tributary areas and delivering sewage to NE Adams. Specific manhole locations of these deficiencies are discussed in Section 6.5. Each portion of the system with localized capacity issues is broken into seven different existing system problem areas, further discussed in Section 6.5. Basin 5-1-1 experiences elevated I/I that appears to be the main cause of observed deficiencies along 6th Avenue, Division Street, and NW Fargo Street. The locations of these predicted deficiency problem areas under existing PWWF conditions are shown on Figure 6.2 in red.

6.3.3 Build-Out System Problem Areas

The Service Area scenario (build-out) system analysis was performed in a similar manner to the existing system analysis. The build-out condition evaluated whether or not the sewers would be adequately sized to convey the future PWWFs, including urban reserve areas. This analysis incorporates the preliminary assumptions made for how/where to connect the growth areas to the existing system.

Two additional deficiency problem areas occur during build-out conditions. The additional projected flows from the North Shore area add significant amounts of flow and are predicted to exceed the criteria and cause additional surcharging in the system. Additional growth upstream of 6th Avenue NW causes existing deficiencies to worsen under build-out conditions. The build-out deficiency problem areas are shown in red on Figure 6.3.

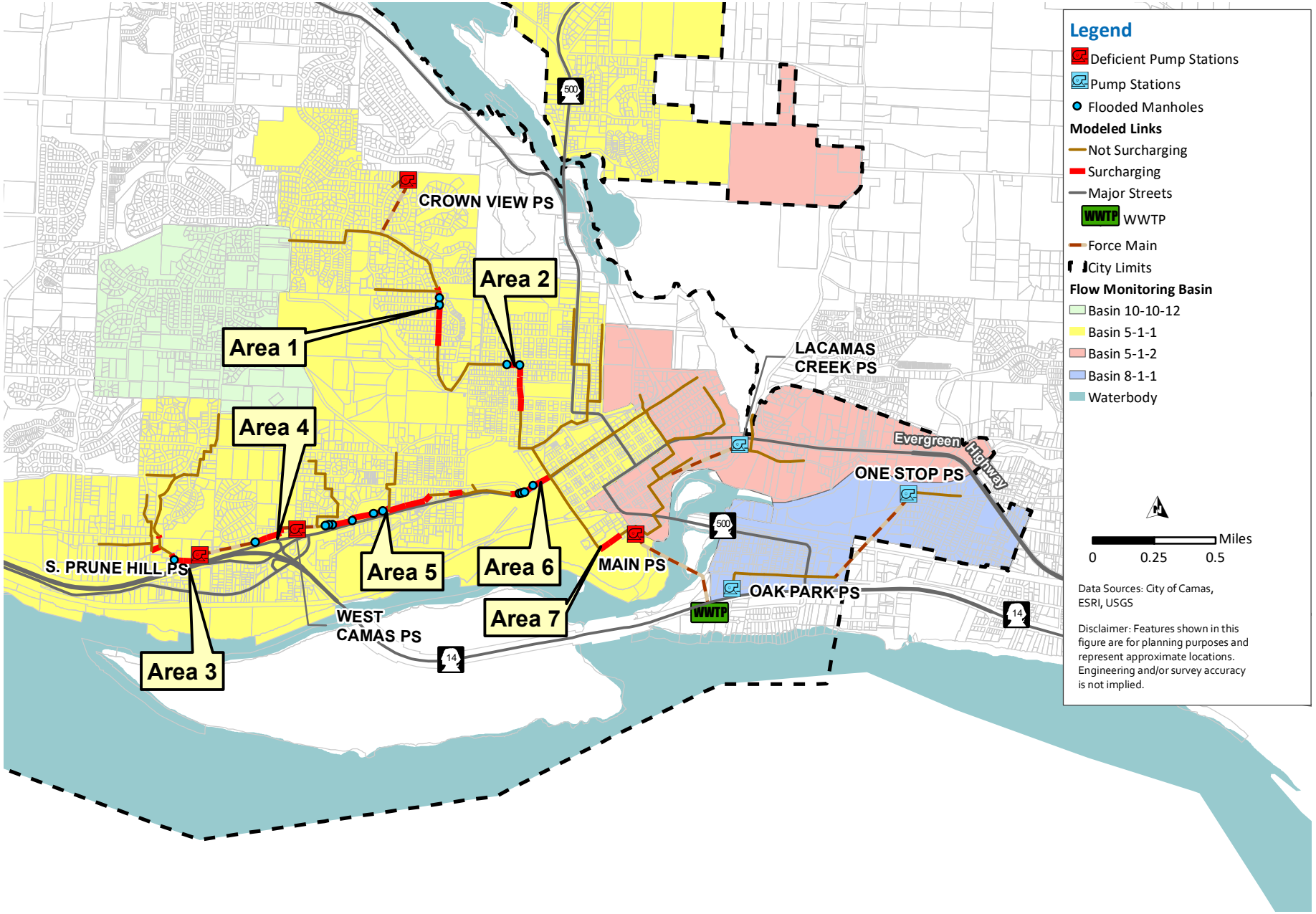


Figure 6.2 Existing Potential Problem Areas and Deficiencie

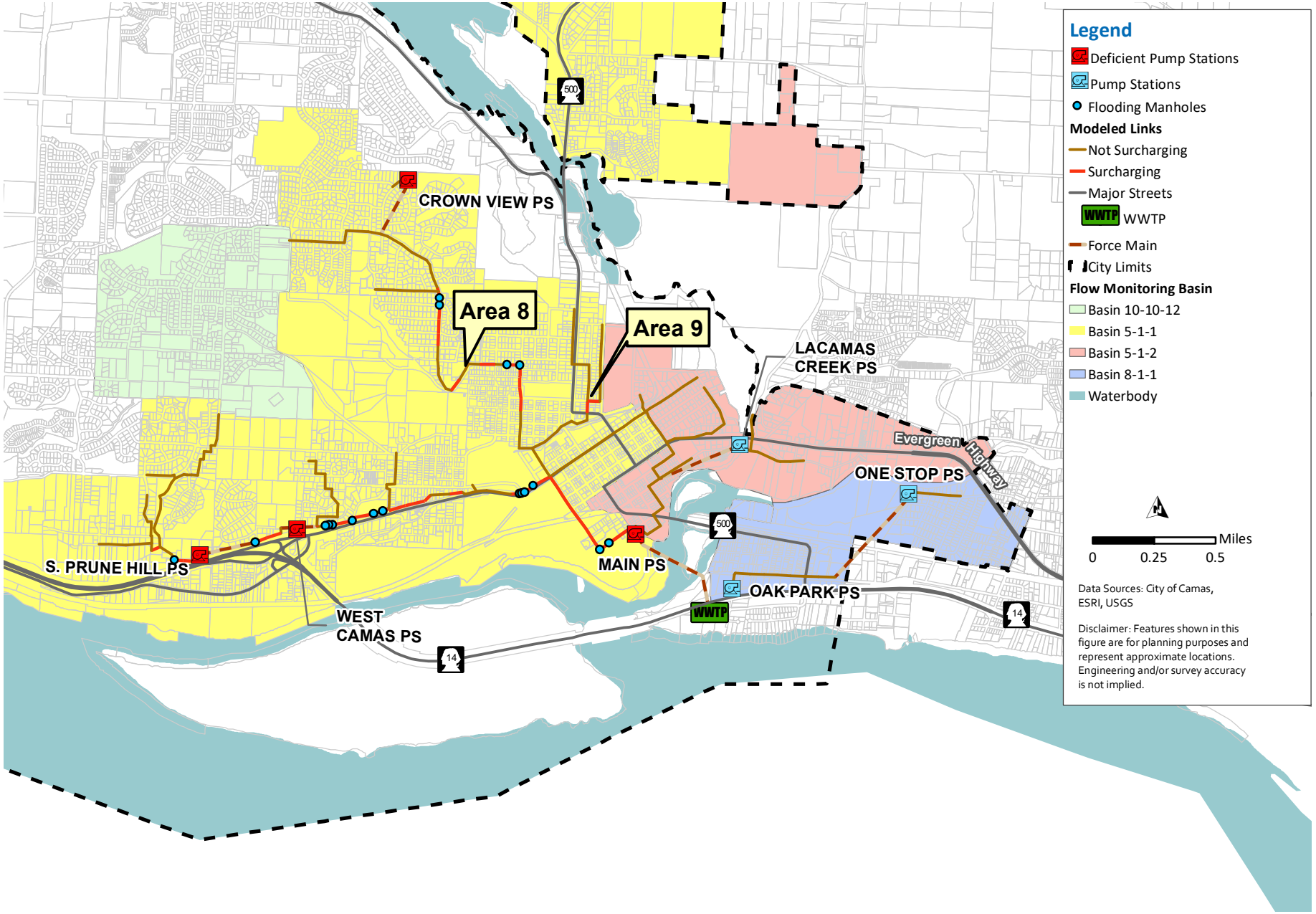


Figure 6.3 Build-Out Potential Problem Areas and Deficiencies

6.4 Pump Station Evaluation

Ensuring that pump stations have adequate capacity to convey peak flows is important to prevent sewage overflows at or near pump stations. In accordance with the established performance criteria, the City's existing pump stations were evaluated using the calibrated system model to determine if each one has available capacity to convey existing and future PWWFs. If a pump station has inadequate capacity to pump the PWWFs, the water level in the wet well may rise to the overflow point, spilling sewage. Pump stations predicted to experience an influent PWWF greater than the existing firm capacity of the station were flagged as deficient. The firm capacity of a pump station is defined as the capacity with the largest pump out of service.

The City's hydraulic model includes five of the seven pump stations located in the City's Gravity Collection System. In addition to the five collection system pump stations included in the model, there are two additional pump stations located just upstream of the WWTF (Oak Park and Main). These two stations were also evaluated utilized existing and projected influent flows, despite not being included in the model. All seven stations are shown in Figure 6.1 in blue. The estimated current and future peak flows were compared the to the pump station firm capacities. Table 6.1 summarizes the results of the pump station evaluation. Figures 6.2 and 6.3 show deficient pump stations in red and pump stations meeting the firm capacity in blue. Firm capacities were based on draw down testing performed by the City. Table 6.1 includes the total capacity at each station, as an additional point of reference for the modeled PWWF's. The total capacity was conservatively assumed to be twice the field measured firm capacity as all stations have two pumps.

Table 6.1 Pump Station Evaluation

Pump Station Name	Firm Capacity (gpm)	Existing Modeled PWWF (gpm)	Build-Out Modeled PWWF (gpm)	Firm Excess Deficiency	Build-Out Excess Deficiency
One Stop	229	67	72	No	No
South Prune Hill	449	1,104	1,113	Yes	Yes
West Camas	579	1,302	1,302	Yes	Yes
Crown View Plaza	148	512	530	Yes	Yes
Lacamas Creek(1)	Current = 346, Build-out = 570	215	525	No	No
Oak Park	426	148	153	No	No
Main	3,851	3,909	5,682	Yes	Yes

Notes:
(1) Lacamas Creek has been design, but not yet constructed. The designed capacity is shown as the 1.27 cfs value for firm capacity. This is used to evaluate the pumps under build-out conditions.
Abbreviations: gpm - gallons per minute; cfs - cubic feet per second.

Based on the analysis and the results presented in Table 6.1, four of the City's pump stations are considered deficient per the City's firm capacity performance criteria. Deficiencies are identified for these four pump stations under existing conditions. These deficiencies are exacerbated under service area build-out conditions.

The collection system model had a simplified set up of the pump stations. Force mains were not included in the model, pumps were setup to discharge into the gravity system at the location of the force main, and associated losses were factored into the pump curves. This setup was consistent with how the model had previously been set up. Future analysis should add force mains to the model, so that force main velocity evaluation can occur. For this plan, no recommendations were made for pump station force mains.

6.4.1 Pump Station Run Times

The gravity collection system model includes only five pump stations and has PWWF information upstream of seven pump stations. The City's STEP system includes 20 pump stations. These stations are not included in the model, therefore no evaluation of performance was available for PWWFs. Historical pump station run times were analyzed for all pump stations to gauge the average capacity of the stations. The station run time data was typically weekly by hour. The number of hours between data points was divided by the number of hours the pump ran to estimate a daily average. This daily average was converted to an annual average for every station. The resulting capacity is displayed in Table 6.2. No conclusions could be made on how pump stations performed during peak wet weather events utilizing the average daily run times. It is difficult to make any determinations from this data, and all stations should undergo additional evaluation to confirm capacity is appropriate to expected wastewater flow conditions.

Table 6.2 STEP Pump Station Percent of Time Running During the Day Based on Pump Hours

Pump Station Name	2014	2015	2016	2017	2018	2019	Potential Capacity Deficiency
Harl	3%	7%	7%	9%	10%	12%	No
Leadbetter	-	-	-	-	1%	1%	No
232nd	-	-	-	-	1%	1%	No
Goodwin	-	-	-	-	1%	2%	No
Two Creeks	3%	3%	3%	4%	3%	5%	No
Camas Meadows	3%	3%	2%	2%	3%	3%	No
Larkspur	2%	3%	3%	4%	5%	2%	No
Lacamas Shores	18%	24%	43%	50%	60%	48%	Yes
Lacamas Meadows	35%	19%	14%	15%	15%	15%	No
Sunningdale Gardens	37%	41%	51%	66%	50%	69%	Yes
Prune Hill Park	6%	6%	6%	6%	6%	6%	No
Hillshire	15%	15%	11%	13%	8%	8%	No
Hunter Ridge	3%	3%	4%	4%	4%	5%	No
Brady Rd	14%	15%	17%	16%	16%	16%	No
Grand Ridge	13%	18%	20%	19%	27%	21%	No
Winchester Hills 2	50%	32%	24%	22%	25%	36%	Yes
Winchester Hills 1	15%	17%	20%	19%	19%	22%	No
Stone Leaf	2%	2%	3%	3%	3%	3%	No
Parker Estates	16%	18%	21%	20%	18%	17%	No
Fisher	1%	1%	1%	1%	1%	2%	No

The relation between average pump station capacities to PWWF depends on the peaking factor of the tributary area, and therefore varies for every station. Considering the limitations in the pump station operational data (daily run times), for the stations identified in Table 6.2, where percent capacity is estimated at 40 percent or higher, the City should assume there is a substantial risk of failing to meet capacity during existing PWWF events. Applying the methodology described herein, Lacamas Shores, Sunningdale Gardens, and Winchester Hills 2 all have exhibited average capacity above 40 percent at some point in the last five years. These stations should be prioritized and undergo future evaluation, possibly including focused flow and pressure monitoring to gain a better understanding of what happens during peak flows and their capacity to inform future capital improvement planning. No future projections were performed for these stations. Future projects should prioritize projecting flows and understanding how the upstream tributary areas of these stations will develop.

6.5 Capacity Evaluation Summary

The City's model predicted several locations where the sewer system may have inadequate capacity for existing PWWF conditions. The deficiencies increase with projected additional growth and City expansion.

Four of the City's seven gravity system pump stations included in the model are considered deficient due to lack of pump redundancy. Additionally, three STEP system pump stations evaluated based on run times may be deficient in the future.

Figures 6.2 and 6.3 highlight the location of system piping and pumping capacity deficiencies identified in this analysis based on the established performance criteria.

Following the completion of the existing, 20 year, and build-out system analysis, improvement projects and alternatives were identified to mitigate capacity deficiencies predicted in the existing and build-out pipeline system. The City has nine localized areas of capacity system deficiencies and four pump stations that will need to be upgraded to meet firm capacity criteria. The following sections describe each of the nine problem areas and the suggested pipeline improvements in addition to proposed pump station upgrades. Figure 6.4 identifies the proposed pipeline improvements for each problem area, discussed in the following sections.

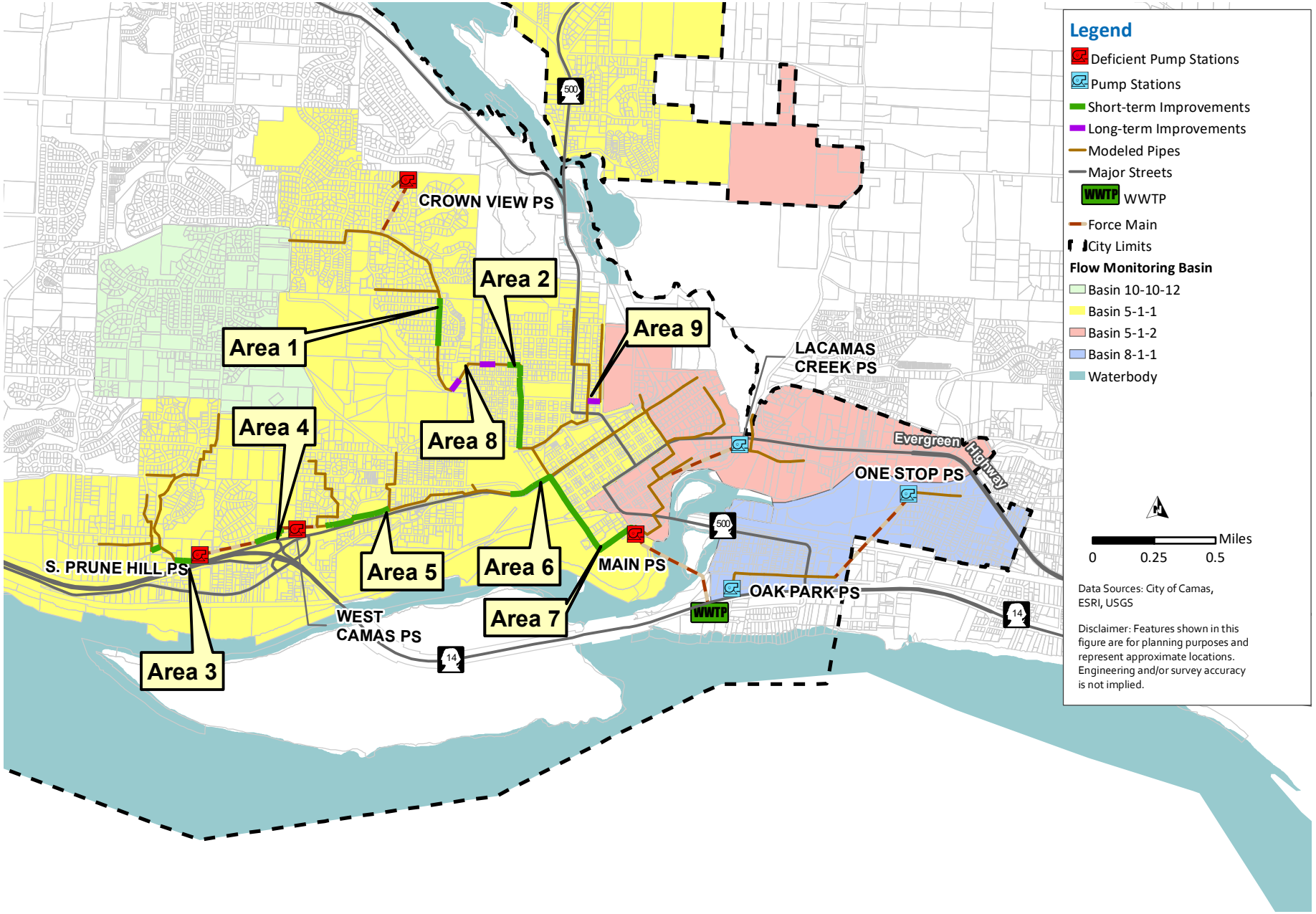


Figure 6.4 Proposed Pipeline Improvements

6.5.1 Area 1

Area 1 experiences surcharging along NW Fargo Street, as illustrated in Figure 6.2, under existing conditions. The model showed potential manhole flooding during the design storm at modeled manholes 3-1-26 and 3-1-25. This deficiency is caused by capacity limitations due to pipe diameter and slope constraints in the reach, as shown in Figure 6.5 of the pipe profile plot with HGL in blue. The proposed improvements to mitigate these deficiencies consist of upsizing pipes between manholes 3-1-26 to 3-1-22 from 8-inch to 12-inch, shown in red on Figure 6.4. This piping upsize effectively alleviates the surcharging and meets the City's design criteria, as illustrated in Figure 6.6.

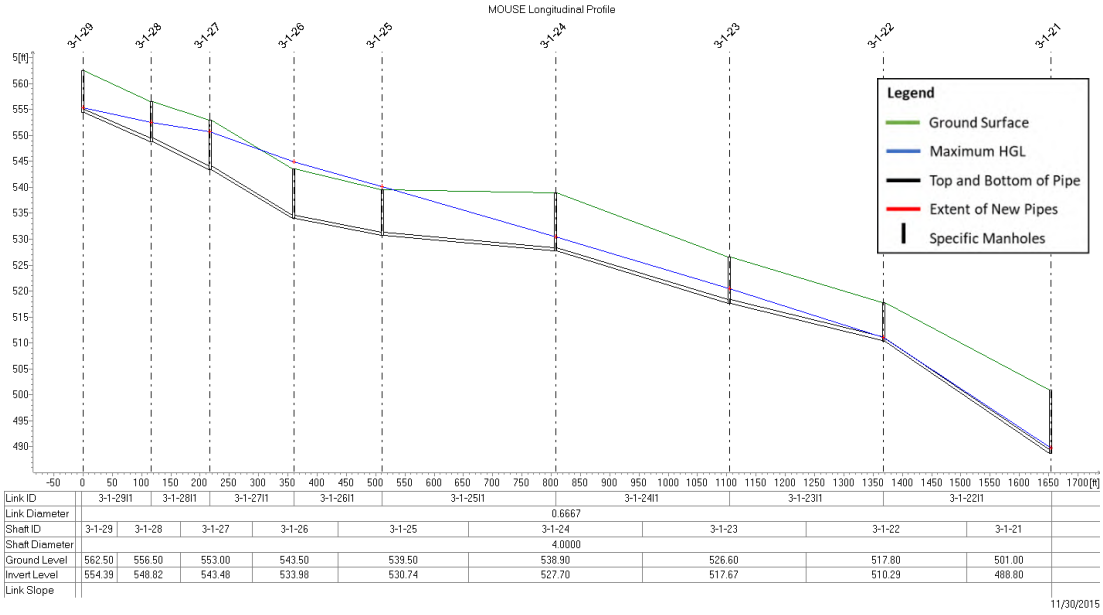


Figure 6.5 Area 1: HGL and Profile Plot

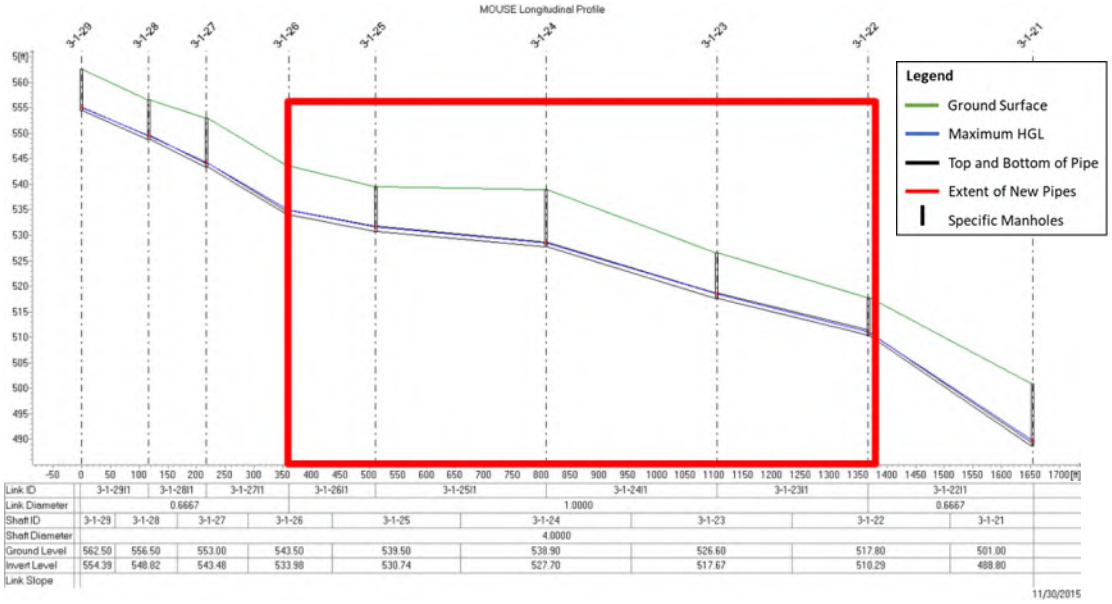
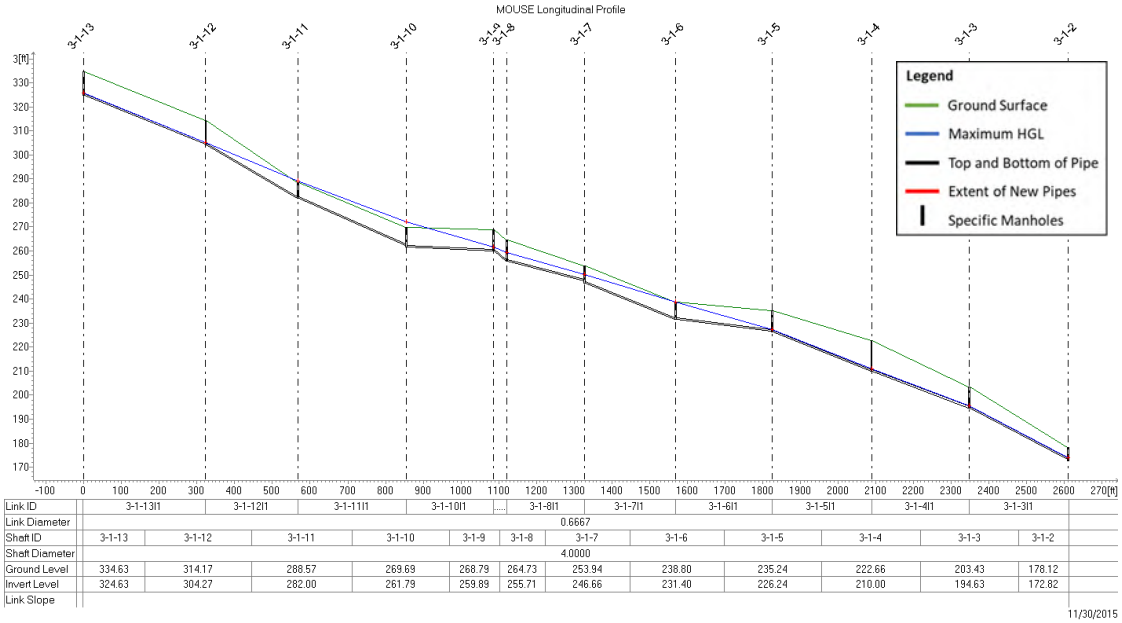


Figure 6.6 Area 1: HGL and Profile Plot after Improvements

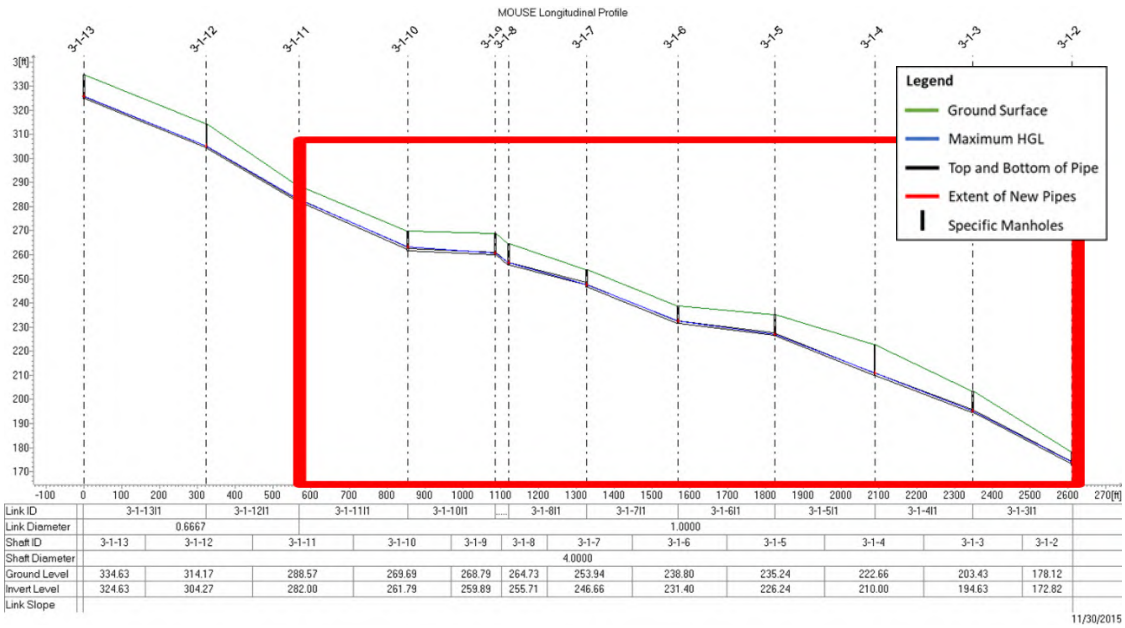
6.5.2 Area 2

Area 2 experiences surcharging along Division St, during existing conditions. The model showed potential manhole flooding during the design storm at model manholes 3-1-11, 3-1-10, and 3-1-6. This deficiency is caused by capacity limitations at the lower sloped pipelines in the reach, as shown through the pipe profile plot and HGL on Figure 6.7. The proposed improvements consist of upsizing pipes between manholes 3-1-11 to 3-1-2 from 8-inch to 12-inch, shown boxed in on Figure 6.4. This effectively alleviates the surcharging and meets the City's design criteria, as shown in Figure 6.8.



Link ID	3-1-13\1	3-1-12\1	3-1-11\1	3-1-10\1	....	3-1-8\1	3-1-7\1	3-1-6\1	3-1-5\1	3-1-4\1	3-1-3\1	
Link Diameter	0.6667											
Shaft ID	3-1-13	3-1-12	3-1-11	3-1-10	3-1-9	3-1-8	3-1-7	3-1-6	3-1-5	3-1-4	3-1-3	3-1-2
Shaft Diameter	4.0000											
Ground Level	334.63	314.17	288.57	269.69	268.79	264.73	253.94	238.80	235.24	222.66	203.43	178.12
Invert Level	324.63	304.27	282.00	261.79	259.89	255.71	246.66	231.40	226.24	210.00	194.63	172.82
Link Slope												

Figure 6.7 Area 2: HGL and Profile Plot



Link ID	3-1-13\1	3-1-12\1	3-1-11\1	3-1-10\1	....	3-1-8\1	3-1-7\1	3-1-6\1	3-1-5\1	3-1-4\1	3-1-3\1	
Link Diameter	0.6667		1.0000									
Shaft ID	3-1-13	3-1-12	3-1-11	3-1-10	3-1-9	3-1-8	3-1-7	3-1-6	3-1-5	3-1-4	3-1-3	3-1-2
Shaft Diameter	4.0000											
Ground Level	334.63	314.17	288.57	269.69	268.79	264.73	253.94	238.80	235.24	222.66	203.43	178.12
Invert Level	324.63	304.27	282.00	261.79	259.89	255.71	246.66	231.40	226.24	210.00	194.63	172.82
Link Slope												

Figure 6.8 Area 2: HGL and Profile Plot after Improvements

6.5.3 Area 3

Area 3 experiences surcharging along NW 6th Place just upstream of the South Prune Hills Pump Station (PS), during existing conditions. The model showed potential manhole flooding during the design storm at manhole 10-1-8. This deficiency is caused by the significant change in grade from the steep upstream slopes to the shallow downstream slope near the pump station. An additional capacity restriction occurs further upstream between manholes 10-1-11 and 10-1-10, due to a shallow slope. This deficiency is shown through the profile plot and HGL in blue on Figure 6.9. The proposed improvements consist of upsizing pipes between manholes 10-1-11 to 10-1-10 from 8-inch to 12-inch and 10-1-8 to 10-1-5 from 10-inch to 12-inch, shown on Figure 6.4. This effectively alleviates the surcharging and meets the City's design criteria, as shown in Figure 6.10.

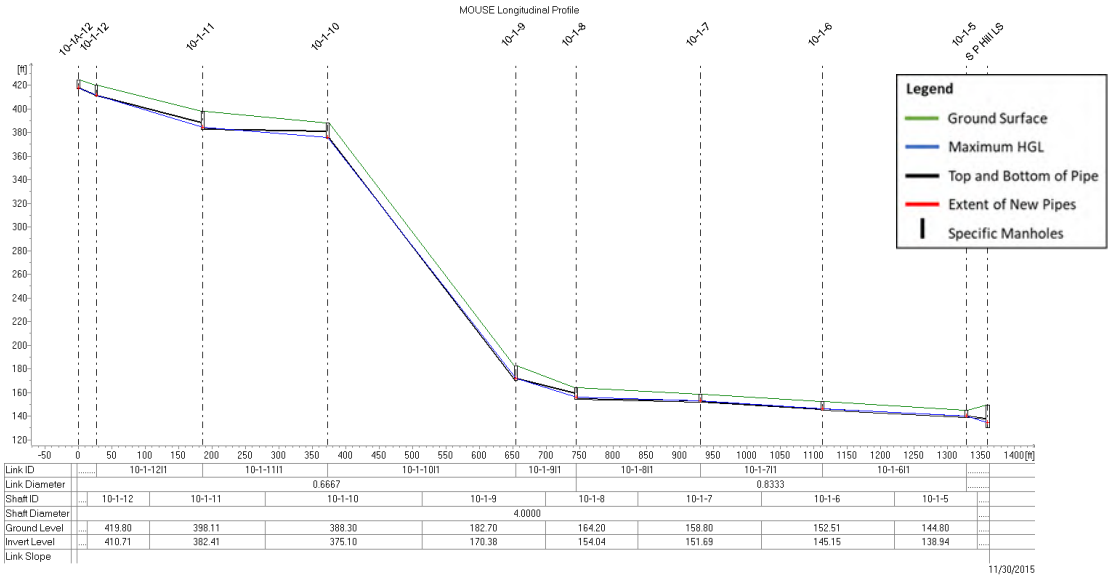


Figure 6.9 Area 3: HGL and Profile Plot

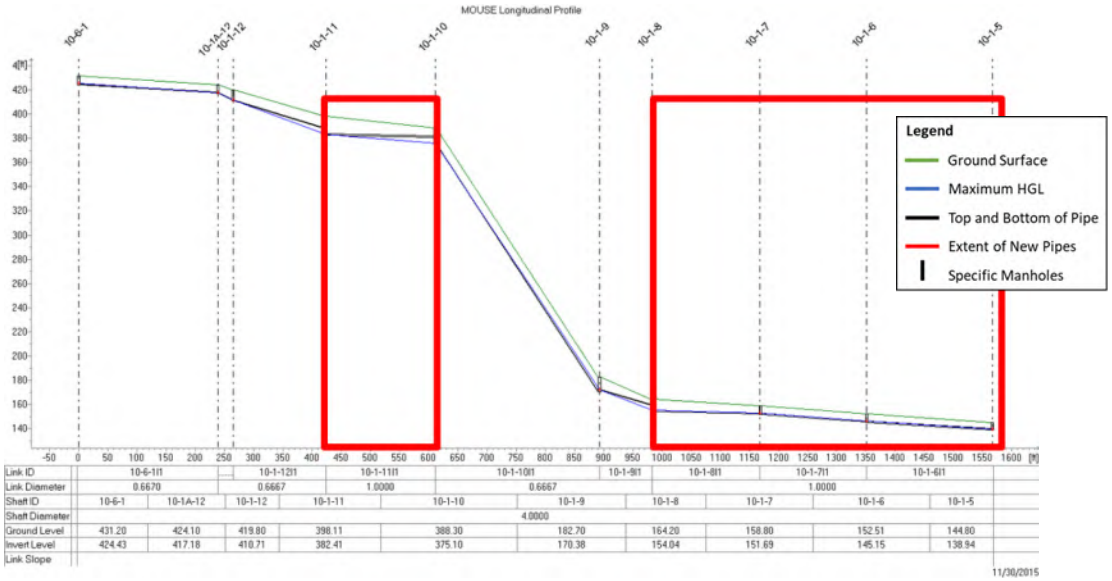
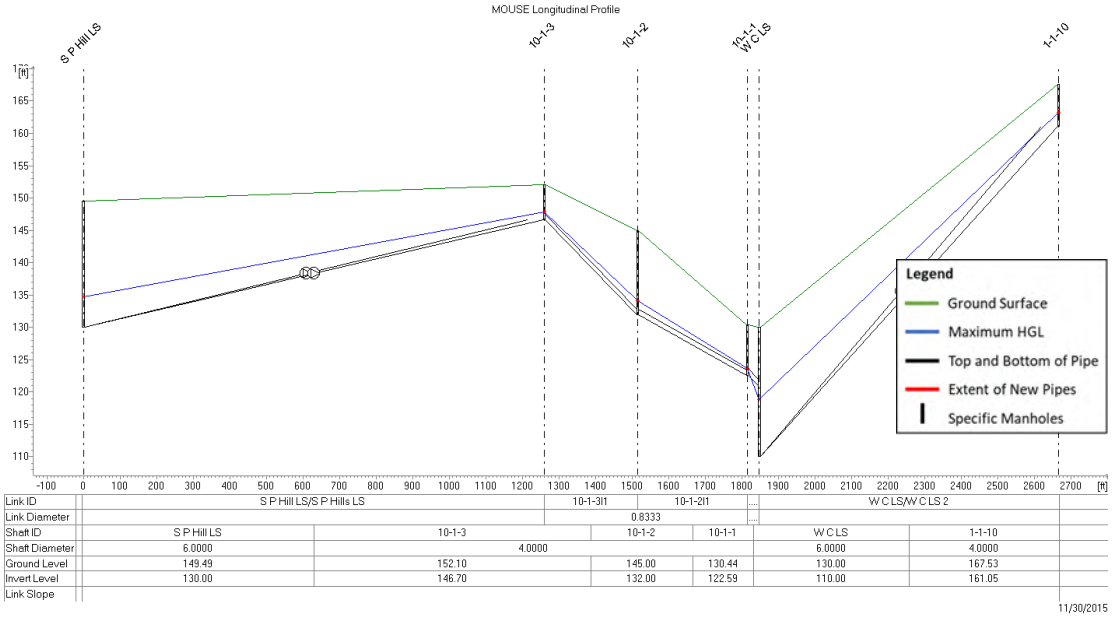


Figure 6.10 Area 3: HGL and Profile Plot after Improvements

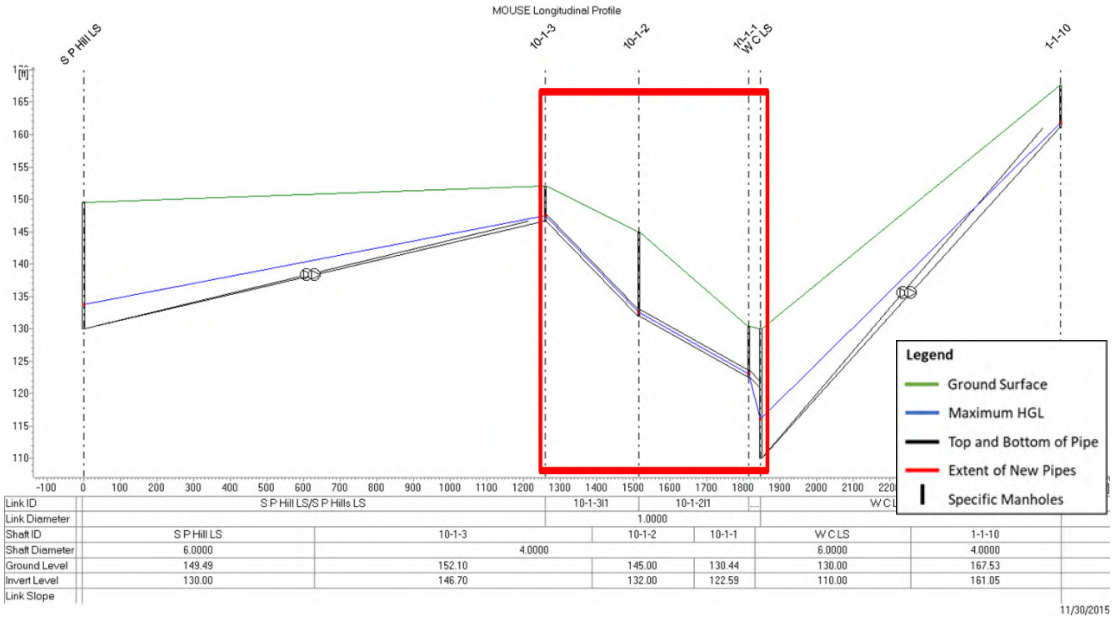
6.5.4 Area 4

Area 4 experiences surcharging and flooding along NW 6th Place, shown in Figure 6.2, during existing conditions. The model showed potential manhole flooding during the design storm at manhole 10-1-3, just downstream of the South Prune Hills PS. This deficiency is caused by capacity limitations between the pump stations coupled with backwatering from the West Camas PS. This is shown through the profile plot and HGL in blue on Figure 6.11. The proposed improvements consist of upsizing pipes between manholes 10-1-3 and the West Camas PS wet well from 10-inch to 18-inch, shown on Figure 6.4. This effectively alleviates the surcharging and meets the City's design criteria, as shown in Figure 6.12. Note this deficiency depends upon the timing and extent of the proposed West Camas PS improvements as well, identified in Section 6.4. The results shown above assume that the lift station is upsized to convey its firm capacity.



Link ID	S P Hill LS/S P Hills LS		10-1-3\1	10-1-2\1	W C LS/W C LS 2	
Link Diameter			0.8333			
Shaft ID	S P Hill LS	10-1-3	10-1-2	10-1-1	W C LS	1-1-10
Shaft Diameter	6.0000	4.0000			6.0000	4.0000
Ground Level	149.49	152.10	145.00	130.44	130.00	167.53
Invert Level	130.00	146.70	132.00	122.59	110.00	161.05
Link Slope						

Figure 6.11 Area 4: HGL and Profile Plot

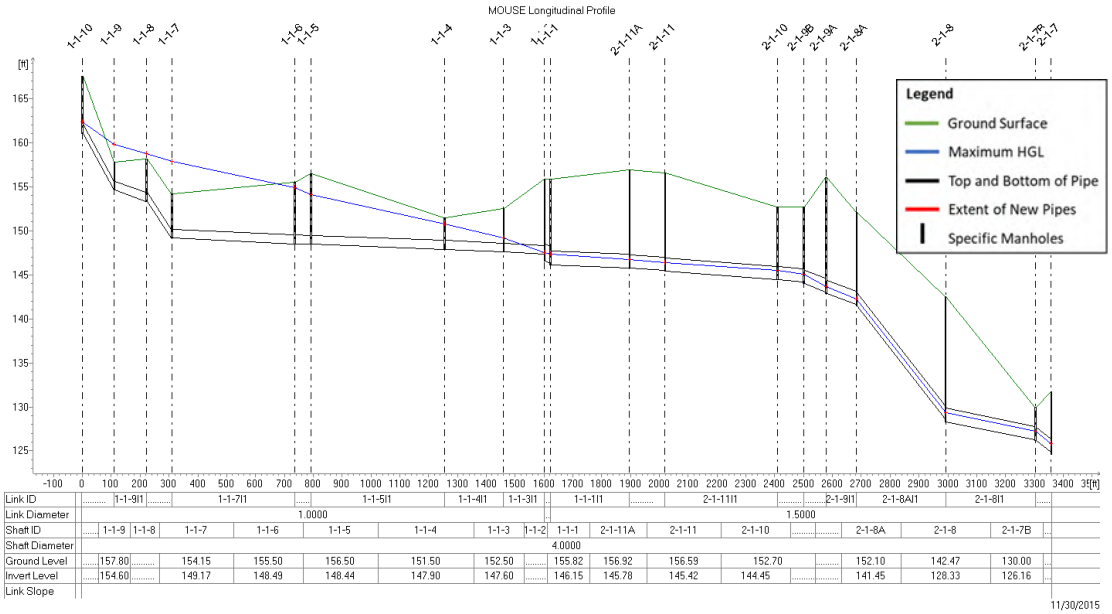


Link ID	S P Hill LS/S P Hills LS		10-1-3I1	10-1-2I1		W C LS	1-1-10
Link Diameter			1.0000				
Shaft ID	S P Hill LS	10-1-3		10-1-2	10-1-1	W C LS	1-1-10
Shaft Diameter	6.0000	4.0000				6.0000	4.0000
Ground Level	149.49	152.10		145.00	130.44	130.00	167.53
Invert Level	130.00	146.70		132.00	122.59	110.00	161.05
Link Slope							

Figure 6.12 Area 4: HGL and Profile Plot after Improvements

6.5.5 Area 5

Area 5 experiences surcharging and flooding downstream of the West Camas PS along NW 6th Place and through Forest Home Park, during existing conditions. The model showed potential manhole flooding during the design storm at manholes 1-1-9, 1-1-8, and 1-1-7. This deficiency is caused by capacity limitations due to both pipe size and slope, as shown in the profile plot and HGL in Figure 6.13. The proposed improvements consist of upsizing pipes between manholes 1-1-9 to 1-1-7 from 12-inch to 15-inch and upsizing pipes between manhole 1-1-7 to 1-1-2 from 12-inch to 18-inch, shown on Figure 6.4. This effectively alleviates the surcharging and meets the City's design criteria, as shown by the HGL in Figure 6.14.



Link ID	1-1-9I1	1-1-7I1	1-1-5I1	1-1-4I1	1-1-3I1	1-1-1I1	2-1-11I1	2-1-9I1	2-1-8AI1	2-1-8I1
Link Diameter		1.0000				1.5000				
Shaft ID	1-1-9	1-1-8	1-1-7	1-1-6	1-1-5	1-1-4	1-1-3	1-1-2	1-1-1	2-1-11A	2-1-11	2-1-10	2-1-8A	2-1-8	2-1-7B
Shaft Diameter	4.0000														
Ground Level	157.80	154.15	155.50	156.50	151.50	152.50	155.82	156.92	156.59	152.70	152.10	142.47	130.00		
Invert Level	154.60	149.17	148.49	148.44	147.90	147.60	146.15	145.78	145.42	144.45	141.45	128.33	126.16		
Link Slope															

Figure 6.13 Area 5: HGL and Profile Plot

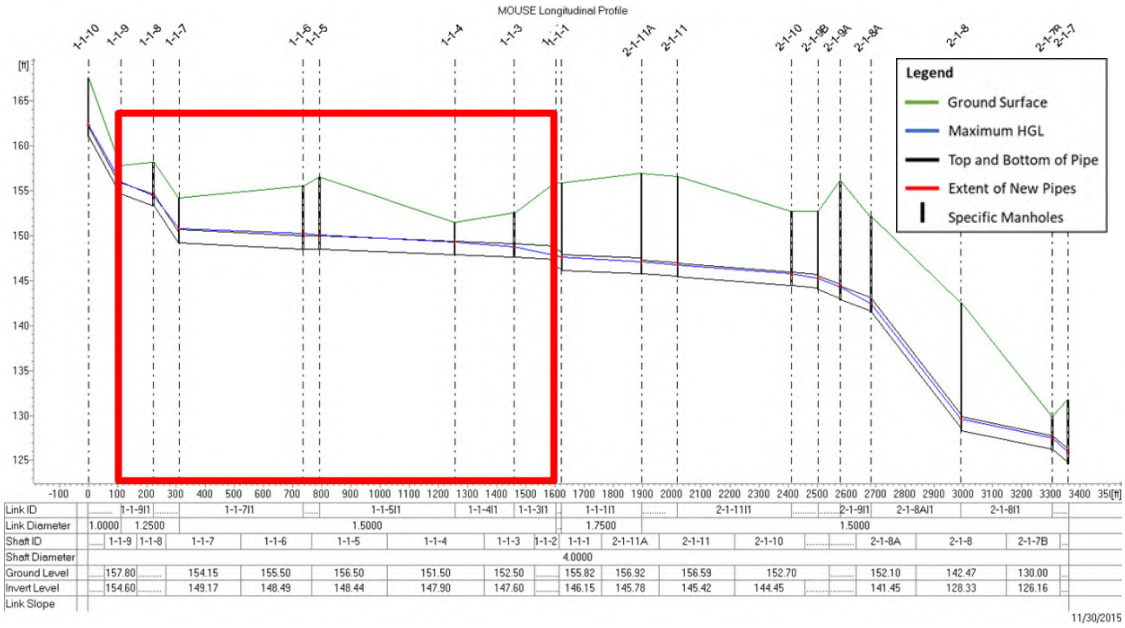


Figure 6.14 Area 5: HGL and Profile Plot after Improvements

6.5.6 Area 6

Area 6 experiences surcharging and flooding along NW Fargo Street, during existing conditions. The model showed no potential manhole flooding during the design storm, however flooding is very close at Manholes 2-1-2. This deficiency is caused by capacity limitations at the lowered sloped pipelines and a drop manhole at 2-1-1. The HGL and pipe profile through the reach is shown in Figure 6.15. The proposed improvements consist of upsizing pipes between manholes 2-1-3 to 2-1-1 from 12-inch to 18-inch, manholes 2-1-1 to 5-1-12 from 12-inch to 21-inch, shown on Figure 6.4. This effectively alleviates the surcharging and meets the City's design criteria, as shown by the HGL in Figure 6.16.

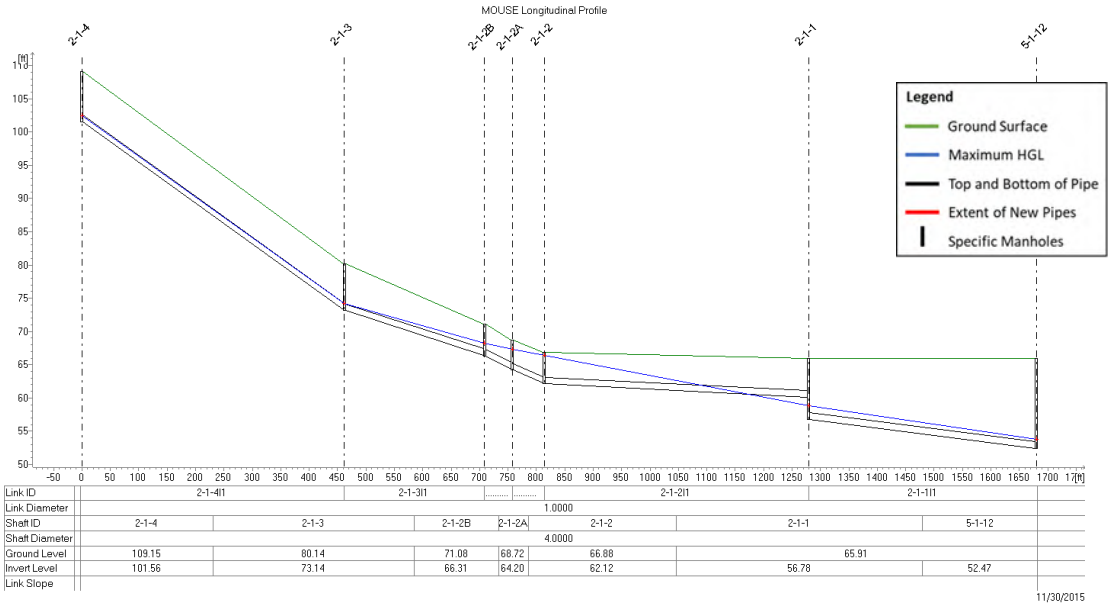


Figure 6.15 Area 6: HGL and Profile Plot

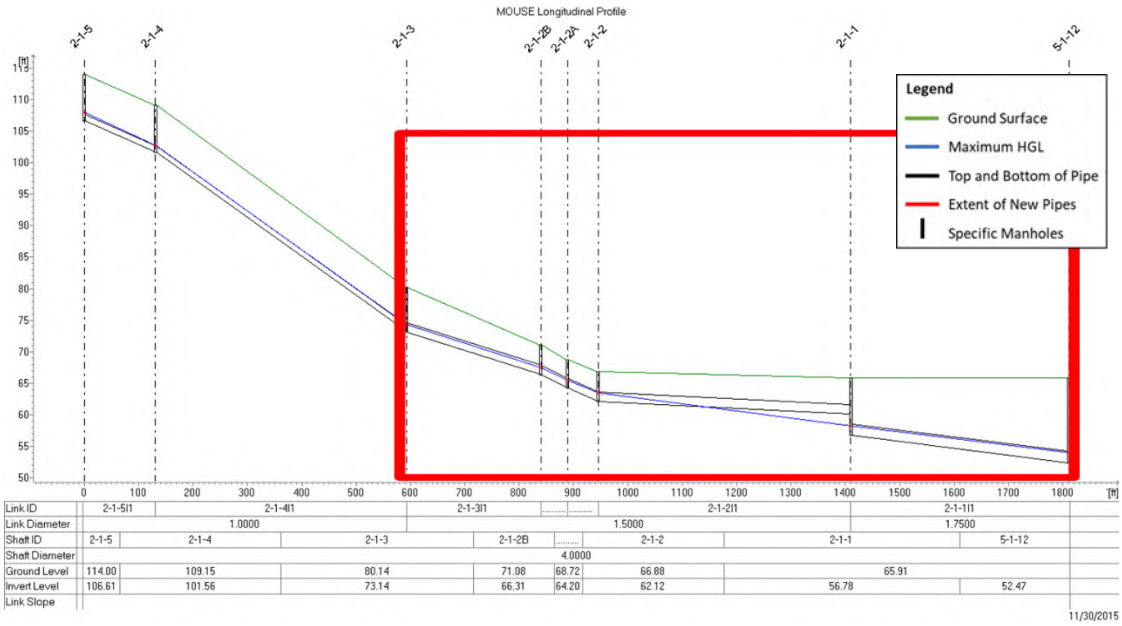


Figure 6.16 Area 6: HGL and Profile Plot after Improvements

6.5.7 Area 7

Area 7 experiences surcharging along SE 3rd Avenue, during existing conditions. Under build-out conditions, additional flows from the North Shore expansion and from 6th Avenue as a result of improvement projects for Areas 3, 4, 5 and 6, the surcharging at Area 7 greatly increases, shown in Figure 6.3. The model showed potential manhole flooding during the design storm for build-out conditions with upstream capacity improvements at manholes 5-1-5 and 5-1-6. This deficiency is caused by capacity limitations due to pipe slope constraints. This is shown through the profile plot and HGL in blue on Figure 6.18. Figure 6.17 shows the profile under existing conditions where the surcharging is less severe. The proposed improvements consist of upsizing pipes between manholes 5-1-10 to 5-1-12 from 21-inch to 24-inch, manholes 5-1-10 to 5-1-8 from 24-inch to 27-inch, manholes 5-1-8 to 5-1-6 from 21-inch to 24-inch, manholes 5-1-6 to 5-1-2 from 24-inch to 27-inch, shown on Figure 6.4. This effectively alleviates the surcharging and meets the City's design criteria, as shown by the HGL in Figure 6.19.

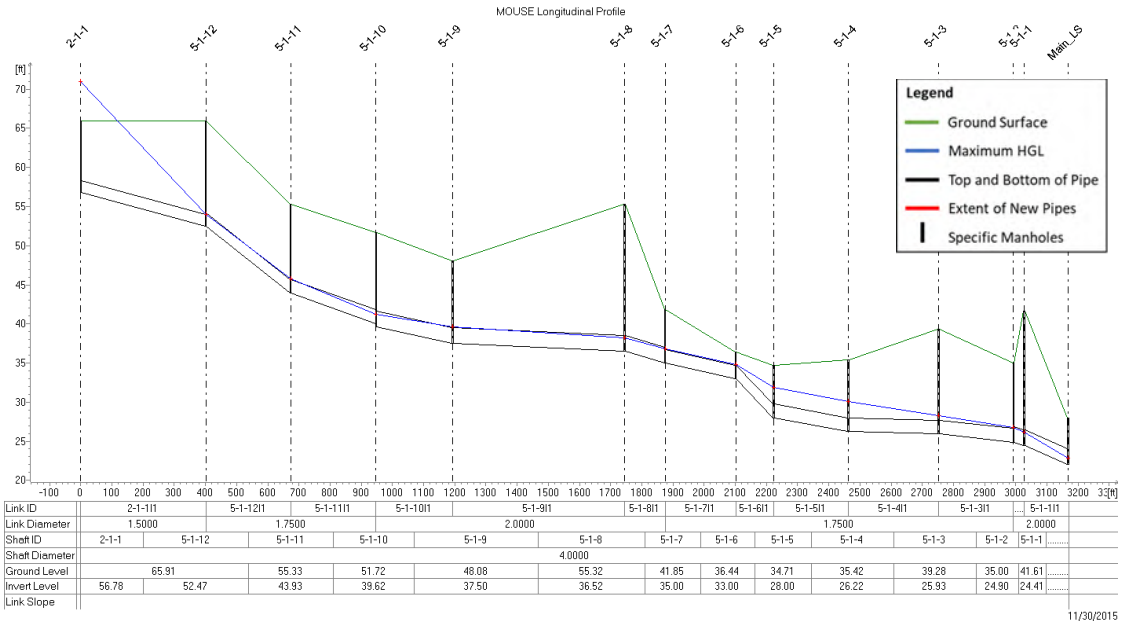


Figure 6.17 Area 7: HGL and Profile Plot Under Existing Conditions

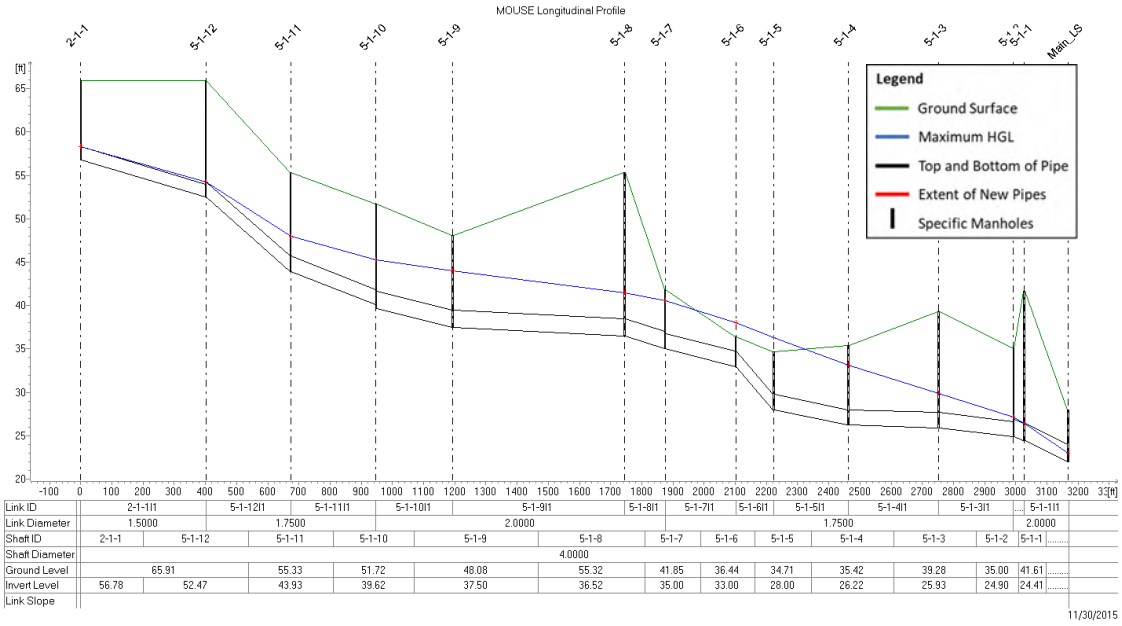


Figure 6.18 Area 7: HGL and Profile Plot under Build-Out Conditions with Upstream Improvement Projects Completed

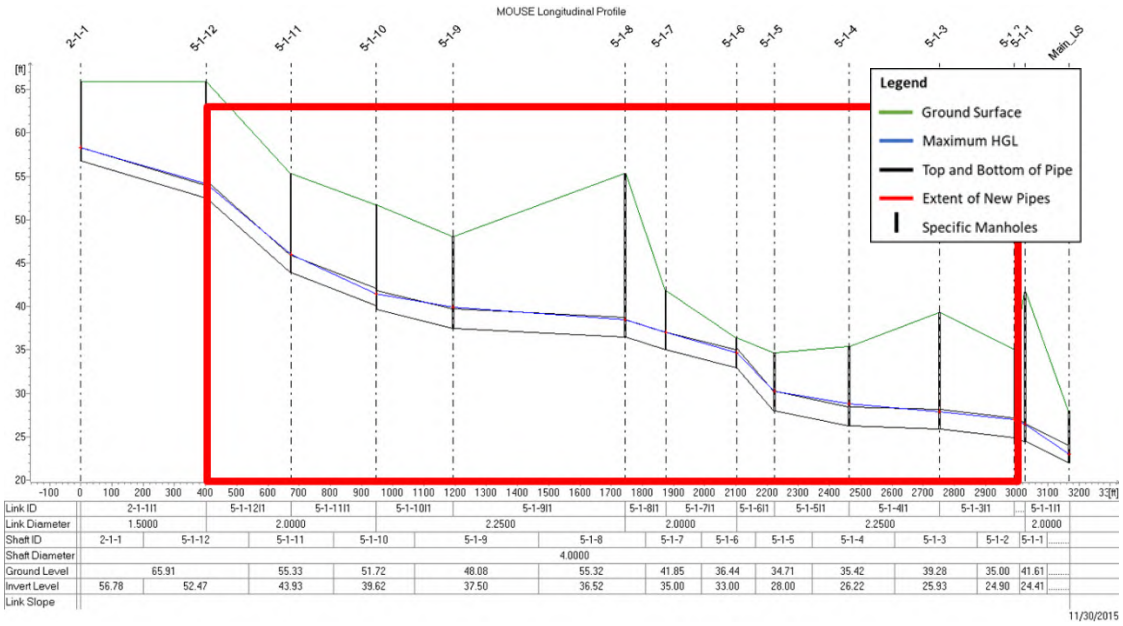


Figure 6.19 Area 7: HGL and Profile Plot under Build-Out Conditions with All Improvement Projects Completed

6.5.8 Area 8

Area 8 experiences surcharging along NW 18th Loop, during build-out conditions. There is no risk of flooding. This deficiency is caused by increased flows under future conditions which cause capacity issues. This is shown through the profile plot and HGL in blue on Figure 6.20. The proposed improvements consist of upsizing pipes between manholes 3-1-1 to 3-1-16 and manhole 3-1-13 to 3-1-12, from 8-inch to 12-inch, shown on Figure 6.4. This effectively alleviates the surcharging and meets the City's design criteria, as shown by the HGL in Figure 6.21.

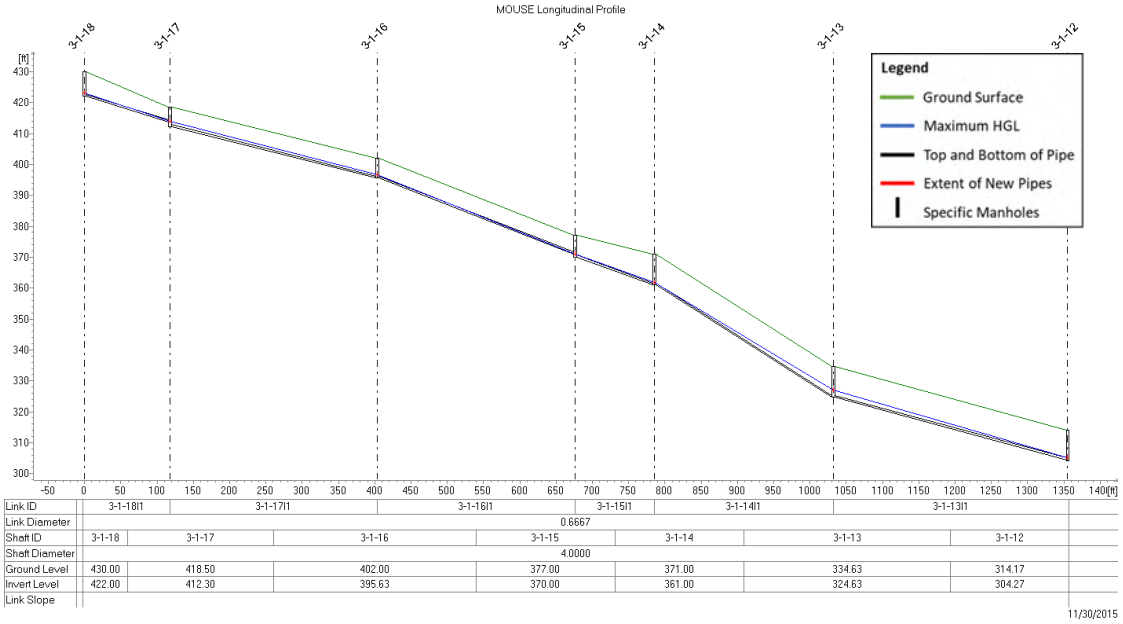


Figure 6.20 Area 8: HGL and Profile Plot under Build-Out Conditions

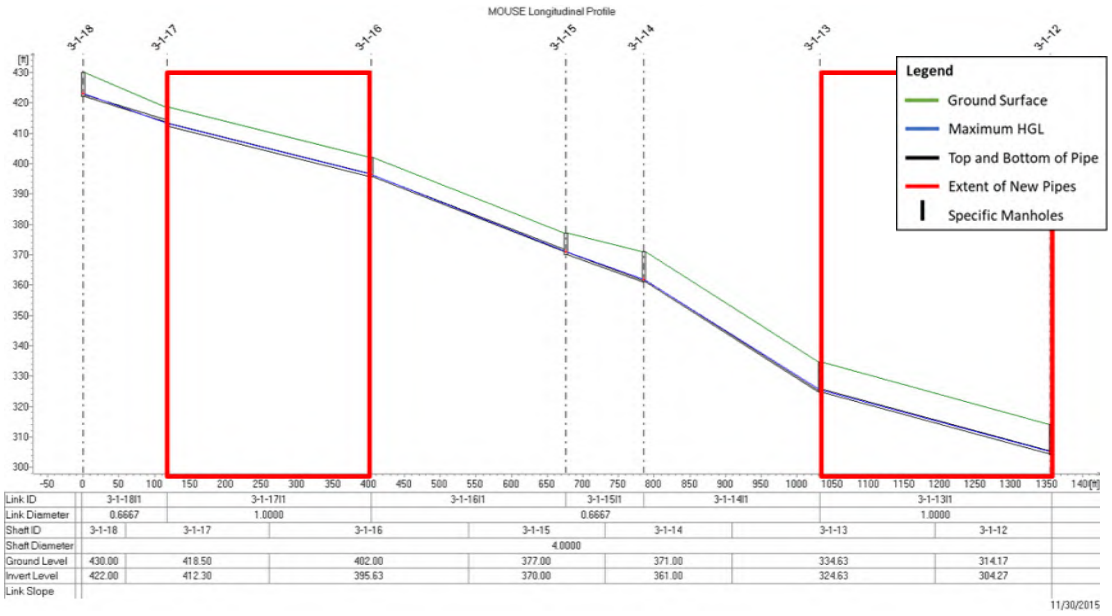


Figure 6.21 Area 8: HGL and Profile Plot under Build-Out Conditions, with Improvement Project

6.5.9 Area 9

Area 9 experiences surcharging along NE 15th Avenue between NE Garfield Street and NE Franklin Street, during build-out conditions. There is no risk of flooding. This deficiency is caused by increased flows under future conditions which cause capacity issues. This is shown through the profile plot and HGL in blue on Figure 6.22. The proposed improvements consist of upsizing pipes between manholes 4-1-2 to 4-2-1, from 8-inch to 18-inch, shown on Figure 6.4. This effectively alleviates the surcharging and meets the City's design criteria, as shown by the HGL in Figure 6.23. There is no threat of surcharging, so fixing this deficiency is a low priority and long-term project.

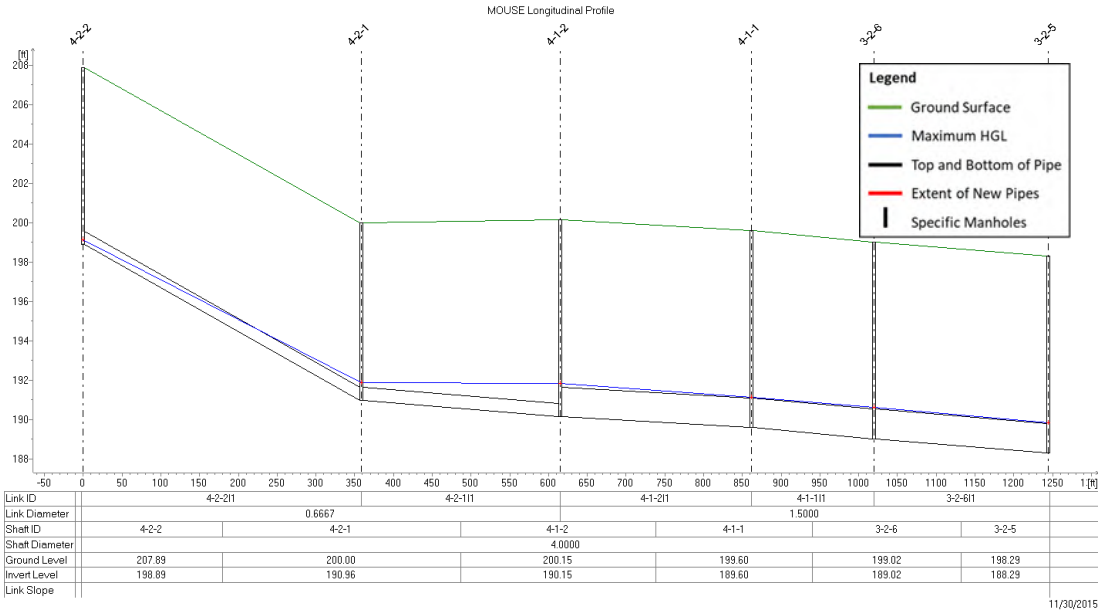


Figure 6.22 Area 9: HGL and Profile Plot under Build-out Conditions

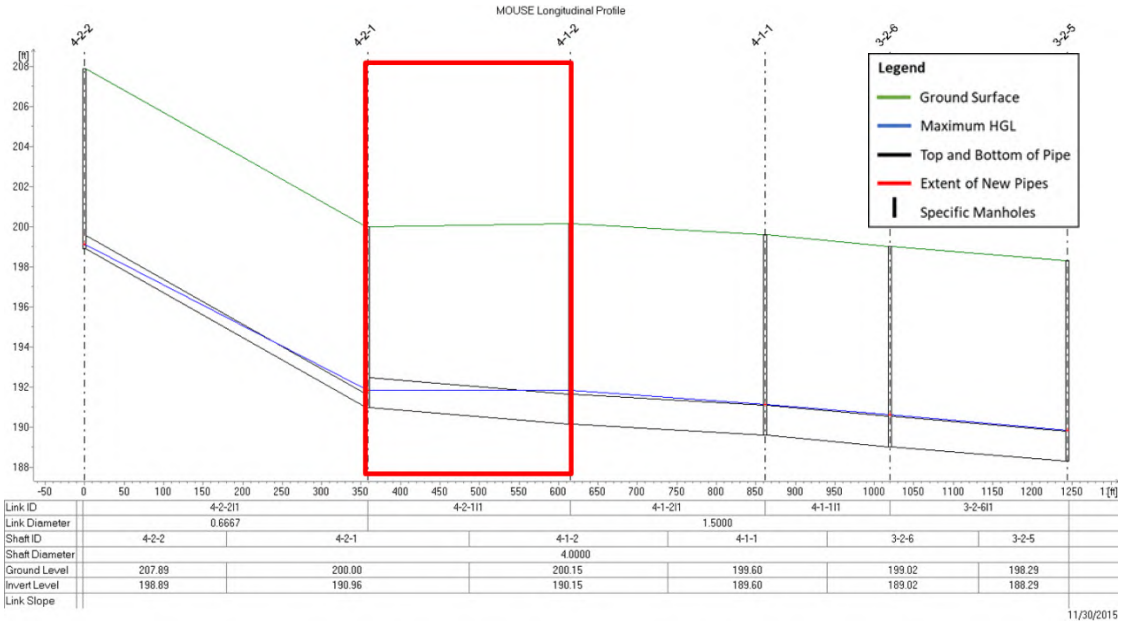


Figure 6.23 Area 9: HGL and Profile Plot under Build-out Conditions, with Improvement Project

6.6 Recommended Collection System Improvements

A number of recommended gravity collection system improvement projects for both pipes and pump stations have been identified to mitigate potential existing, 2035 Year Planning Horizon, and build-out deficiencies and to serve future users. The pipeline improvement projects were described in Section 6.5 and are summarized in Section 6.6.1. Pump Station Improvements are summarized in Section 6.6.2.

Figure 6.4, Table 6.3, and Table 6.4 identify the location and relevant components of the recommended system improvement projects. Table 6.3 and 6.4 referenced details of the improvement (length, diameter, street location, etc.). The improvements summarized in Table 6.3 and 6.4 utilize a numbering system cross-referenced with Figure 6.4. The deficiencies addressed by each project are explained in Section 6.5. The columns used in Table 6.3 and 6.4 refer to the following:

- Project ID: Assigned unique identifier associated with each improvement project. This is an alphanumeric number that starts with one letter indicating the type of improvement P= Pipe, PS = Pump Station, and continues with a number and a letter.
- Improvement Type: Gravity pipelines or pump stations.
- Location: Street in which the improvement is proposed.
- Existing Size: This represents the diameter of the existing pipelines (inches), or the total capacity of existing pump stations (million gallons per day [mgd]).
- Proposed Size: This represents the diameter of the proposed pipelines, or the total capacity of pump stations after proposed improvement, or upon construction if a new facility to serve future growth.

- Length: Estimated length of the proposed improvement in feet. It should be noted that the length estimates do not account for re-routing the alignment to avoid unknown conditions, if more detailed planning and design identifies such constraints.
- Phase: Phase in which the improvement is recommended. Improvements are recommended either for Short-term (Existing) or Long-term (2035 Year Planning Horizon or Build-out).

All proposed improvement projects are allocated to Short-Term (Existing Deficiency) and Long-Term (Build-out deficiency or no risk of flooding) phases based on when the model scenarios predict they are required. Detailed project prioritization based on condition of pipes and funding availability is presented separately in Chapter 9 - CIP and Chapter 10 - Financial Analysis. The two planning phases can be further described as follows:

- Short-term (2022-2031): Proposed facilities that alleviate deficiencies under existing flow conditions.
- Long-term (2032 - 2041): Proposed facilities that alleviate deficiencies for estimated 2035 or UGB flows and proposed facilities to serve service area expansion required under build-out conditions.

The projects were phased based on the best available information for how the City plans to develop moving forward. The actual implementation of the improvements serving future users ultimately depends on growth. The phasing presented below are estimates and will change with the City's planning assumptions or growth projections. Table 6.3 and 6.4 show all collection system projects allocated to the two planning periods.

6.6.1 Recommended Pipeline Improvements

Certain proposed improvements will serve future users, even when an improvement calls for the upgrade of an existing facility. In these cases, an existing sewer or pump station may have sufficient capacity to convey current PWWFs, but as growth continues and more users are added to the system, the increased flow results in capacity deficiencies. These projects, as well as new trunk sewers to extend sewer collection system service to future growth areas, are future improvements.

In most cases, a project is needed to correct an existing capacity deficiency but is sized to accommodate additional flows from future development.

Table 6.3 Recommended Pipe Capacity Projects

Project ID	Improvement Type	Location	Existing Size (inch)	Proposed Size (inch)	Length (feet)	Phase
P-1	Gravity	NW Fargo Street between NW 23rd and NW 19th Avenue	8	12	1,007	Short-term
P-2	Gravity	Division Street between NW 18th and NW 11th Avenue	8	12	2,043	Short-term
P-3	Gravity	NW 6th Place, just upstream of South Prune Hills PS	8 10	12 12	188 616	Short-term
P-4	Gravity	NW 6th Place between South Prune Hills PS and West Camas PS	10	12	588	Short-term
P-5	Gravity	NW 6th Avenue downstream of West Camas PS and through Forest Home Park	12 12	15 18	311 1,340	Short-term
P-6	Gravity	NW 6th Avenue between NW 7th Avenue and SE Adams Street	12 8	18 21	817 401	Short-term
P-7	Gravity	NE and SE Adams Street between SE 3rd Avenue and NW 6th Avenue	21 24	24 27	773 925	Short-term
P-8	Gravity	NW 18th Loop	8	12	609	Long-term
P-9	Gravity	NE 15th Avenue between NE Garfield Street and NE Franklin Street	8	18	256	Long-term

6.6.2 Recommended Pump Station Improvements

It is recommended that the Main, South Prune Hill, West Camas, and Crown View Plaza PSs all be upgraded to provide pump redundancy under existing conditions. These stations do not meet the required firm capacity, based on the City's performance criteria. It is recommended that the City improve these pump stations through addition of redundant pumps. Table 6.4 shows the recommended pump station improvements.

Table 6.4 Recommended Pump Station Improvement Projects

Project ID	Improvement Type	Location	Description	Phase
PS-1	Gravity	South Prune Hills	Add pump capable of pumping 664 gpm	Existing
PS-2	Gravity	West Camas	Add pump capable of pumping 723 gpm	Existing
PS-3	Gravity	Crown View Hill	Add pump capable of pumping 382 gpm.	Existing
PS-4	Gravity	Main	Add pump capable of pumping 1,831 gpm.	Existing
PS-5	Gravity	Lacamas Shores, Sunningdale Gardens, Winchester Hills 2	Add flow monitors and pressure sensors to get a better understanding of what happens during peak flows and their capacity to aid in future capital improvement planning	Existing

6.7 Recommended Collection System Future Projects

Our collection system evaluation was limited to the collection system that was modeled. The collection system includes gravity and STEP elements, but only portions of the gravity system and none of the STEP system were set up for capacity evaluation with the hydraulic model. There was insufficient data to evaluate the STEP system; therefore, specific improvement projects were not developed. Other factors such as limited pump telemetry and a lack of extensive city-wide geographic information system (GIS) limited the scope of the collection system evaluation. The following bullet points explain future projects the City should undergo to allow more effective evaluation of the gravity and STEP system, respectively:

- **Gravity Collection System Model:** The gravity collection system model is skeletonized, only 24 percent of the gravity system pipes and none of the force mains are included. While most of the critical trunks are included, a full pipe or less skeletonized model is needed for a more robust evaluation of the system. In order to expand the model, accurate and updated GIS for the collection system should be developed.
- **Gravity Pump Station Instrumentation:** The lack of pump station instrumentation limited the extent stations could be evaluated. The City conducted draw down testing that resulted in lower capacities than previous modeling concluded. It is recommended that the City improve instrumentation of these stations to better understand the reasons for these revisions.

- **STEP Main Flows:** As discussed in Chapter 7, with the City's combined treatment plant influent monitoring restricted the ability to separate out STEP flows from Gravity System Flows with a high degree of confidence. Recently, this issue was resolved and future monitoring will allow a greater understanding of the STEP Main flows. If Oak and Main PSs are flow metered, the STEP system flow can be determined. A future study is recommended once sufficient historical data is available.
- **STEP Main Modeling:** The STEP system should be added to the collection system model in order to evaluate that portion of the system. Additional metering at pump stations further upstream would allow proper calibration of the STEP portion of the model. While these pump stations would not need to be included in the model. Accurate data on Pump Station inflows to the STEP system would need to be determined. The addition of a manhole with a flow meter near NW Lake Rd and NW Lacamas Drive or NW Parker Street and NW Knapp Lane to aid in calibration should also be considered. Figure 6.24 shows the potential overview of a STEP main model, in dark grey, and proposed monitoring locations to add to the STEP system. Inflows are shown in orange and black triangles. These inflows are based on the Gray and Osborne 2009 General Sewer Plan Appendix F, Figure F-1. These inflows give an overview of where additional monitoring could be implemented in order to further refine the system during STEP model calibration.
- **STEP Main Condition Assessment:** The addition of manholes to the STEP system would help facilitate investigation of the STEP mains condition and allow any partially obstructed portion of the STEP Main to be identified. A future investigation of debris, solids, and other obstruction is recommended in the sags in the system.
- **STEP System Lift Stations:** The STEP System Lift stations could not be evaluated under PWWF events using the system model, due to a lack of data. Supervisory control and data acquisition (SCADA) with historian capabilities would assist with the evaluation of all stations and determining pump run times at these stations. Based on the City's pump station run time tests, a representative peak flow could be determined. This program should start with the most at risk stations defined in Section 6.4, and expand to all city owned pump stations.

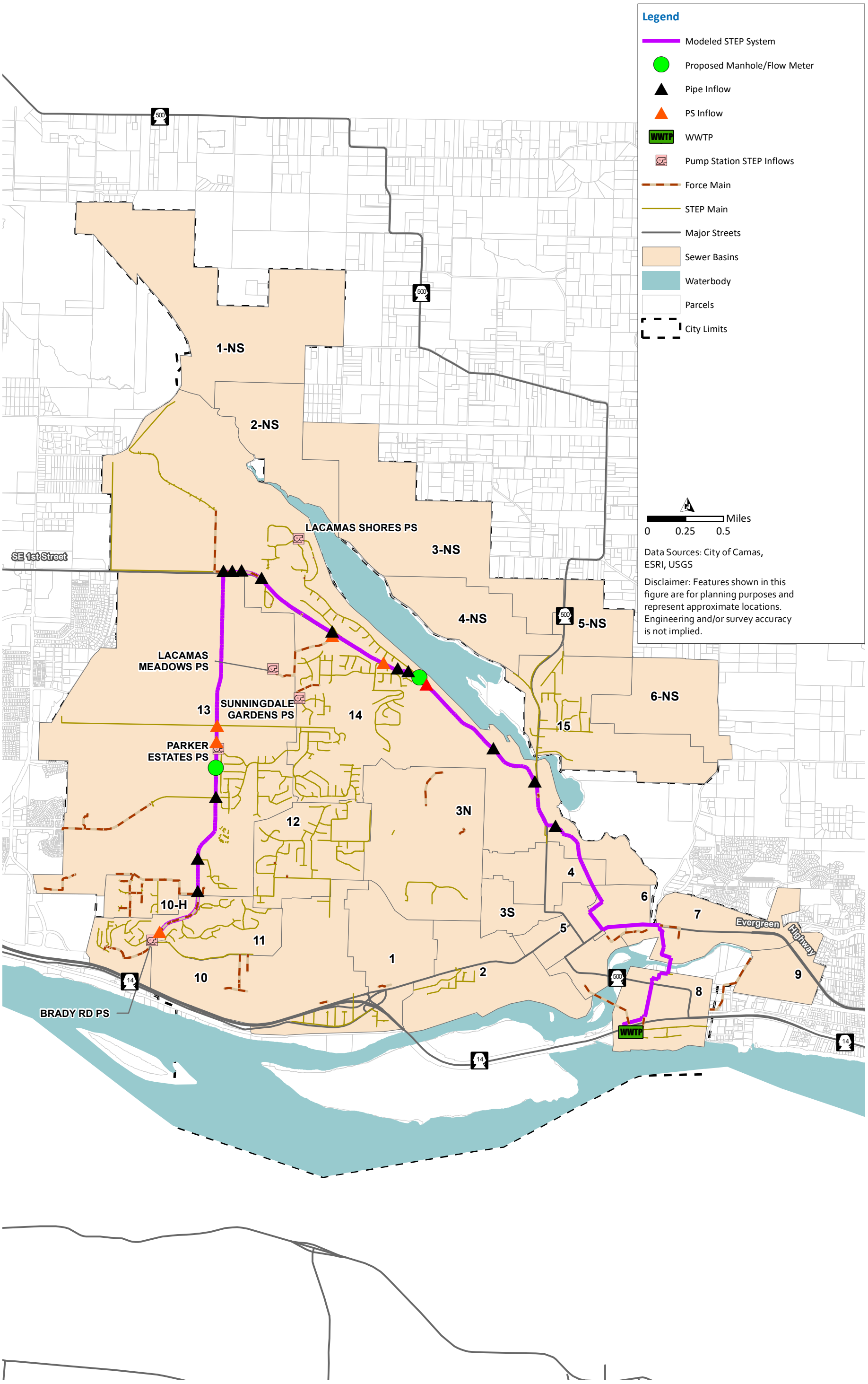


Figure 6.24 Overview of Potential STEP Main Model

Chapter 7

WASTEWATER TREATMENT FACILITY

7.1 Introduction

The City of Camas (City) serves the water quality needs of approximately 8,500 residential, industrial, and commercial accounts by maintaining and operating their wastewater treatment facility (WWTF) which has a maximum month design flow of 6.1 million gallons per day (mgd).

To support development of the City's General Sewer Plan (the Plan), a unit process analysis was completed to identify shortfalls in plant capacity that will prevent the City from reliably treating and disposing of projected flow and loads at the end of the planning period (i.e., year 2035). To address the identified deficiencies, an alternatives analysis of the most viable improvement options was conducted, which resulted in the development of 14 projects to be incorporated into the general sewer plan's capital improvement program (CIP).

This chapter summarizes the methods and results of these tasks, thus defining the condition and capacities of the WWTF's unit processes and presenting sequenced recommendations that will allow the City to reliably and cost-effectively serve their customers now and into the future.

7.1.1 Current National Pollution Discharge Elimination System Permit

The City's WWTF effluent must comply with limits on biological oxygen demand, total suspended solids, ammonia, pH, and fecal coliform bacteria as conditions of their National Pollutant Discharge Elimination System (NPDES) permit. The current permit, Permit Number (No.) WA0020249, was issued in 2015 effective through September 2020. The City began coordinating with the Washington Department of Ecology (Ecology) to request a permit extension in March 2020, but a formal extension or new permit has not been issued as of January 2022. The City will continue to work with Ecology to extend or renew their NPDES permit and will continue to comply with their current discharge limits, which are summarized in Table 7.1.

Table 7.1 NPDES Permit Effluent Limits for Permit No. WA0020249

NPDES Permit Effluent Limits		
Parameter	**Average Monthly**	**Average Weekly**
Biological oxygen demand (BOD_5)	• 20 mg/L • 1,017 ppd • 74% removal	• 30 mg/L • 1,525 ppd
Total suspended solids (TSS)	• 20 mg/L • 1,017 ppd • 76% removal	• 30 mg/L • 1,525 ppd
Ammonia (NH3 as N) during summer(1)	• 20 mg/L	-
Ammonia (NH3 as N) during winter(2)	• 7 mg/L	-
Parameter	**Minimum**	**Maximum**
pH	• 6 SU	• 9 SU
Parameter	**Monthly Geometric Mean**	**7-Day Geometric Mean**
Fecal coliform bacteria	• 200/100 mL	• 400/100 mL

Notes:
(1) Summer months include June through July.
(2) Winter months include October through May (inclusively).
Abbreviations: BOD_5 - five-day biochemical oxygen demand; mg/L - milligrams per liter; mL - milliliter; ppd - pounds per day; SU - standard units.

7.1.2 Past Evaluation of Reuse

In the 2010 iteration of the general sewer plan, the City explored their potential to practice wastewater reclamation, or the production and beneficial use of reclaimed water. As such, an evaluation was completed to understand the feasibility of reusing effluent from the WWTF or constructing a new water reclamation facility (WRF) to treat wastewater for reuse.

The evaluation determined that, though environmental and social benefits are difficult to quantify and assess, the City and their surrounding communities can benefit indirectly from the use of reclaimed water in the following ways:

- Development of additional outdoor recreational sites for the community.
- Irrigation of parks and playfields, which can potentially increase property values.
- Conservation of the quality and quantity of the City's water resources.
- A flexible and reliable alternative water source for industrial water customers.

However, the evaluation also confirmed that the production of reclaimed water is only economically feasible if the cost of producing reclaimed water is less than or equal to the cost of purchasing water or developing additional water rights.

Capital, operation, and maintenance costs for the two alternatives were taken from the 2010 general sewer plan and converted from 2006 dollars to 2021 dollars. A new 20-year present worth analysis was conducted with the updated values. Both the 2010 general sewer plan and the current 20-year present worth analysis found that neither the costs to modify the existing WWTF nor construct a satellite WRF were less than or equal to the cost of developing additional water rights, which are available at notably lower costs. The cost to develop and acquire additional water rights was expected to not exceed 5 million dollars in 2006 which would be 7.9 million dollars in 2021.

Comparisons of the two alternatives are shown in Table 7.2. Alternative 1 has a 20-year present worth of $15.8 million dollars and alternative 2 has a 20-year present worth of $42.6 million dollars. Both alternatives are considerably larger than the 7.9 million dollars to develop and acquire additional water rights. Therefore, water reclamation and reuse were determined to be economically infeasible at this time and not pursued at the City's WWTF.

Chapter 10 of the *2010 General Sewer/Wastewater Facility Plan* (Gray & Osbourne, Inc. 2010) documents the feasibility evaluation of reuse in further detail.

Table 7.2 Reuse Alternative Cost Comparison

	Alternative 1 Modify Existing WWTF	Alternative 2 Construct Satellite WRF
Capital Cost[(1)]	$12,837,000	$35,878,000
Annual O&M Cost[(2)]	$157,700	$350,500
20-year Present Worth[(3)]	$15,841,000	$42,554,000

Notes:
(1) 2010 general sewer plan used 2006 costs. The ENR CCI 20-City Average for June 2006 and June 2021 were used.
(2) 2010 general sewer plan reported 2004 costs. Costs were updated using the ENR CCI 20-City Average for March 2004.
(3) Discount rate assumed 5% bond repayment rate and 4% inflation for a total rate of 1%.
Abbreviations: O&M - operations and maintenance.

7.2 Unit Process Analysis

A unit process analysis comparing the design or rated capacity of each WWTF unit process against its requisite treatment demands under current and projected flows and loads. This comparison identified deficiencies or limitations in the plant's current installed capacity to meet its various regulatory and operational requirements by 2035.

To this end, the unit process analysis was completed in the following six sequential tasks:

- Compile and analyze five years (i.e., January 2014 to December 2018) of WWTF data.
- Develop a hydraulic model of the collection system (collection system model) to estimate future peak hour flow (PHF) at the WWTF under the design storm.
- Estimate future flows and loads from 2019 through 2035 to approximate each unit process's necessary treatment performance.
- Develop and calibrate hydraulic and BioWin models to assess how future flows and loads will affect existing plant facilities and their performances.
- Conduct plant tours to complete condition assessments of the existing facilities and identify operational limitations.
- Determine future treatment capacities for existing unit processes and estimate the ideal timing of future plant improvements.

The following sections highlight key points and findings from these six tasks.

7.2.1 Flows and Loads

Tables 7.3 and 7.4 present the current and projected flows and loads, which must be treated and discharged to the Columbia River. These projections were developed according to measured influent flows and wastewater characteristics, typical septage and septic tank effluent pump (STEP) system characteristics, and population growth projections. Chapter 3 details the method by which these flows and loads were analyzed.

Table 7.3 Current and Projected Flows

Flow Parameter	Current Flow (mgd)	2035 Flow (mgd)
ADWF	2.2	3.4
AAF	2.8	4.0
MMF	4.8	6.2
PDF	8.4	10.8
PHF	10.0	13.5

Notes:
Abbreviations: AAF - average annual flow; ADWF - average dry-weather flow; MMF - maximum monthly flow.

Table 7.4 Current and Projected Loads

Load Parameter	Current Load (ppd)	2035 Load (ppd) 50% STEF/STEP
BOD_5		
Average Annual	2,400	6,000
Max Month	3,300	8,200
Max Week	4,300	10,600
Peak Day	5,300	13,000
TSS		
Average Annual	2,500	6,300
Max Month	4,200	10,500
Max Week	7,000	17,000
Peak Day	7,900	19,300
Ammonia		
Average Annual	900	1,400
Max Month	1,100	2,000
Peak Day	1,800	4,300

Notes:
Abbreviations: STEF - Septic tank effluent filter; Hydraulic Modeling.

Carollo Engineers' Hydraulix® modeling software was used to establish the hydraulic capacities of individual unit processes and water surface elevations (WSE) under current and future flows. More specifically, this software modeled the flow through the WWTF by calculating both energy grade lines and hydraulic grade lines according to headloss and velocity at each hydraulic element under various influent flow conditions identified in Table 7.3.

Each individual unit process was considered "at risk" when the model indicated less than 18 inches of freeboard in a structure or less than six inches of fall from flow over a weir to the downstream water surface. A unit process was considered "overloaded," or as having a true hydraulic limitation, when the model indicated less than 12 inches of freeboard or a weir was submerged. Less than 12 inches of freeboard in an open channel puts the WWTF at risk of flow overtopping a structure and must be avoided at all costs.

7.2.2 BioWin Modeling

BioWin version 6.1 was employed to develop an overall process model of the WWTF. This model was calibrated using existing treatment facility operational data and then confirmed by running the calibrated model as a steady-state simulation using average plant influent and effluent values (BOD, TSS, ammonia) from 2018.

Once the calibration effort was deemed acceptable, parameters were established for future conditions under which the WWTF must operate. Specifically, this effort adopted the flows and load projections presented in Tables 7.3 and 7.4 while assuming that effluent limits on ammonia would be as low as seven mg/L for all scenarios.

Finally, the BioWin model was used to model performance of the secondary treatment unit processes under anticipated future conditions, under the following future scenarios:

- A TSS removal rate of 65 percent under current AAF, current MMF, and 2035 AAF conditions and 52 percent under 2035 MMF conditions.
- A minimum aerobic solids retention times (aSRT) of eight days under average conditions and 6.6 days under maximum month conditions.
- The sludge volume index (SVI), which is aquantification of mixed liquor suspended solids (MLSS) settleability, cannot exceed 150 milliliters per gram (mL/g) if capacity limitations are to be prevented.

In regard to the final point, the highest allowable maximum month MLSS concentration, 3,500 milligrams per liter (mg/L), is limited by the capacity for suspended solids to settle in the SCs under peak day flow (PDF). A state point analysis (SPA) was conducted to determine the maximum allowable MLSS concentration, which was 2,330 mg/L with one SC out of service and all three ABs in service. The loading conditions that will result in this maximum month MLSS concentration at a 6.6-day aSRT is a PDF of 9.0 mgd. Section 7.4.2.1 discusses this topic further.

7.2.3 Condition Assessment

A condition assessment was conducted to identify major facility deficiencies and provide a general priority rating for mechanical equipment, treatment units, structures, and electrical, instrumentation, and control (E&IC) systems. The information compiled was used during the planning process to determine which portions of the facility can be retained, which require major upgrades, and which should be abandoned or replaced.

To begin, the assessment team reviewed each unit process's drawings and design criteria, including the Washington State Department of Ecology's (Ecology) recommended WWTF redundancy criteria for flows and loads as published in *Criteria for Sewage Works Design* (2008).

Table 7.5 summarizes the criteria that each facility component must meet.

Table 7.5 Design Criteria for Each WWTF Component

WWTF Component	Flow Criteria	Load Requirement	Redundancy
Influent Screens	• PHF.	-	• 1 unit out of service.
Primary Clarifiers	• PHF + Recirculation.	• Peak hour design load	• All units in service.
Aeration Basins	• Maximum month design flow. • AAF.	• Maximum month design load. • Average annual load.	• All units in service • 1 unit out of service.
Internal Recycle Pumps	• PDF.	-	• 1 unit out of service.
Aeration Systems	-	• Maximum week design load.	• 1 unit out of service.
Secondary Clarifiers	• PDF + Recirculation.	• Maximum month design load.	• all units in service.
RAS Pumps	• 100% of MMF. • 50% of PHF.	-	• 1 unit out of service.
Effluent Filters	• All flows requiring tertiary treatment.	-	-
UV Channel	• PHF.	-	• 1 unit out of service.
Primary Sludge Pumps	• Peak instantaneous design flow.	• Maximum daily design load.	• 1 unit out of service.
Degritting Cyclone	• PHF.	-	• N/A
Grit Classifier	• PHF.	-	• N/A
Gravity Thickener	-	• Maximum daily design load.	• N/A
WAS Pumps	• Peak instantaneous design flow.	• Maximum daily design load.	• 1 unit out of service.
Rotary Drum Thickener	-	• Maximum daily design load.	• 1 unit out of service.

Notes:
Abbreviations: N/A - not applicable; RAS - return activated sludge; UV - ultraviolet; WAS - waste activated sludge.

Next, the team discussed maintenance history, plant shortcomings, and general operational issues with City staff, who also accompanied the team on walk-through inspections of the WWTF's following processes and associated major equipment:

- Preliminary treatment.
- Primary treatment.
- Secondary treatment.
- Aeration blowers.
- Tertiary filtration.
- UV disinfection.
- Effluent pump station and pumps.
- Primary sludge and degritting.

- WAS system.
- Anaerobic digestion and waste gas flare.
- Dewatering centrifuge.
- Biosolids belt dryer.
- Plant drain and non-potable pump station.
- Biofilters and septage-receiving station.
- Facility control systems, including the programmable logic controller (PLC) and central supervisory control and data acquisition (SCADA).

Note that, although they were a part of the assessment, anaerobic digestion and the waste gas flare, dewatered sludge conveyance, and the biosolids belt dryer were not evaluated in detail since they were recently upgraded. Additionally, the biofilters and septage-receiving station were not analyzed in detail and should be more closely reviewed in a subsequent project.

Table 7.6 summarizes each key WWTF component's condition and capacity findings.

Table 7.6 Conditions and Capacity Findings from the WWTF Conditions Assessment

WWTF Component	Condition	Capacity
Influent Screens	• No significant conditions issues identified.	• 14.0 mgd
Primary Clarifiers	• No condition issues identified.	• 2,380 gpd/sq ft PHF
Aeration Basins (AB)	• Weir walls between zones are uneven.	• 8.37 mgd (2 ABs, 2 SCs per SPA) (max month) • 9.12 mgd (3 ABs, 2 SCs per SPA) • 9.71 mgd (3 ABs, 3SCs per SPA)
Secondary Clarifiers (SC)	• SC No. 1 in poor condition.	
Internal Recycle Pumps	• No condition issues identified.	
Aeration Systems	• Unable to control blowers when operating multiple in parallel.	
RAS Pumps	• No condition issues identified.	
Effluent Filters	• No condition issues identified.	• 6.0 mgd
UV Channel	• No condition issues identified.	• 13.7 mgd at 70% UV Transmittance
Primary Sludge Pumps	• No condition issues identified.	• 220 gpm (each)
Degritting Cyclone	• End of useful life.	• 220 gpm (each)
Grit Classifier	• End of useful life.	• 15 gpm
Gravity Thickener	• End of useful life.	• 400 gpm
WAS Pumps	• No condition issues identified.	• 200 gpm

WWTF Component	Condition	Capacity
Rotary Drum Thickener	• Significant Observed Deterioration.	• 200 gpm.
Centrifuge	• Near end of useful life.	
Plant Drain Pump Stations	• Show signs of concrete corrosion and pumps at the end of useful life.	• Plant Drain Pump Station No. 1: 250 gpm at 35 feet TDH • Plant Drain Pump Station No. 2: 500 gpm at 40 feet TDH
Non-Potable Pumps	• No condition issues identified.	• 200 gpm at 185 feet TDH
Effluent Pump Station	• No condition issues identified.	• 12.4 mgd at 18 feet TDH

Notes:
Abbreviations: gpd/sq ft -gallons per day per square foot; gpm - gallons per minute; TDH - total dynamic head.

7.3 Summary of Key Improvements and Preferred Alternatives

Comprehensive analysis of the WWTF's unit processes identified several current and anticipated condition or capacity issues in the WWTF's hydraulic, liquid treatment, solids treatment, and plant support systems. The following sections highlight key issues with unit processes at the WWTF and also recommend improvements to mitigate them; collectively, this information served as the basis for the subsequent alternatives analysis and project development for inclusion in the general sewer plan's recommended CIP.

Each unit process's complete description; condition findings, hydraulic capacity, and process capacity analyses; and recommendations for improvements and alternatives are available in Appendix I: Wastewater Treatment Facility Engineering Reports.

7.3.1 Basis of Project Costs

Cost estimates for treatment projects include 30 percent for construction contingency, 1.3 percent for builder's risk and insurance, 15 percent for general contractor overhead, risk, and profit, and 1 percent for performance and payment bond for a total overall construction adjustment factor of 53 percent. Planning adjustment mark-ups include 25 percent for engineering, legal, and design and 5 percent for owner's reserve for change orders for a total overall planning adjustment factor of 30 percent.

All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021). Cost estimates were developed using a Class 4 budget estimate, as established by the American Associate of Cost Estimators (AACE). This level of estimate is used for feasibility studies and assumes a one percent to 15 percent level of project definition. The expected accuracy range is of the Class 4 cost estimates are -30 percent to +50 percent.

7.3.1.1 Total Treatment Project Capital Improvement Cost

The costs presented in this Plan are high-level planning costs to help the City in making financial decisions.

As shown in the following sample calculation of the capital improvement cost, the total cost of all project contingencies (construction and planning) and allied costs (engineering services, construction management, and project administration) is 82 percent of the baseline project cost.

Example:

Baseline Project Cost	**$1,000,000**
Overall Construction Adjustment Factor (53%)	$530,000
Construction Cost	**$1,530,000**
Engineering, Legal, Design (25%)	$382,500
Owner's Reserve (5%)	$76,500
Total Capital Improvement Cost	**$1,989,000**

7.3.2 Hydraulics

To ensure that the plant's unit processes have adequate capacity to handle future flows, hydraulic improvements are recommended in the following areas.

7.3.2.1 Inlet to the Headworks Channel

The headworks's hydraulic capacity is currently limited by the inlet pipe's configuration. Flow from the existing inlet pipe enters a shallow influent channel vertically from below, directing flow *upward* instead of *toward* the flume. As a result, flow upstream of the Parshall flume occasionally sprays out over the top of the headworks structure, especially at high influent flow rates.

To prevent flow measurements from being skewed and raw sewage from splashing over the top of the structure, the inlet pipe to the headworks channel is recommended to be modified by installing a rigid plate or slab over the top of the influent channel to the flume. The new tread plate will replace the existing metal cover with a resilient, watertight alternative.

The estimated total project cost of these modifications is $6,000. They may be implemented at any time either by City staff or a general contractor as part of a larger project. Before implementing the project, the tread plate's load rating must be considered, and the anchorage design must be reviewed to resist the thrust caused by peak flows.

7.3.2.2 Tertiary Filter Bypass System

The plant's two tertiary disc filters are hydraulically bottlenecked by a set of serpentine bypass weirs whose current configuration provides minimal freeboard in the filter influent channel. At sufficiently reduced freeboard, flow may flood the SCs' effluent weirs, splash out of the channel, and potentially damage sensitive equipment and electronics, particularly those of the UV system. If left unmodified, the filters' removal efficiency will decrease as future flows increase and require more bypass, which will also decrease the removal rate of TSS.

To prevent the weirs from limiting the plant's overall hydraulic capacity, the tertiary filter bypass system is recommended to be reconfigured in the following manner:

- Remove the original weir wall between the filter influent channel and the existing serpentine weirs.
- Remove the concrete fill in the corners of the bypass channel to increase the depth and decrease the flow velocity.
- Reverse the serpentine weirs so that flow enters up between and through the launders, allowing for a uniform velocity as flow approaches the bypass weir, which, in turn, leads to more uniform weir loading.

As shown in Table 7.7, the total estimated project cost of the recommended modifications is approximately $49,000. These modifications can be implemented as a standalone project or along with other project efforts to reduce overhead costs. Although the timing of this improvement is not constrained, implementation during the dry weather season is recommended since the work will require temporary bulkheads upstream and downstream of each bypass channel.

Table 7.7 Filter Bypass Modification Costs

Description	Cost[1]
Demolition of Existing Structures	$7,000
New Concrete	$5,000
Structural Steel	$10,000
Bypass Weir Removal and Reinstallation	$3,000
Total Direct Cost	**$25,000**
Total Estimated Construction Cost	**$38,000**
Total Estimated Project Cost	**$49,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.3 Liquids Treatment

To address process and condition issues identified in the plant's secondary treatment system, modifications in the following areas are recommended.

7.3.3.1 Secondary Clarifier No. 1

The WWTF's three SCs all have differing effective sidewater depths and configurations, with SC Nos. 2 and 3 performing well. SC No. 1, however, performs poorly and unreliably not only because of the condition of its mechanical equipment but also because it has a center-well sludge-collection mechanism without a sloped floor to its center.

This clarifier is a major existing limitation and, as such, restoring it to its full design capacity is key to also restoring the process and hydraulic capacities associated with the secondary treatment process. As it stands, with all three ABs operating under MMF conditions and using only the two SCs that are currently operable, the secondary system will have insufficient capacity by approximately year 2024.

As such, SC No. 1 is recommended to be replaced with a new 75-foot-diameter, sloped-bottom clarifier similar in design to SC No. 3 since past retro-fit projects have not improved the clarifier's performance. Operating three fully functional SCs will increase the allowable maximum month MLSS concentration from 2,330 mg/L to 2,950 mg/L and slightly increase the allowable PDF from nine mgd to 9.4 mgd.

As shown in Table 7.8, the total estimated project cost to replace SC No. 1 is approximately $5.15 million. To replace SC No. 1, the plant must be operated using only two SCs through at least one wet weather season when peak flow events are likely, placing it at a higher risk of permit violations during construction.

Table 7.8 Replacement Costs for Secondary Clarifier No. 1

Description	Cost[(1)]
Demolition of Existing Equipment and Structure	$333,000
New Concrete Basin (Similar to SC No. 3)	$1,357,000
75-foot-diameter Spiral Scraper Mechanism	$420,000
Two 30-hp Vertical Centrifugal RAS Pumps	$147,000
Piping Modifications	$158,000
Electrical, Instrumentation, and Controls Upgrades	$175,000
Total Direct Cost	**$2,590,000**
Total Estimated Construction Cost	**$3,958,000**
Total Estimated Project Cost	**$5,146,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).
Abbreviations: hp - horsepower.

7.3.3.2 Secondary Treatment System

The plant's existing secondary treatment system has the following notable issues:

- Aerated volume in existing ABs is insufficient to maintain the eight-day aSRT necessary for stable nitrification.
- The baffle walls that divide the ABs' zones were poorly cut to their current top elevation and/or in deficient condition.
- RAS pumps for SC No. 2 are undersized and cannot prevent a sludge blanket failure under peak flow and load conditions.

The following sections detail each of these issues and their recommended improvements.

Aeration Basins

Flow and load projections predict that approaching 2030, the ABs' current capacity will become insufficient in maintaining an MLSS concentration below 3,500 mg/L under average loading conditions with one basin out of service at the 8-day aSRT required for stable nitrification.

To resolve this issue, the City is recommended to convert the existing ABs' anoxic zone volume into usable aerobic zone volume. If aeration diffusers are added to the final anoxic zone, the overall aerated volume can be increased by approximately 31 percent, leading to an approximate 24 percent decrease in the MLSS concentration allowing the system to maintain an eight-day aSRT. At this rate, the year when the firm AB capacity is exceeded might be prolonged from 2030 to 2038, and the overall SC capacity increases.

Supports for the diffusers in the new aerated zone must be designed to withstand forces exerted by the existing mixer so this zone can operate flexibly as a swing zone that provides either anoxic or aerobic conditions. To this end, the conversion of the current final anoxic zone to an aerated swing zone will require the following modifications:

- **Install a new diffuser grid:** The new diffusers are recommended to be the same type as those currently installed in each of the ABs' oxic zones, which are nine-inch Sanitaire membrane diffusers.
- **Connect the diffuser grid to the existing air pipe header:** Each new zone's aeration piping will include a modulated airflow control valve and a thermal mass flow meter accessible from the walkways between the ABs.

As shown in Table 7.9, the total estimated project cost for these modifications is approximately $340,000.

Table 7.9 Aeration Basin Diffuser Modification Costs

Description	Cost[(1)]
Three New Sanitaire Diffuser Grids	$69,000
Air Piping Modifications	$60,000
Electrical, Instrumentation, and controls Upgrades	$42,000
Total Direct Cost	**$171,000**
Total Estimated Construction Cost	**$261,000**
Total Estimated Project Cost	**$340,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

Aeration Basins' Baffle Walls

The marine plywood baffle walls in the ABs' selector zones are in poor condition. In addition, the concrete baffle walls between the ABs' anoxic/oxic zones are uneven and have exposed rebar. These issues not only compromise the structural integrity of the baffle walls but also may cause short-circuiting and backflow between the zones.

To resolve these issues, the marine plywood baffle walls in the selector zones are recommended to be removed, but not replaced. Meanwhile, the concrete baffle walls between the anoxic/oxic zones are recommended to be repaired to cover the exposed rebar and provide an even top of wall elevation. The total estimated project cost for these improvements is approximately $40,000.

Secondary Clarifier No. 2's RAS Pumps

According to the state point analysis introduced in Section 7.2.3, under max month MLSS concentrations and PDF, the current RAS rate is insufficient in preventing the sludge blanket in the SCs from rising. The current rated capacity of the RAS pumps in SC No. 1 is only 1,000 gallons per minute (gpm) and 1,050 gpm in SC No. 2, well below SC No. 3's RAS firm pumping capacity of 1,400 gpm.

Even if SC No. 1 is rehabilitated and additional aerated zones are added to the ABs, PDF will still be limited to 10.6 mgd at a maximum month MLSS concentration of approximately 2,725 mg/L. However, additionally increasing both SC nos. 1 and 2's RAS pumping capacities to 1,400 gpm will increase the allowable maximum month MLSS concentration to 3,000 mg/L at a PDF of 10.9 mgd. This capacity expansion extends the predicted point in time at which the secondary treatment process runs out of capacity to handle PDFs and maximum month MLSS concentrations from 2033 to 2036.

Since SC No. 1 is recommended to be wholly replaced, only SC No. 2's two RAS pumps are recommended to be replaced. The pumps were assumed to be replaced with larger units, although the existing pumps may be sufficient with replacement of impellers.

As detailed in Table 7.10, the total project cost to replace SC No. 2's RAS pumps is approximately $391,000.

Table 7.10 SC No. 2's RAS Pumps Replacement Costs

Description	Cost[(1)]
Removal of Existing Pump	$3,000
Two 30-hp Vertical Centrifugal RAS Pumps	$147,000
Electrical, Instrumentation, and Controls Upgrades	$47,000
Total Direct Cost	**$197,000**
Total Estimated Construction Cost	**$300,000**
Total Estimated Project Cost	**$391,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

Timing of the Recommended Improvements for the Secondary Treatment System

The recommended improvements to SC No. 1, the ABs, and the RAS pumps will provide the WWTF with sufficient secondary treatment capacity through 2036, beyond the planning horizon. However, these projects must be implemented with considerations made for permit requirements and process implications.

To replace SC No. 1, the plant must operate with only two units online during a wet weather season when peak flow events will likely increase the risk of violating permit demands when the new SC is being constructed. However, if the aeration improvements are implemented before the new SC is constructed, the secondary treatment process can be operated at a significantly lower MLSS concentration, reducing the risk of settling failure in SC Nos. 2 and 3. Ideally, aeration improvements and SC reconstruction could occur during the same dry weather period when the plant has sufficient capacity to operate with tanks out of service, allowing the aeration improvements to be completed before wet weather flows occur.

The replacement of SC No. 1 is also a sensible time to replace the existing RAS pumps for both SC Nos. 1 and 2. Since SC No. 2 is required while SC No. 1 is under construction, increasing SC No. 2's RAS rate to match that of SC No. 3 will provide an additional buffer against sludge blanket failure while SC No. 1 is out of service.

Section 7.4.2 discusses potential implementation years for these projects. Note that, even with these efforts complete, the City must still begin preparing even more secondary treatment capacity, either by process expansion or intensification, no later than 2031.

7.3.3.3 Aeration Blowers

The WWTF's four multistage centrifugal aeration blowers have the following notable issues:

- The blowers' firm capacity is insufficient to meet projected 2035 air demands.
- The blowers' current operational configuration risks overloading the blower motors and, thus, the four units cannot be run simultaneously.
- Each blower's variable frequency drives (VFD) cannot effectively modulate airflow by changing blower speeds.
- The control valves are oversized and ineffective in controlling dissolved oxygen (DO).
- Adding a fourth aerated zone to each AB will place additional demand on an already undersized system.

To provide capacity, redundancy, and control over a range of current and projected air demands, as well as to meet NPDES permit limits, two of the existing aeration blowers are recommended to be replaced with high-speed turbo blowers, which are more compact, efficient, with VFD speed control, better suited to the task than the existing multistage centrifugal blowers.

Preliminary analyses indicate that two new 300-hp turbo blower units in a duty/standby configuration alongside the two existing 150-hp multistage centrifugal blowers have enough capacity to fulfill 2035 peak air demands. Under these peak conditions, one of the new turbo blowers can be run in parallel with the existing blowers to supply the airflow rate required for aeration, with the second new turbo blower ready on standby. For conditions with low air demand, the plant may continue to use the two existing multistage centrifugal blowers.

As shown in Table 7.11, the total estimated project cost to replace the WWTF's aeration blowers, along with necessary mechanical and electrical improvements, is $1.86 million.

Table 7.11 Aeration Blower Replacement Costs

Description	Cost[(1)]
Two 300-hp turbo blowers	$691,000
Equipment pads	$3,000
Air piping modifications	$15,000
Electrical, instrumentation, and controls upgrades	$228,000
Total Direct Cost	**$937,000**
Total Estimated Construction Cost	**$1,432,000**
Total Estimated Project Cost	**$1,861,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.3.4 UV Disinfection System

The WWTF's existing UV disinfection system is nearing the end of its useful life and, given this age, many of its replacement components are no longer manufactured. As the current system continues to age, repair and replacement parts will become increasingly difficult to procure even as the frequency of component failure likely increases.

To eliminate the risk of losing the plant's UV capacity permanently upon a non-replaceable component failing, the UV system is recommended to be replaced with more modern equipment designed specifically for wastewater and water reuse applications.

The following modifications to the existing UV channel and ancillary equipment are recommended to install a newer model system:

- Complete computational fluid dynamics (CFD) modeling to ensure appropriate and even velocity distribution for flow entering the first new UV bank.
- Replace the existing level control gate with a new unit to provide the deeper water level required by newer UV equipment.
- Demolish and replace the existing ramp up to the level control gate to suit the design requirements of the replacement equipment.
- Replace the four existing banks of UV lamps with three new banks.
- Replace the existing power distribution centers (PDC) with three new PDCs.
- Remove the four step-down transformers currently installed for the existing UV system.
- Cut a small trench in the channel floor for routing hydraulic hoses if required by the new UV system manufacturer.

As shown in Table 7.12, the estimated project cost to replace the existing UV system, including the temporary disinfection process, is approximately $1.15 million. To minimize the volume of bypass pumping and disinfection required, this work is recommended to be performed during an extended low flow period (e.g., dry weather season). A temporary disinfection process, such as a skid-mounted UV disinfection system, will be required while the UV channel is being modified.

Table 7.12 UV Disinfection System Replacement Costs

Description	Cost(1)
New UV Equipment	$340,000
Existing UV Channel Modifications	$65,000
Electrical, Instrumentation, and Controls Upgrades	$65,000
Temporary Disinfection	$110,000
Total Direct Cost	**$580,000**
Total Estimated Construction Cost	**$887,000**
Total Estimated Project Cost	**$1,153,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.3.5 Effluent Pump Station

The effluent pump station is a low-head pump station that is only required under elevated river conditions, which occur infrequently. Although the pump station is in good condition, its current firm capacity is insufficient by at least 1 mgd to handle the projected 2035 PHF. The process implications of exceeding the effluent pumps' capacity are catastrophic since flow cannot be removed from the effluent wet well quickly enough to avoid submerging the upstream processes.

To ensure that treated effluent is effectively conveyed out of the plant under 2035 PHF conditions with one pump out of service, the effluent pump station's capacity is recommended to be expanded by replacing the pumps with units capable of providing sufficient flow capacity for condition projected through 2035.

As shown in Table 7.13, the total project cost to replace the existing effluent pumps is estimated to be $1,275,000. The effluent pump station is recommended to be modified during a low river stage when the pumps are unlikely to be needed.

Table 7.13 Effluent Pump Replacement Costs

Description	Cost[1]
Three Centrifugal Pumps, 4,700 gpm at 21 feet TDH	$485,000
Structural and Mechanical Modifications	$11,000
Electrical, Instrumentation, and Controls Upgrades	$146,000
Total Direct Cost	**$642,000**
Total Estimated Construction Cost	**$981,000**
Total Estimated Project Cost	**$1,275,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.4 Solids Treatment

To resolve redundancy and condition-related deficiencies identified in the solids processes, modifications to the following areas are recommended.

7.3.4.1 Grit-Separation System

The WWTF's degritting room is filled with odorous air that likely contains significant levels of hydrogen sulfide, which corrodes the degritting equipment in the space; as evidence of this, the cyclones, classifier, gravity thickener, and turbo pumping systems (TPS) pumps all exhibit conditions that indicate a corrosive atmosphere and signify the end of their useful life, requiring extensive rehabilitation or replacement.

In addition to increasing the number of air changes in the degritting room and implementing air treatment using biofilters, the entire grit separation system is recommended to be replaced. As shown in Table 7.14 the total project cost to replace the existing grit separation system is estimated to be $954,000. This project is recommended to be implemented within the next five to 10 years, though replacement may be required sooner if the existing equipment's condition continues to deteriorate.

Table 7.14 Grit-Separation Improvement Costs

Description	Cost(1)
Demolition	$20,000
New Degritting Equipment	$294,000
Piping Modifications	$9,000
Electrical, Instrumentation, and Controls Upgrades	$157,000
Total Direct Cost	**$480,000**
Total Estimated Construction Cost	**$734,000**
Total Estimated Project Cost	**$954,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.4.2 Thickened Primary Sludge Pumps

As with the rest of the equipment in the degritting room, the two existing, 130-gpm, progressive cavity TPS pumps have also been corroded by high levels of hydrogen sulfide and are nearing the end of their useful life. Furthermore, these pumps are oversized for the City's sludge flow and concentrations which unnecessarily increases maintenance costs. As such, the existing units are recommended for replacement with new, appropriately sized, 70-gpm progressive cavity units.

As shown in Table 7.15, the projected cost to replace the two existing TPS pumps is $154,000. The priority and timing for this replacement depend on the availability of replacement parts as well as the integrity of the pumps' non-replaceable parts.

Table 7.15 Thickened Primary Sludge Pump Replacement Cost

Description	Cost(1)
Demolition of Existing Pumps	$10,000
Two New 70-gpm Progressing Cavity Pumps	$43,000
Piping Modifications	$6,000
Electrical, Instrumentation, and Controls Upgrades	$19,000
Total Direct Cost	$78,000
Total Estimated Construction Cost	**$119,000**
Total Estimated Project Cost	**$154,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.4.3 Sludge Recirculation Pumps

The plant's rotary-lobe-style sludge recirculation pumps have historically had significant issues with microplastics infiltrating the pump shaft seal and damaging the overall unit. Despite replacements and corrections by the manufacturer, the frequency and severity of the maintenance issues have not improved.

Given that the solids content in the WWTF's digester ranges from 1.9 to 5.6 percent, a heavy-duty piston-style pump is recommended to replace the existing pumps. This new unit's shaft seal is located on top of the disk instead of underneath, which eliminates the leaking issue that piston-style pumps often have. And, because the seal has no gaps like a traditional mechanical seal might, infiltration of round microplastics is not anticipated to be an issue. While the seal must be replaced when it wears, the wear parts on this type of pump are anticipated to last three to four times longer than they might on progressive cavity or rotary-lobe pumps.

As shown in Table 7.16, the projected cost to replace the three existing rotary-lobe pumps with three double-disc piston-style pumps is $509,000. This project may be implemented at any time when the budget becomes available, and, to minimize risk, may be piloted to determine its application suitability.

Table 7.16 Sludge Recirculation Pump Replacement Cost

Description	Cost(1)
Demolition	$20,000
Three Double-Disc Piston Pumps: 200 gpm, 54 feet TDH	$144,000
Piping Modifications	$24,000
Electrical, Instrumentation, and Controls Upgrades	$68,000
Total Direct Cost	**$256,000**
Total Estimated Construction Cost	**$391,000**
Total Estimated Project Cost	**$509,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.4.4 Rotary Drum Thickener

After 10 years of operation, the plant's rotary drum thickener is showing significant signs of wear. Although the City recently added a new manufacturer-designed stabilization wheel that may allow this existing unit to continue operating, it remains a single point of failure without an operational plan in place to accommodate such a failure.

For full redundancy, a new thickening building capable of housing two RDTs and associated support equipment is required; however, the City's budgetary and site constraints do not currently allow for this construction to take place. Therefore, the City is recommended to continue monitoring and carefully implementing their current protocol for when the RDT is unavailable and proceed with other improvements to the WWTF's unit processes.

The City's current RDT protocol relies on use of the WAS storage tank when the RDT must be taken offline for maintenance. Process modeling of the WWTF indicates that the WAS-wasting rate, which has historically averaged approximately 37,000 gallons per day (gpd), may exceed 100,000 gpd under 2035 MM conditions. This means that, with the RDT offline, the current tank's capacity will be exceeded within one and a half days. Given these projections, planned maintenance activities must be scheduled during demand seasons when the WAS-wasting rate is low, and the RDT operation schedule must be extended during high demand periods to keep the WAS storage tank's levels as low as feasible.

Once the storage tank has reached its maximum capacity, excess WAS is directed to the gravity thickener to be co-thickened with primary sludge. However, this temporary operation affects performance in the following ways:

- Percent capture and thickened sludge concentrations are considerably reduced compared to what would be observed under normal operations.
- Hydraulic loading to the digesters is increased, resulting in a reduction of hydraulic residence time below the recommended 15 days when co-thickening.

While co-thickening's effects may be less severe at lower flows and loads, the temporary operation will not provide reliable thickening relief beyond one to two days at peak flows such as those projected under the 2035 MMF scenario.

With this being said, implementing the recommended improvements to the ABs will allow the secondary treatment process to be operated at a significantly lower MLSS, reducing the risk of settling failure in SC Nos. 2 and 3 and allowing SC No. 1 to be used for additional WAS storage during an emergency. In its current configuration, SC No. 1 can provide nearly 430,000 gallons of storage, which is equivalent to four days of continuous wasting under the 2035 MMF scenario. Note that using this SC for emergency storage will require connections and temporary piping routed from the control building No. 1 for SC Nos. 2's and 3's WAS pump.

7.3.4.5 Dewatering Centrifuge

The plant's existing DS-403 Sharple dewatering centrifuge is over 20 years old and, thus, exhibiting signs of being at the end of its useful life. In 2021 the City purchased a second, refurbished DS-403 Sharple centrifuge to provide dewatering redundancy. In the near term the centrifuge will act as a spare unit should an emergency replacement be required. The City is currently developing plans to modify the dewatering room and install the stand-by centrifuge, which will include the following modifications:

- Install a redundant centrifuge.
- Upsize the centrate piping to reduce any hydraulic restrictions.
- Increase the number of air changes per hour in the room.
- Clean out the existing odor-control piping connected to the centrate chute to confirm that nothing is blocking the ventilation of the centrifuge.

Table 7.17 shows costs for the modifications needed to install the redundant centrifuge in the existing building.

Table 7.17 Dewatering Centrifuge Improvement Costs

Description	Cost[(1)]
Existing Centrifuge Overhaul	$106,000
Piping and Mechanical Modifications	$39,000
Electrical, Instrumentation, and Controls Upgrades	$168,000
Total Direct Cost	**$313,000**
Total Estimated Construction Cost	**$479,000**
Total Estimated Project Cost	**$622,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.4.6 Biosolids Belt Dryer

As mentioned earlier, the biosolids belt dryer was not analyzed or assessed in detail, per the City's direction. However, the condition and capacity of the biosolids dryer are recommended for evaluation within the next five years.

7.3.5 Plant Support Systems

To accommodate future flows and provide reliable operation, modifications are recommended in the following plant support systems.

7.3.5.1 PLC, RIO, and SCADA

The City WWTF's control system includes a mixture of owner PLC systems and vendor PLC systems, which communicate to a central SCADA system that monitors and controls the entire plant. The existing PLC hardware utilizes the Modicon Quantum PLC platform, which includes remote input/output (RIO) racks. Meanwhile, data transfer utilizes older Data Highway Plus (DH+) serial communications.

The existing Modicon Quantum PLCs are outdated and no longer commercially available through the manufacturer. Since the failure of an existing module without a spare in stock could suspend automated control of a portion of the facility, the continued use of this PLC platform poses a significant operational risk.

In addition, the plant's existing Wonderware SCADA application is installed on a single computer server without redundancy, meaning this computer represents a single point of failure. If the computer fails for any reason or Wonderware is corrupted, the WWTF can no longer be governed via the control room. In a worst-case scenario, operators will be required to run all equipment manually from the field until the SCADA system is brought back online.

To minimize risks and employ up-to-date technologies, the WWTF's existing PLC network and SCADA system are recommended to be upgraded.

The following PLCs require replacement:

- Control building 1, PLC E, 1 rack.
- Control building 2, PLC E, 1 rack.
- UV building, PLC D1, 1 rack.
- UV building, UV panel, 1 rack.
- Equipment building, PLC C1, 1 rack.
- Digester building, PLC F, 3 rack.
- Main influent pump station, 1 rack.

Additionally, the following remote input/output cabinets require replacement:

- UV building, PLC D1, 2 RIO.
- Equipment building, PLC C1, 4 RIO.

These units are recommended to be replaced by modern equivalents on a standardized communication protocol, which will allow for a sequenced conversion process. Note that any changes made to the PLC programs by other facility equipment upgrades or changes in operational sequences will increase replacement costs since more PLC programming time will be required.

Meanwhile, the SCADA system must be upgraded and expanded to incorporate a level of redundancy. To develop a modern system with desired features, including advanced data analysis, report generation, and secure remote accessibility, the following upgrades are recommended:

- Replace the existing SCADA server with matching redundant SCADA servers.
- Upgrade the SCADA human-machine interface (HMI) application to a redundant configuration.
- Upgrade or add a SCADA historian application.
- Add a SCADA reporting application.
- Harden the system for improved remote access security by upgrading the network switch with a demilitarized zone (DMZ).
- Rebuild HMI graphics to take advantage of increased system functionality, correct existing errors with data collection and display, and provide robust communications with the upgraded PLC hardware.
- Integrate the existing Hach WIMS data with the SCADA historian and reporting applications.

In addition, the City is recommended to develop a comprehensive and living SCADA master plan that identifies and prioritizes system improvements at the WWTF as well as the City's 27 remote sites, including lift stations, pump stations, and tanks. At this time, controls at these sites are a mix of older hard-wired controls and some PLC control, with hard-wired being the norm; as such, all of the City's remote sites are recommended to be converted to PLC-based controls that utilize a standard format control panel design with radio telemetry communications to the WWTF.

Upgrades to improve the telemetry system are recommended for Lacamas Shores, Sunningdale Gardens, and Winchester Hills 2 in the near term, given that these sites' run-time data all showed risks of capacity deficiencies; the addition of flow meters and pressure sensors is recommended to better understand these stations' capacities or lack thereof. Updates to the other 22 sites are recommended in the long term as the City's budget allows.

Table 7. 18 represents a budgetary cost estimate to implement the proposed upgrades to the City's SCADA, PLC, and RIO systems.

Table 7.18 Camas WWTF Control System Upgrade Cost

Description	Total Estimated Project Cost(1)
SCADA Master Plan	$210,000
SCADA System Upgrade	$644,000
PLC Hardware Upgrade (Nine Cabinets)	$1,295,000
RIO Hardware Upgrade (Six Cabinets)	$650,000

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.5.2 Plant Drain Pump Station No. 1

Plant drain pump station No. 1 shows signs of concrete corrosion, and its pumps are nearing the end of their useful life. In addition to these condition-related issues, this station is already required to operate at its total installed hydraulic capacity for extended periods under current conditions and is unlikely to reliably accommodate future recycle flows and loads.

As such, plant drain pump station No. 1 is recommended to be rehabilitated through the following improvements:

- Replace the existing pumps with a new set of submersible pumps, each capable of pumping 500 gpm. The existing motor starter may be reused and connected to the new pumps.
- Install a liner in the existing wet well to extend the life of the existing structure.
- Replace the control panel, pump guide rails, and discharge piping within the wet well.

As shown in Table 7.19, the projected cost to replace plant drain pump station No. 1's pumps and accessories is $517,000.

Table 7.19 Plant Drain Pump Station No. 1 Replacement Cost

Description	Cost[(1)]
Demolition and Temporary Pumping	$42,000
Wet Well Liner	$95,000
Plant Drain Pumps and Piping	$60,000
Electrical, Instrumentation, and Controls Upgrades	$63,000
Total Direct Cost	**$260,000**
Total Estimated Construction Cost	**$398,000**
Total Estimated Project Cost	**$517,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.3.5.3 Non-Potable Pump No. 3

The non-potable water pump station's three pumps are in reasonably good condition. However, non-potable water pump No. 3 is not currently usable since its intake is located below the UV channel's discharge weir due to air entrainment caused by cascading water and prevents the unit from properly priming, which also causes it to fail.

To mitigate this issue, this pump is recommended to be relocated within the wet well but out of the direct flow path of the weir. While modifications to the pump column are not necessary, a new hole must be cut in the elevated slab over the non-potable pump station's wet well. The total estimated project cost to relocate non-potable water pump No. 3 is approximately $43,000.

Because air entrainment is a persistent issue, any future improvements to the UV system must be made with consideration for the location of these pumps. If a second parallel UV channel must be installed at some point, the entire non-potable water pump station must be modified or most likely relocated to sit within the effluent pump station, and the pumps must be relocated close to the existing UV equipment, which may potentially complicate access to the effluent pump station's electrical room and back-up generator.

7.3.5.4 Odor Control and Treatment

Located in the WWTF's equipment building, the centrifuge room and primary sludge degritting room share a combined odor-control system. Because these rooms lack sufficient airflow, both experience persisting odor issues and corrosion of the assets contained within.

The current centrifuge room exhausts air at a rate of 700 cubic feet per minute (cfm), accounting for approximately 3.5 air changes per hour (ACH). The room also has point-source odor control, which pulls 500 cfm of air from various equipment, accounting for approximately 2.5 ACH. Combined, the room exhausts six ACH.

To improve odor control, the ducting is recommended to be balanced to exhaust 1200 cfm from the overall centrifuge room, 400 cfm from the cake conveyor, and 100 cfm from each centrifuge. This solution will provide the room with 6 ACH, in addition to a more robust point-source connection to prevent odorous air from escaping the centrifuge, for a total of 8.5 ACH. To supply the space with the proper amount of intake air, this alternative requires the installation of a second intake louver on the west wall.

Meanwhile, the primary-sludge-degritting room exhausts 700 cfm of air, accounting for approximately 6.3 ACH. Increasing the exhaust airflow to 1350 cfm is recommended. Furthermore, the three duct drops on the west wall must be balanced to pull 250 cfm each, and the drops above the storage containers must be balanced to pull 300 cfm each. Together, these modifications will provide the space with a total of 12.2 ACH. Similar to that of the centrifuge room, this solution requires a second intake louver to be installed on the east or south wall to supply the proper amount of intake air into the space.

The improvements recommended for both rooms require the shared odor-control fan to exhaust 4850 cfm in total. The current fan only exhausts 3600 cfm. If the fan does not have sufficient capacity to provide the required increase in airflow, a new odor-control fan must be installed in the same location as the existing unit.

Table 7.20 shows the estimated costs associated with the odor-control improvements, including a new fan. Note that this improvement plan's increased airflow will reduce contact time with the biofilter, thus reducing some of the filter's effectiveness and the quality of the air passing through and leaving it. Therefore, the frequency at which media should be replaced will be modestly increased.

Table 7.20 Odor Control Improvement Costs

Description	Cost[(1)]
Additional Ducting and Louvers	$6,000
New Exhaust Fan Capable Of Exhausting 4,850 cfm	$21,000
Testing and Balancing	$1,000
Total Direct Cost	**$28,000**
Total Estimated Construction Cost	**$42,000**
Total Estimated Project Cost	**$55,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.4 Recommended WWTF Improvement Projects

The improvements recommended to address WWTF capacity limitations over the next 20 years and address current condition issues that prohibit reliability or performance are summarized in this section. The recommended alternatives presented in Section 7.3 were re-organized and, in some cases, grouped together to suggest construction sequencing and project timing the City should consider when implementing these improvements.

The following 14 distinct projects were developed for incorporation into the City's general sewer system plan CIP:

- **TP-1 Aeration Basin Improvements:** This project improves the ABs' performance by making the following modifications:
  - Install new aeration diffusers and associated zone controls in each AB's final anoxic zone to create a new aerated swing zone.
  - Demolish the marine plywood baffle walls at the upstream end of the ABs.
  - Repair and relevel the concrete baffle walls dividing each zone in each AB.
- **TP-2 Secondary Clarifier Improvements:** This project enhances the SCs' performance and capacity by making the following modifications:
  - Demolish SC No. 1 and replace it with a new clarifier that matches SC No. 3's design including RAS pumping capacity.
  - Replace SC No. 2's RAS pumps to provide a firm capacity that matches those of SC No. 3.
- **TP-3 Aeration Blower Replacement:** This project replaces two of the existing aeration blowers with larger high-speed turbo blowers to meet projected aeration demands.
- **TP-4 Disinfection Building and Hydraulic Improvements:** This project enhances plant hydraulics and modifies the disinfection building with the following improvements:
  - Replace the existing UV disinfection equipment and provide a temporary UV skid to bypass the existing channel.
  - Modify the filter bypass so it does not limit the plant's hydraulic capacity.
  - Reconfigure the non-potable water pump station to prevent air entrainment in the pump suction.
  - Redirect the headworks channel inlet pipe to improve flow measurements and prevent splashing of raw sewage out of the top of the structure.
- **TP-5 Effluent Pump Station Improvements:** This project increases the effluent pump station's capacity, as required, to pump 100 percent of 2035's projected PHFs to the outfall in the Columbia River by replacing the existing effluent pumps with larger units.
- **TP-6 Grit-Separation and Odor-Control Improvements:** This project replaces the existing grit-separation equipment, including hydrocyclones and grit classifiers, and increases the capacity of the odor control systems servicing the grit-handling area and dewatering building, which will extend the life and reduce maintenance of new installed equipment.
- **TP-7 Thickened Primary Sludge Pump Replacement:** This replaces the existing TPS pumps with new progressive cavity pumps.
- **TP-8 Sludge Recirculation Pump Replacement:** This project replaces the existing digested sludge pumps with new double-disc piston-style pumps.

- **TP-9 Mechanical Dewatering Improvements:** This project rehabilitates the existing dewatering centrifuge and modifies the space to accommodate a standby unit for redundancy.
- **TP-10 Plant Drain Pump Station Improvements:** This project repairs the existing plant drain pump station No. 1's structure and replaces its pumps.
- **TP-11 SCADA Master Plan:** This project prepares a SCADA master plan that will provide the City with a roadmap to prioritize and implement planned system upgrades designed to address system deficiencies and enhance facility operation. This project includes an in-depth investigation of the existing SCADA control system for the City's WWTF and associated remote sites.
- **TP-12 SCADA Improvements:** This project upgrades the existing SCADA system to provide redundancy and take advantage of modern features, including advanced data analysis, report generation, and secure remote accessibility.
- **TP-13 PLC and RIO Cabinet Improvements:** This project includes replaces existing Modicon Quantum hardware with new, standardized PLCs and RIO cabinets for all process areas at the WWTF.
- **TP-14 Secondary Treatment Expansion Planning Project:** This project plans for a future secondary treatment expansion to accommodate flows and loads outside the planning windows.

7.4.1 Cost Summary of the Improvement Projects

Table 7.21 summarizes the total project cost for each improvement project. Costs are rendered in 2021 dollars and include all construction, engineering, legal, and administrative markups.

Table 7.21 Recommended WWTF Project Costs

Project ID	Improvement Type	Total Project Cost[(1)]
TP-1 Aeration Basin Improvements	Capacity	$376,000
TP-2 Secondary Clarifier Improvements	Capacity/Condition	$5,539,000
TP-3 Aeration Blower Replacement	Capacity	$1,862,000
TP-4 Disinfection Building and Hydraulic Improvements	Condition/Capacity	$1,252,000
TP-5 Effluent Pump Station Improvements	Capacity	$1,276,000
TP-6 Grit Separation and Odor Control Improvements	Condition	$1,010,000
TP-7 TPS Pump Replacement	Condition	$154,000
TP-8 Sludge Recirculation Pump Replacement	Condition	$509,000
TP-9 Mechanical Dewatering Improvements	Condition	$622,000
TP-10 Plant Drain PS Improvements	Capacity/Condition	$517,000
TP-11 SCADA Master Plan	Planning	$209,000
TP-12 SCADA Improvements	Network	$645,000
TP-13 PLC and RIO Cabinet Improvements	Network	$1,946,000
TP-14 Secondary Treatment Expansion Planning	Planning	$75,000
WWTF Recommended Improvements Total	**–**	**$15,992,000**

Notes:
(1) All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021).

7.4.2 Implementation Timing for the Improvement Projects

Implementation timing for the 14 projects was considered in the context of the following factors:

- **Each project's high or low criticality to the WWTF's operation:** Criticality to the process was higher for processes that are essential for liquid treatment and less so for solid treatment processes.
- **The risk of failure associated with the equipment being addressed by a project:** Risk of failure was high or low depending on the age of the equipment, availability of replacement parts from manufacturers, and installed redundancy.

Table 7.22 lists the projects, possible sequencing, start years for design and planning, possible years of implementation for capacity reasons (if applicable), and brief explanations of project prioritization rationale. It is suggested that the City closely track key factors, including growth within service area, useful life, and condition of plant components, to allow for optimal timing and phasing of improvements. Proper timing and phasing of projects will prevent the City from incurring unnecessary construction, operation, and maintenance costs to increase capacity before it is needed to serve users.

Table 7.22 Recommended WWTF Project Implementation Schedule

Project ID	Recommended Start Year	Year Required Online	Reason for Prioritization
TP-1 Aeration Basin Improvements	2026	2030	Improve capacity before TP-2.
TP-2 Secondary Clarifier Improvements	2027	2030	Meet capacity only.
TP-3 Aeration Blower Replacement	2028	2032	Meet capacity only.
TP-4 Disinfection Building and Hydraulic Improvements	2021	2026	Address aging equipment whose parts are unavailable from manufacturers.
TP-5 Effluent Pump Station Improvements	2026	2029	Meet capacity only.
TP-6 Grit Separation and Odor Control Improvements	2023	2027-2032	Eliminate ongoing corrosion in the building and improve workspaces.
TP-7 TPS Pump Replacement	2032	N/A	Anticipated end of useful life.
TP-8 Sludge Recirculation Pump Replacement	2032	N/A	Anticipated end of useful life.
TP-9 Mechanical Dewatering Improvements	2024	N/A	Create redundancy.
TP-10 Plant Drain Pump Station Improvements	2021	2021	Address immediate capacity needs and corrosion issues.
TP-11 SCADA Master Plan	2022	N/A	Update out-of-date software.
TP-12 SCADA Improvements	2023	N/A	Update out-of-date software.
TP-13 PLC and RIO Cabinet Improvements	2023	N/A	Update out-of-date software.
TP-14 Secondary Treatment Expansion Planning	2031	N/A	Secondary treatment inadequate by 2036.

Chapter 8

OPERATION AND MAINTENANCE

8.1 Introduction

This chapter provides an overview of the City of Camas (City) Wastewater Utility organization, staffing, and operation and maintenance (O&M) program. This chapter documents existing practices and identifies changes that may improve system operation and maintenance.

8.2 Organization Structure

The City Public Works Department is organized as shown in Figure 8.1 and is managed by Steve Wall. The Utility group is managed by Rob Charles. There are various groups relevant to this General Sewer Plan (Plan) including the wastewater treatment facility (WWTF), and a combined group with responsibilities pertaining to sewer and water disciplines. The WWTF is supervised by Bob Busch.

Note, Stormwater and Sewer/Water groups assist each other during abnormal conditions, such as cleanup after a major storm or repairs requiring specialized staff and equipment.

The Capital Engineering group managed by James Carothers leads major wastewater capital projects, such as new lift stations. The Utility group leads lift station retrofits, "repair & replacement" projects, and operations and maintenance projects.

8.3 Staffing

8.3.1 Maintenance and Operations Staff

The City combines staff for water and sewer disciplines. Therefore, staff under this branch will work on both water and sewer mains including the septic tank effluent (STE) systems. They are also in charge of making sewer system repairs. Operational staff work full shifts on weekdays and there is always at least one person on duty during the day on weekends. There is always at least one person on call in the evenings to address emergencies.

No additional positions are sought although as of March 2022, there are three vacant water/sewer staff positions the City is seeking to fill.

8.3.2 Wastewater Utility Engineering Staff

WWTF staff work primarily on the treatment plant and are also in charge of the sewer lift stations in the conveyance system. The City's WWTF National Pollutant Discharge Elimination System (NPDES) permit requires a Washington Wastewater Treatment Facility Operator (WWTFO) Class IV certified operator to be responsible for the plant at all times. Table 8.1 lists WWTF staff certifications. The City has two Class IV operators in the case that one is unavailable. The NPDES permit does not require anyone other than the responsible operator(s) to hold a certification, but the City requires all operators to have a Class I certification or have the ability to acquire one within six months of employment.

Table 8.1 Wastewater Utility Operator Certifications

Name	Position	Certification
Bob Busch	WWTF Supervisor	WWTFO Class IV
William Blake	WWTF Operator Lead	WWTFO Class IV
Ole Helland	WWTF Operator	WWTFO Class II
Ken Murray	WWTF Operator	WWTFO Class I
Steve Carroll	WWTF Operator	WWTFO Class I
Joe Calderone	WWTF Operator	WWTFO Class I
Matt Golphenee	WWTF Operator	WWTFO Class II
Jacob Taylor	WWTF Operator	WWTFO Class II

8.4 Records

For O&M record keeping, the WWTF uses a Computerized Maintenance Management System (CMMS), data-tracking Excel spreadsheets, handwritten logbooks, and an electronic repository of equipment documentation. The WWTF staff have a "WWTF" shared drive at the plant, which is a reference library of construction documents, O&M documentation for individual equipment, training materials, etc.

Septic tank effluent pump (STEP) systems are tracked in a separate management system involving record keeping, both on paper and on a tablet. The City currently uses IAUDIT on iPads to document work and plans to move to the same software as the WWTF in the future to better track current activities. The implementation plan is to add new activities to the software as it comes up.

City staff and third-party customer service representatives receive utility-related calls made by system users, and information is dispatched to the appropriate utility staff.

PUBLIC WORKS DEPARTMENT - ORGANIZATIONAL CHART

LEADERSHIP TEAM
- *Public Works Director*
- *Engineering Manager*
- *Operations Facilities Manager*
- *Utilities Manager*

CAPITAL ENGINEERING**

Admin
- *Senior Admin.*
- *Admin. Support*

Project Manager
- *Manager*

Engineers
- *Engineer (III)*
- *Engineer (II)*
- *Engineer (I)*
- *Engineer (I)*

GENERAL GOVT, ER&R and STORM OPERATIONS

Admin
- *Senior Admin.*

Building Facilities
- *Senior*
- *Facilities I*

Streets
- *Lead*
- *Senior*
- *Maint. II*
- *Maint. II*
- *Maint. I*
- *Maint. I*
- *Maint. I*

Parks/Cemetery
- *Lead*
- *Senior*
- *Senior*
- *Maint. I*
- *Maint. I*
- *Maint. I*
- *Maint. I*

Equip Rental
- *Lead*
- *Mechanic*
- *Mechanic*
- *Mechanic*

Stormwater
- *Lead*
- *Senior*
- *Maint. II*
- *Maint. I*

UTILITIES

Admin
- ***Senior Admin.***

Stormwater Engineer
- *Engineer*

Solid Waste
- *Lead*
- *Sanit. Driver*
- *Sanit. Driver*
- *Sanit. Driver*

WWTP
- *Supervisor*

WWTP Operators
- *Lead*
- *Operator*
- *Operator*
- *Operator*
- *Operator*
- *Operator*

Water/Sewer Super
- ***Vacant***

Water/Sewer
- *Lead*
- *Wtr Operator*
- *Sewer Maint. STEP*
- *Senior*
- *Senior*
- *Maint. II*
- *Maint. II*
- *Maint. I*
- *Maint. I*
- *Maint. I*
- *Maint. I*
- *Maint. I*
- *Maint. I*
- *Maint. I*

** Development Engineering under Community Development

8.5 Current Operation and Maintenance Program

8.5.1 Maintenance

8.5.1.1 Lift Station Inspection and Maintenance

Lift station inspection and maintenance is completed by City WWTF Operators listed in Table 8.1.

For all lift stations, pump run hours are closely tracked to identify potential issues. Additionally, periodic maintenance is completed. Table 8.2 presents each activity and frequency staff completes for the sewer lift stations.

Table 8.2 Summary of WWTF Sewer Lift Station Maintenance

Frequency	Component	Activity
Daily	SCADA	• Review lift station alarm history. Check pump/level/pressure/flow trend charts.
	Record Keeping	• Update pump runtime tracking spreadsheets. Review updated sheets for anomalies. Submit requests for any necessary maintenance via CMMS.
Weekly	Controller	• Check for active alarms. Verify pumps, level indicator, and other controller-monitored equipment is operating normally in "AUTO". Document pump run hours. Verify no tripped breakers.
	Pumps	• Run pumps in hand to verify proper operation. Inspect for unusual sounds, vibration, or leaks.
	Genset	• Check ATS status and verify there are no faults and system is ready for emergency operation. Check generator fuel. Check generator for leaks or signs of mechanical failure. Check generator control paned for faults. Generator auto-exercises on Thursdays.
	Dry Well	• Verify dry well is dry. Verify sump pump or floor drain is functioning properly. When running pumps, verify check valves open/close. Verify force main pressure (static and pumping). Check for piping leaks.
	Wet Well	• Inspect influent flow, verifying it is not abnormally high or low, color, odor, etc. Inspect for excess debris or grease accumulation. If able, break up FOG and pump out. Verify level sensors are free of debris or obstructions, clean, as necessary.
	Odor Control System	• Verify proper operation and odor level. Inspect for unusual sounds, vibration, odor, and leaks.
	Surge Tank	• Verify proper operation, checking controller for any faults.
	Grounds	• Monitor physical appearance of station. Remove any accumulated trash or debris. Monitor and control vegetation. Monitor for odors emanating from station.
Quarterly	Pumps	• Perform draw down testing for each pump.
	Record Keeping	• Update pump tracking spreadsheet with draw down test results.
	Odor Control System	• Change out carbon media at Lacamas Meadows Lift Station. In depth check of biofilter systems.
Bi-Annually	Gas Sensors	• Calibrate lower explosive limit meters.
	Grounds	• Herbicide application, where necessary.
	Odor Control System	• Change out odor control media on carbon absorber units.
	Isolation Valves	• Exercise isolation valves at all lift stations to maintain operability.
Annually	Generator	• Third-party preventative maintenance.
	Pumps	• Pull pumps for visual inspection.
	Main Pump Station Pumps	• Third-party preventative maintenance.
	Piping	• Winterize any water piping.
	Odor Control System	• Winterize biofilters prior to freezing weather. Turn off odor control units that are not operated during winter months. Turn on odor control units that are operated during summer months.
	Wet Well	• Cleaning of any wet wells that have accumulated excessive FOG/floatables/debris.
Every 3 Years	Pumps	• Third-party pump inspections and testing.

Notes:
Abbreviations: ATS - automatic transfer switch; FOG - fats, oils, and grease; SCADA - Supervisory Control and Data Acquisition.

8.5.1.2 Pipeline Video Inspection

A closed-circuit television (CCTV) inspection of the gravity main by push camera was completed in 2013. For future inspections, the City will contract with CCTV inspection contractors on an as needed basis for their CCTV and manhole inspection programs. Inspections will be performed in accordance with all industry standards and best practices.

8.5.1.3 Manhole Inspection and Maintenance

The City inspects manholes on an as-needed basis and the manhole inspection program will be contracted out to a third party as well. The City may choose to implement their own standards for manhole inspections, rather than rely on the NASSCO standards.

8.5.1.4 Root Cutting

Root maintenance is completed as needed. It is anticipated that additional root cutting tasks may be identified through contracted video inspection on an as needed basis.

8.5.1.5 Grease Removal

The City educates customers on FOG as part of their general education program. It is anticipated that through video inspection, the City may identify pipes with heavy FOG. Initially, it is recommended the preventative maintenance activities involving FOG include outreach to local business or industries and or more frequent cleaning, especially if an area is persistently found to be impacted by FOG. If FOG is more widespread than currently thought, then the City may consider a FOG program.

8.5.1.6 Hydraulic Line Cleaning

Flushing is done every month for flat areas in the system. Where normal flushing is insufficient to address known problem areas, pipe jetting is completed either as preventative maintenance or on an as needed basis. The City would like to implement a comprehensive jetting program that may be completed by the City or will be contracted out to a third party.

8.5.1.7 Repair Sewers

Point repairs are conducted to address pipe deficiencies identified through CCTV inspection and are undertaken as required and as resources allow. Work may be completed by City staff or through a small works type contract.

8.5.1.8 STEP Maintenance

The City owns and maintains the STEP system. Currently, the City conducts solids pumping from about 600 STEP tanks annually through contractors. Additional it maintains the step tanks, pumps, and telemetry concurrently. The City has an active STEP tank education program with customers.

It is recommended to conduct a STEP tank condition assessment to identify repair and replacement needs including inspection of the STEP tank and connections to the STEP tank as well as an inspection of the proper function of the STEP tank. From this condition assessment, a STEP repair and replacement program should be developed and included in the City's Capital Improvement Program (CIP). Current STEP tank replacement costs are about $11,000 per STEP tank to be installed by a contractor.

8.5.2 Operations

The City operations group are generally divided into treatment, pump stations, and pipes.

The City operators at the WWTF conduct various activities, including: monitoring and adjusting treatment parameters, conducting water quality measurements and other related lab tests, and managing the City's Class A, Exceptional Quality Biosolids program.

The WWTF operators are also responsible to monitor the pump stations throughout the collection system. The treatment facility operators monitor the sanitary pump stations while the water/sewer staff monitor the septic tank effluent systems throughout the City.

City staff are responsible for pipe activities associated with operating the collection system, including repairing pipelines.

City staff also lead operations during emergencies or natural disasters. Emergency operations include preparing and planning for emergencies and conducting drills.

Individual staff duties and operations include administration tasks, training, and tool maintenance. Staff have their own administrative duties to complete weekly as well as meetings to attend in addition to their normal operator duties. They are also in charge of maintaining and cleaning their tools and equipment. The City values the importance of training staff; thus, staff will also allocate time annually to training and conferences as a means to further develop their skills.

8.6 Future Operation and Maintenance Needs

The WWTF plans to expand their internal maintenance capabilities while reducing dependency on third-party maintenance contracting. The WWTF is working to develop deeper pump, clarifier and instrumentation inspection and maintenance skills. The WWTF plans to constantly expand and improve their usage of the CMMS and its work ordering and tracking capabilities. Furthermore, the WWTF has an ongoing effort to develop an extensive set of Standard Operating Procedures for common operations, maintenance, safety, and administrative tasks.

As stated above, the City will contract with CCTV inspection contractors to complete video inspection in the collection system. It is recommended to develop a hydraulic line cleaning program while completing the video inspection. The hydraulic line cleaning program can be completed by the City or third-party contractors. With this inspection and cleaning program, it is expected that other repair needs will be identified for roots, FOG, and point repairs.

Currently the City's staffing focus is to fill the current vacant water/sewer supervisor and staff positions. In the future, to aid in the development of non-capital utility projects the City wants to add a staff civil engineer and an electrician to the utility team.

Chapter 9

CAPITAL IMPROVEMENT PLAN

9.1 Introduction

This chapter summarizes the Capital Improvement Plan (CIP) for the City of Camas (City) General Sewer Plan (Plan). The CIP includes projects needed to accommodate growth, repair and replace aged infrastructure, and attain level of service goals. The CIP is arranged in terms of short-term (2022-2031) and long term (2032-2041) periods. Projects are grouped into pipeline, pump station, septic tank effluent pump (STEP), inflow and infiltration (I/I), maintenance, treatment plant, and general types of infrastructure work. The CIP consists of the cost estimates and schedules for the recommended improvements.

The following sections present cost estimating assumptions, recommended projects, estimated costs for each project, and a summary of the CIP.

9.2 Cost Estimating Assumptions

Cost estimates were developed for each of the recommended projects in the CIP for budgeting purposes. The CIP costs are planning level estimates only and should be refined during pre-design of the projects as final costs of a project with depend on actual labor and materials costs, competitive market conditions, final project scope, implementation schedule, and other variable factors. The CIP cost estimate should be periodically reevaluated to account for changes in inflation.

All costs are in 2021 dollars and are benchmarked to an Engineering News Report (ENR) Construction Cost Index 20-city average of 12112 (June 2021). Cost estimates were developed using a Class 4 budget estimate, as established by the American Associate of Cost Estimators (AACE). This level of estimate is used for feasibility studies and assumes a one percent to 15 percent level of project definition. The expected accuracy range is of the Class 4 cost estimates are -30 percent to +50 percent.

9.2.1 Conveyance Cost Assumption

This section provides the CIP for pipelines, lift stations, and STEPs. Cost estimates for conveyance infrastructure represent total project cost including materials, construction, engineering, legal, and administrative costs. Costs were represented as unit costs, as described in subsequent sections. Costs are based on costs provided by the City or similar projects completed by Carollo Engineers. The following are the total marks-ups to direct costs: 30 percent for construction management contingency, 30 percent for engineering, legal, and design costs, and 10 percent for administration contingency.

9.2.1.1 Total Conveyance Project Capital Improvement Cost

The costs presented in this Plan are high-level planning costs to help the City in making financial decisions.

As shown in the following sample calculation of the conveyance projects capital improvement cost, the total cost of all project contingencies (construction and planning) and allied costs (engineering services, construction management, and project administration) is 82 percent of the baseline project cost.

Example:

Baseline Project Cost	**$1,000,000**
Construction Management Contingency (30%)	$300,000
Construction Cost	**$1,300,000**
Engineering, Legal, Design (30%)	$390,000
Administration (10%)	$130,000
Total Capital Improvement Cost	**$1,820,000**

9.2.1.2 Pipeline Unit Costs

For pipes, baseline project costs are calculated by multiplying the estimated new pipe length by a proposed unit cost. All of the known pipelines involved in this CIP are between eight-inches and 27-inches. Pipeline unit costs are available in Table 9.1; broken down by pipeline diameter and depth of installation. These unit costs were used to estimate the total cost of replacement. The unit costs assume open-trench construction in improved areas. Costs include pavement cutting, excavation, hauling, shoring, pipe materials and installation, backfill material and installation, and pavement replacement.

Table 9.1 Pipeline Construction Unit Costs

Pipeline Diameter (inches)	Cost per LF (10+ feet deep)	Cost per LF (5 feet deep)
8	$330	$223
10	$341	$233
12	$351	$243
15	$372	$266
18	$383	$277
21	$388	$282
24	$397	$287
27	$404	$298

Notes:
Abbreviations: LF - linear feet.

9.2.1.3 Pump Station Unit Costs

Pump station unit costs were based on costs to similar projects Carollo Engineers has completed in the past. There are unit costs for pump station upgrades and telemetry. Pump station upgrades include repair and replacement to the station itself and force main cleaning. Pump station telemetry includes upgrading or updating the SCADA system at the pump stations.

9.2.1.4 STEP Unit Costs

Since there was no data for the STEP systems, STEP CIP projects are targeted to assess the conditions of the STEP system to determine future maintenance and repair and replacement projects. STEP main conditioning assessment and cleaning, and STEP system lift stations SCADA were based on similar projects Carollo Engineers have completed for other cities in the past.

9.2.2 Treatment Cost Assumptions

Cost estimates for treatment projects include 30 percent for construction contingency, 1.3 percent for builder's risk and insurance, 15 percent for general contractor overhead, risk, and profit, and one percent for performance and payment bond for a total overall construction adjustment factor of 53 percent. Planning adjustment mark-ups include 25 percent for engineering, legal, and design and 5 percent for owner's reserve for change orders for a total overall planning adjustment factor of 30 percent.

9.2.2.1 Total Treatment Project Capital Improvement Cost

The costs presented in this Plan are high-level planning costs to help the City in making financial decisions.

As shown in the following sample calculation of the capital improvement cost, the total cost of all project contingencies (construction and planning) and allied costs (engineering services, construction management, and project administration) is 82 percent of the baseline project cost.

Example:

Baseline Project Cost	**$1,000,000**
Overall Construction Adjustment Factor (53%)	$530,000
Construction Cost	**$1,530,000**
Engineering, Legal, Design (25%)	$382,500
Owner's Reserve (5%)	$76,500
Total Capital Improvement Cost	**$1,989,000**

9.3 Capital improvement Plan

As discussed, the CIPs are prioritized based on their urgency and risk to mitigate deficient systems. The timing for implementing these improvement projects is based on the affordability and urgency of the project. It is recommended that the City monitor growth and adjust project implementation accordingly.

9.3.1 Planning Periods

The following terms are used to define timing and prioritization into three planning periods:

- **Short-term (2022 - 2031).** Proposed facilities determined to be a high priority.
- **Long-term (2032 - 2041).** Proposed facilities determined to be a low priority or proposed facilities to service major growth areas to be developed in the long-term.

9.3.2 Project Types

Projects are categorized by type. These types include the following:

- "G" = Growth.
- "R&R" = Repair and Replacement.
- "LOS" = Level of Service.

Growth projects are focused on updating infrastructure to address the needs of expanding. Repair and replacement projects are focused on renewing or replacing infrastructure in poor condition. Level of Service projects are focused on upgrading infrastructure to address level of service concerns. The types aid the City in determining the appropriate funding sources.

9.3.3 Project and Program Naming

An individual Project Sheet was generated for each CIP project and includes project identifiers, description, costs, project type, and comments to aid in future implementation. Project are separated into the following categories:

- "P" = Pipeline.
- "PS" = Pump Station.
- "G" = General.
- "S" = STEP.
- "I&I" = Inflow and infiltration.
- "M" = Maintenance.
- "TP" = Treatment plant.

A summary of all CIP projects by facility type and project type is shown in Table 9.2. A summary of costs by project category and type is presented at the end of the chapter.

Table 9.2 Capital Improvement Plan Summary

City of Camas
General Sewer Plan
Capital Improvement Plan

Capital Improvement Plan Summary

Project		CIP Project Subtotal[1]	Total CIP Cost Estimate	CIP Phasing												Project Type		
				2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Short-term (2022-2031)	Long-term (2032-2041)	Growth	Repair & Replacement	Level of Service
Gravity Pipeline																		
P-01	NW Fargo St Upsize	$ 354,000	$ 644,000	$ -	$ 644,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 644,000	$ -	0%	0%	100%
P-02	Division St Upsize	$ 717,000	$ 1,306,000	$ -	$ 1,306,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,306,000	$ -	0%	0%	100%
P-03	NW 6th Pl West Upsize	$ 282,000	$ 514,000	$ -	$ 514,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 514,000	$ -	0%	0%	100%
P-04	NW 6th Pl East Upsize	$ 207,000	$ 376,000	$ -	$ 376,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 376,000	$ -	0%	0%	100%
P-05	NW 6th Ave West Upsize	$ 454,000	$ 825,000	$ -	$ 825,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 825,000	$ -	0%	0%	100%
P-06	NW 6th Ave East Upsize	$ 339,000	$ 617,000	$ -	$ 617,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 617,000	$ -	0%	0%	100%
P-07	Adams St Upsize	$ 678,000	$ 1,235,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 554,000	$ 681,000	$ -	$ 1,235,000	$ -	50%	0%	50%
P-08	NW 18th Loop Upsize	$ 214,000	$ 389,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 389,000	50%	0%	50%
P-09	NE 15th Ave Upsize	$ 98,000	$ 179,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 179,000	50%	0%	50%
	Gravity Subtotal		**$ 6,085,000**	**$ -**	**$ 4,282,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 554,000**	**$ 681,000**	**$ -**	**$ 5,517,000**	**$ 568,000**			
Pump Station																		
PS-01	South Prune Hills Pump Station Improvements	$ 280,000	$ 510,000	$ -	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 510,000	$ -	0%	0%	100%
PS-02	West Camas Pump Station Improvements	$ 280,000	$ 510,000	$ -	$ -	$ -	$ -	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ 510,000	$ -	50%	0%	50%
PS-03	Crown View Hill Pump Station Improvements	$ 280,000	$ 510,000	$ -	$ -	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 510,000	$ -	0%	0%	100%
PS-04	Main Pump Station Improvements	$ 280,000	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 510,000	$ -	$ 510,000	$ -	50%	0%	50%
PS-05	Upgrade Pump Station Telemetry	$ 320,000	$ 14,560,000	$ -	$ -	$ -	$ 1,747,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,747,000	$ 12,813,000	50%	0%	50%
	Pump Station Subtotal		**$ 16,600,000**	**$ -**	**$ 510,000**	**$ 510,000**	**$ 1,747,000**	**$ 510,000**	**$ -**	**$ -**	**$ -**	**$ 510,000**	**$ -**	**$ 3,787,000**	**$ 12,813,000**			
General																		
G-01	Gravity Collection System Model	$ 270,000	$ 491,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 491,000	75%	0%	25%
	General Subtotal		**$ 491,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 491,000**			
STEP																		
S-01	STEP Main Flows	$ 126,000	$ 229,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 229,000	75%	0%	25%
S-02	STEP Main Modeling	$ 53,000	$ 96,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 96,000	75%	0%	25%
S-03	STEP Main Condition Assessment/ Cleaning	$ 451,000	$ 821,000	$ -	$ -	$ 821,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 821,000	$ -	0%	0%	100%
	STEP System Subtotal		**$ 1,146,000**	**$ -**	**$ -**	**$ 821,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 821,000**	**$ 325,000**			
Inflow and Infiltration																		
I&I-01	Ongoing I&I Program	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	50%	0%	50%
	Inflow and Infiltration Subtotal		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**			
Maintenance																		
M-01	WWTP R&R	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000,000	$ -	0%	100%	0%
M-02	Pump Station R&R	$ 12,000,000	$ 12,000,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 6,000,000	$ 6,000,000	0%	100%	0%
M-03	Sewer Main R&R	$ 3,000,000	$ 3,000,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,500,000	$ 1,500,000	0%	100%	0%
M-04	STEP Tank R&R	$ 2,800,000	$ 5,095,000	$ -	$ 1,019,000	$ 1,019,000	$ 1,019,000	$ 1,019,000	$ 1,019,000	$ -	$ -	$ -	$ -	$ 5,095,000	$ -	0%	100%	0%
	Maintenance Subtotal		**$ 22,095,000**	**$ 2,750,000**	**$ 1,769,000**	**$ 1,769,000**	**$ 1,769,000**	**$ 1,769,000**	**$ 1,769,000**	**$ 750,000**	**$ 750,000**	**$ 750,000**	**$ 750,000**	**$ 14,595,000**	**$ 7,500,000**			
Treatment Plant																		
TP-01	Aeration Basin Improvements	$ 189,223	$ 376,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 376,000	$ -	$ -	$ -	$ 376,000	$ -	80%	20%	0%
TP-02	Secondary Clarifier Improvements	$ 2,785,535	$ 5,539,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,539,000	$ -	$ -	$ 5,539,000	$ -	50%	50%	0%
TP-03	Aeration Blower Replacement	$ 936,557	$ 1,862,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,862,000	$ -	$ 1,862,000	$ -	100%	0%	0%
TP-04	Disinfection Building / Hydraulic Improvements	$ 629,472	$ 1,252,000	$ -	$ 1,252,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,252,000	$ -	20%	80%	0%
TP-05	Effluent Pump Station Improvements	$ 641,550	$ 1,276,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,276,000	$ -	$ -	$ -	$ 1,276,000	$ -	100%	0%	0%
TP-06	Grit Separation / Odor Control Improvements	$ 507,998	$ 1,010,000	$ -	$ -	$ -	$ 1,010,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,010,000	$ -	0%	100%	0%
TP-07	TPS Pump Replacement	$ 77,520	$ 154,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 154,000	0%	100%	0%
TP-08	Sludge Recirculation Pump Replacement	$ 256,077	$ 509,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 509,000	0%	100%	0%
TP-09	Mechanical Dewatering Improvements	$ 828,992	$ 1,648,000	$ -	$ -	$ -	$ -	$ 1,648,000	$ -	$ -	$ -	$ -	$ -	$ 1,648,000	$ -	0%	100%	0%
TP-10	Plant Drain Pump Station No. 1 Improvements	$ 260,057	$ 517,000	$ -	$ 517,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 517,000	$ -	50%	50%	0%
TP-11	SCADA Master Plan	$ 208,964	$ 209,000	$ -	$ -	$ 209,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 209,000	$ -	50%	50%	0%
TP-12	SCADA Improvements	$ 324,439	$ 645,000	$ -	$ -	$ -	$ 645,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 645,000	$ -	50%	50%	0%
TP-13	PLC & RIO Improvements	$ 978,424	$ 1,946,000	$ -	$ -	$ -	$ 1,946,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,946,000	$ -	50%	50%	0%
TP-14	Secondary Treatment Expansion Planning	$ 75,000	$ 75,000			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000	100%	0%	0%
	Treatment Plant Subtotal		**$ 17,018,000**	**$ -**	**$ 1,769,000**	**$ 209,000**	**$ 3,601,000**	**$ 1,648,000**	**$ -**	**$ 1,652,000**	**$ 5,539,000**	**$ 1,862,000**	**$ -**	**$ 16,280,000**	**$ 738,000**			
CIP Total			**$ 63,435,000**	**$ 2,750,000**	**$ 8,330,000**	**$ 3,309,000**	**$ 7,117,000**	**$ 3,927,000**	**$ 1,769,000**	**$ 2,402,000**	**$ 6,843,000**	**$ 3,803,000**	**$ 750,000**	**$ 41,000,000**	**$ 22,435,000**	**$ 17,495,700**	**$ 30,920,800**	**$ 15,018,500**
Annual Cost			$ 3,172,000	$ 2,750,000	$ 8,330,000	$ 3,309,000	$ 7,117,000	$ 3,927,000	$ 1,769,000	$ 2,402,000	$ 6,843,000	$ 3,803,000	$ 750,000	$ 4,100,000	$ 2,244,000	$ 875,000	$ 1,546,000	$ 751,000

Notes:
1. CIP Project Subtotal is project cost before contingency costs are added. CIP Project Cost = Estimated Construction Cost. Total CIP Project Cost = Estimated Construction Cost plus merkups for contingency, construction overhead (as applicable), engineering, and administration.
2. Part of existing City CIP Project.

9.4 Pump Station Projects

Pump stations in the CIP are all recommended to be upgraded to provide pump redundancy under existing conditions. These stations do not meet the required firm capacity. It is recommended that the City improve these pump stations redundancy and add a third redundant pump with the same capacity as the current pumps.

9.4.1 PS-01: South Prune Hills Pump Station

The South Prune Hills Pump Station captures flows from the Southwest portion of the system. Based on the modeled flows to the pump station wet well, and City draw down testing, the pump station receives more peak wet weather flow (PWWF) than its firm capacity during existing and buildout conditions. The stations firm capacity needs to convey more than double its current firm capacity from 449 gallons per minute (gpm) to 1,113 gpm. Extensive upgrades to the station are recommended in the short-term. The estimated cost is $510,000 in 2023.

9.4.2 PS-02: West Camas Pump Station Improvements

The West Camas Pump Station captures flows from the Southwest portion of the system and is just downstream of the south Prune Hills PS. Based on the modeled flows to the pump station wet well, and City draw down testing, the pump station receives more PWWF than its firm capacity during existing and buildout conditions. The stations firm capacity needs to convey more than double its current firm capacity from 579 gpm to 1,302 gpm. Extensive upgrades to the station are recommended in the short-term, but later than project PS-01, which currently restricts flow to the West Camas Pump Station. The estimated cost is $510,000 and is planned for 2026.

9.4.3 PS-03: Crown View Hill Pump Station

The Crown View Hill Pump Station captures flows from the Northern portion of the system. Based on the modeled flows to the pump station wet well, and City draw down testing, the pump station receives more PWWF than its firm capacity during existing and buildout conditions. The stations firm capacity needs to convey more than triple its current firm capacity from 148 gpm to 530 gpm. Extensive upgrades to the station are recommended in the short-term. The estimated cost is $510,000 and is planned for 2024.

9.4.4 PS-04: Main Pump Station Improvements

The Main Pump Station captures flows from the majority of the system, except Flow Monitoring Basin 8-1-1. This station is just upstream on the WWTP. Based on the modeled flows to the pump station wet well, and City draw down testing, the pump station receives more PWWF than its firm capacity during existing and buildout conditions. The stations firm capacity needs to convey more than its current firm capacity from 3,851 gpm to 5,682 gpm. Extensive upgrades to the station are recommended in the long-term, after upstream stations have been upgraded. The estimated cost is $510,000 and is planned for 2030.

9.4.5 PS-05: Upgrade Pump Station Telemetry

The telemetry and control system is how flow rates are measures and maintenance needs are updated. Supervisory control and data acquisition (SCADA) systems collect data from City lift stations, which can then be accessed by Civil Engineers and control sub consultant to help the City maintain the system. Upgrades to improve the telemetry system are recommended for

Lacamas Shores, Suningdale Gardens, and Winchester Hills 2 in the near term. These sites run time data all showed a risk of capacity deficiencies. The addition of flow meters and pressure sensors is recommended to better understand these stations capacity or lack thereof. Updates to the other 22 stations are recommended in the long-term. The near-term section of the project is planned for 2025 and the estimated cost is $1,747,000. The remainder of the project has an estimated cost of $12,813,000 and is planned for the long term.

9.5 STEP Projects

Since data was not available to evaluate the STEP system, improvement projects were not developed. However, CIP STEP projects include monitoring, modeling, and condition assessments to evaluate the STEP system in the future.

9.5.1 S-01: STEP Main Flows

Issues with treatment plant inflow monitoring restricted the ability to separate out STEP flows from Gravity System Flows. Recently, this issue was resolved, and future monitoring will allow a greater understanding of the STEP Main flows. If Oak and Main PSs are flow metered, the STEP system flow can be determined. A future study is recommended once sufficient historical data is available. The estimated cost is $229,000 and is planned for the long term.

9.5.2 S-02: STEP Main Modeling

The STEP system should be added to the collection system model in order to evaluate that portion of the system. Additional metering at pump stations further upstream would allow calibration of the STEP portion of the model. The addition of a manhole with a flow meter near Northwest (NW) Lake Rd and NW Lacamas Drive or NW Parker Street and NW Knapp Lane to aid in calibration should also be considered. Figure 6.24 shows the potential overview of a STEP main model and proposed monitoring locations to add to the STEP system, shown as green circles. Inflows are shown in red and black triangles. These are based on the Gray and Osborne 2010 General Sewer Plan Appendix F. These inflows give an overview of where additional monitoring could be available in order to divide up the system during STEP model calibration. The estimated cost is $96,000 and is planned for the long term.

9.5.3 S-03: STEP Main Condition Assessment and Cleaning

The addition of manholes to the STEP system would help investigation of the STEP mains condition and allow any partially obstructed portion of the STEP Main to be identified. A future investigation of debris, solids, and other obstruction is recommended in the sags in the system. The estimated cost is $821,000 and is planned for 2024.

9.6 Pipeline Projects

CIP pipeline projects were determined from the results of a skeletonized model evaluation. Most pipeline projects address level of service concerns and some are combined growth and level of service projects.

9.6.1 P-01: NW Fargo Street Upsize

Model surcharging and manhole flooding at manholes 3-1-26 and 3-1-25 revealed the need for upsizing. To alleviate surcharging 1,007 LF of pipe between manholes 3-1-26 to 3-1-22 should be upsized from 8- to 12-inch pipe, along NW Fargo Street between NW 23rd and NW 19th Avenue. This project is at a depth of approximately 10 feet. This estimated cost is $644,000 and is planned for 2023.

9.6.2 P-02: Division Street Upsize

Model surcharging and manhole flooding at manholes 3-1-11, 3-1-10, and 3-1-6 revealed the need for upsizing. To alleviate surcharging 2,043 LF of pipe between manholes 3-1-11 to 3-1-2 should be upsized from 8 to 12-inch pipe. This project is a gravity pipeline along Division Street between NW 18th and 11th Avenue, at an approximate depth of 10 feet. The estimated cost is $1,306,000 and is planned for 2023.

9.6.3 P-03: NW 6th Place West Upsize

Model surcharging and manhole flooding at manholes 10-1-8 revealed the need for upsizing. To alleviate surcharging 188 LF of pipe between manholes 10-1-11 to 10-1-10 should be upsized from 8 to 12-inch pipe and 616 LF of pipe between manholes 10-1-8 to 10-1-5 from 10 to 12-inch pipe. This project is a gravity pipeline along NW 6th Place, just upstream of the South Prune Hills Pump Station, at an approximate depth of 10-15 feet. The estimated cost is $514,000 and is planned for 2023.

9.6.4 P-04: NW 6th Place East Upsize

Model surcharging and manhole flooding at manholes 10-1-3 revealed the need for upsizing. To alleviate surcharging 188 LF of pipe between manhole 10-1-3 to the West Camas Pump Station wet well should be upsized from 10 to 12-inch pipe. This project is a gravity pipeline along NW 6th Place between South Prune Hills PS and West Camas PS, at an approximate depth of 5-10 feet. The estimated cost is $376,000 and is planned for 2023.

9.6.5 P-05: NW 6th Avenue West Upsize

Model surcharging and manhole flooding at manholes 1-1-9, 1-1-8, and 1-1-7 revealed the need for upsizing. To alleviate surcharging 311 LF of pipe between manholes 1-1-9 to 1-1-7 should be upsized from 12- to 15-inch pipe, and 1,340 LF of pipe between manholes 1-1-7 to 1-1-2 should be upsized from 12-inch to 18-inch. This project is a gravity pipeline along NW 6th Avenue, downstream of the West Camas PS and through Forest Home Park, at an approximate depth of five feet. The estimated cost is $825,000 and is planned for 2023.

9.6.6 P-06: NW 6th Avenue East Upsize

Model surcharging occurs between manholes 2-1-3 to 5-1-12, along NW 6th Avenue. To alleviate surcharging 817 LF of pipe between manholes 2-1-3 to 2-1-1 should be upsized from 12 to 18-inch pipe, and 401 LF of pipe between manholes 2-1-1 to 5-1-12 should be upsized from 12-inch to 21-inch. This project is a gravity pipeline along NW 6th Avenue, between NW 7th Avenue and Southeast (SE) Adams Street, at an approximate depth of five feet. The estimated cost is $617,000 and is planned for 2023.

9.6.7 P-07: Adams Street Upsize

Model surcharging occurs along SE 3rd Avenue, and flooding emerges at manholes 5-1-5 and 5-1-6 during buildout conditions. To alleviate surcharging 773 LF of pipe between manholes 5-1-10 to 5-1-12 and manholes 5-1-6 to 5-1-8 should be upsized from 21 to 24-inch pipe, and 925 LF of pipe between manholes 5-1-10 to 5-1-8 and manholes 5-1-6 to 5-1-2 should be upsized from 24-inch to 27-inch. This project is a gravity pipeline along Northeast (NE) and SE Adams Street between SE 3rd Avenue and NW 6th Avenue, at an approximate depth of 5-10 feet. The total estimated cost is $1,235,000 and is planned for $554,00 in 2027 and $681,000 in 2030.

9.6.8 P-08: NW 18th Loop Upsize

Model surcharging occurs along NW 18th Loop, during buildout conditions. To alleviate surcharging 609 LF of pipe between manholes 3-1-1 to 3-1-16 and manholes 3-1-13 to 3-1-13 should be upsized from 8 to 12-inch pipe. This project is a gravity pipeline along NW 18th Loop, at an approximate depth of 5-10 feet. The estimated cost is $389,000 and is planned for the long-term.

9.6.9 P-09: NE 15th Avenue Upsize

Model surcharging occurs along NE 15th Avenue, during buildout conditions. To alleviate surcharging 256 LF of pipe between manholes 4-1-2 to 4-2-1 should be upsized from 8 to 18-inch pipe. This project is a gravity pipeline along NE 15th Avenue between NE Garfield Street and NE Franklin Street, at an approximate depth of 10 feet. The estimated cost is $179,000 and is planned for the long-term.

9.7 Inflow and Infiltration Projects

9.7.1 I&I-01: Ongoing I&I Program

The City has an on-going I&I program which should continue and focus on high I&I areas from the modeling efforts. Further discussion is provided in Chapter 5.

9.8 Maintenance Projects

9.8.1 M-01: WWTP Repair and Replacement

Ongoing R&R is an item in the City's 2020 Sewer Capital Budget. No construction, E/L/D, or admin are applied, as the $2,000,000 cost is from the City's budget.

9.8.2 M-02: Pump Station Repair and Replacement

Ongoing R&R is an item in the City's 2020 Sewer Capital Budget. No construction, E/L/D, or admin are applied, as the $600,000 cost is from the City's budget. The cost is multiplied by a quantity of 20 for an estimated total cost of $12,000,000.

9.8.3 M-03: Sewer Main Repair and Replacement

Ongoing R&R is an item in the City's 2020 Sewer Capital Budget. No construction, E/L/D, or admin are applied, as the $150,000 cost is from the City's budget. The cost is multiplied by a quantity of 20 for an estimated total cost of $3,000,000.

9.8.4 M-04: STEP Tank Repair and Replacement

A STEP Tank R&R program is recommended to maintain the STEP collection system and prevent aging infrastructure and increases to infiltration in the system. This program will be a three-step process of assessment, repairs, and replacement. This should be performed for all tanks in the STEP system over the next 5 years. The estimated cost is $5,100,000 and is planned from 2023 to 2028.

9.9 Treatment Plant Projects

Treatment plant projects in the CIP occur at the Wastewater Treatment Plant (WWTP). The projects aim to mitigate capacity limitations over the next 20 years and address current condition issues that prohibit reliability or performance. Projects were grouped together to consider construction sequencing and project timing.

9.9.1 TP-01: Aeration Basin Improvements

This project includes general modifications to the aeration basin to improve performance, including the following:

- Demolition of the existing marine plywood baffle walls at the upstream end of the aeration basin.
- Installation of new aeration diffusers and associated zone controls in the final anoxic zone to create a new aerated swing zone.
- Repair and releveling of the concrete walls dividing each zone in each aeration basin.

The estimated cost is $376,000 and is planned for 2028.

9.9.2 TP-02: Secondary Clarifier Improvements

This project involves the replacement of two of the existing aeration blowers with larger high-speed turbo blowers to meet projected future aeration demands. The estimated cost is $5,539,000 and is planned for 2029.

9.9.3 TP-03: Aeration Blower Replacement

This project includes the demolition of the existing Secondary Clarifier No. 1 and replacement with a new clarifier matching the design of the existing Secondary Clarifier No. 3, as well as replacement of the existing Secondary Clarifier No. 2 RAS pumps to provide firm capacity matching that of Secondary Clarifier No. 3. The estimated cost is $1,862,000 and is planned for 2030.

9.9.4 TP-04: Disinfection Building / Hydraulic Improvements

This project includes modifications to the Disinfection Building and general hydraulic improvements, including the following:

- Replacing the existing UV disinfection equipment and providing temporary UV skid to bypass existing channel.
- Modifying the filter bypass so it does not limit the plant hydraulic capacity.
- Reconfiguring the NPW Pump Station to prevent air entrainment in pump suction.
- Redirecting the headworks channel inlet pipe to improve flow measurement and prevent splashing of raw sewage out of the top of the structure.

The estimated cost is $1,252,000 and is planned for 2023.

9.9.5 TP-05: Effluent Pump Station Improvements

This project involves increasing the capacity of the existing effluent pump station as required to pump 100 percent of projected 2035 peak hour flows to the outfall in the Columbia River. It assumes that this is accomplished by replacement of the existing effluent pumps with larger pumps. The estimated cost is $1,276,000 and is planned for 2028.

9.9.6 TP-06: Grit Separation / Odor Control Improvements

This project involves replacement of existing grit separation equipment, including hydrocyclones and grit classifiers, as well as increasing the capacity of the odor control systems servicing the grit handling area and the dewatering building. The estimated cost is $1,010,000 and is planned for 2025.

9.9.7 TP-07: TPS Pump Replacement

This project involves replacement of the existing thickened primary sludge pumps with new progressive cavity pumps. The estimated cost is $154,000 and is planned for the long-term.

9.9.8 TP-08: Sludge Recirculation Pump Replacement

This project involves replacement of the existing digested sludge pumps with new double disc piston-style pumps. The estimated cost is $509,000 and is planned for the long-term.

9.9.9 TP-09: Mechanical Dewatering Improvements

This project involves rehabilitation of the existing dewatering centrifuge and the addition of a second dewatering centrifuge for redundancy. The estimated cost is $1,648,000 and is planned for 2026.

9.9.10 TP-10: Plant Drain Pump Station No. 1 Improvements

This project involves repair of the existing Plant Drain Pump Station No. 1 structure and replacement of the existing pumps. The estimated cost is $517,000 and is planned for 2023.

9.9.11 TP-11: SCADA Master Plan

The SCADA master plan will provide the City with a road map to planned system upgrades designed to address system deficiencies and enhance facility operation. Development of the master plan will include an in-depth investigation of the existing SCADA control system for the City's wastewater treatment facility (WWTF) and the associated remote sites. The estimated cost is $209,000 and is planned for 2024.

9.9.12 TP-12: SCADA Improvements

Upgrades to the existing SCADA system to provide redundancy and take advantage of modern features including advanced data analysis, report generation, and secure remote accessibility. The estimated cost is $654,000 and is planned for 2025.

9.9.13 TP-13: PLC and RIO Improvements

This project includes replacement of the existing Modicon Quantum hardware with the Modicon M580 PLC and X80 I/O. The estimated cost is $1,946,000 and is planned for 2025.

9.9.14 TP-14: Secondary Treatment Expansion Planning

This project plans for a future secondary treatment expansion to accommodate flows and loads outside the planning windows. The estimated cost is $75,000 and is planned for the long-term.

9.10 General Projects

9.10.1 G-01: Gravity Collection System Model

The gravity collection system model is heavily skeletonized, only 24 percent of the gravity system pipes are included. A full pipe or less skeletonized model is needed for a more robust evaluation of the system. In order to expand the model, accurate and updated GIS for the collection system should be developed. The estimated cost is $491,000 and is planned for the long-term.

9.11 Summary of CIP

Recommended improvements include five pump station projects, three STEP projects, nine pipeline projects, one inflow and infiltration project, four maintenance projects, 14 treatment plant projects, and one general project. Most projects are allocated as repair and replacement projects at $30.9 M. Level of service projects are at $17.5 M and growth projects are at $15.0 M. The total CIP is $63.4 M.

The CIP recommends budgeting $41.0 M in the short term. The average annual short-term cost for all recommended projects is approximately $4.1 M per year from 2022 through 2031. The CIP recommends $22.4 M in the long-term with an average annual long-term cost of approximately $2.2 M per year from 2032 through 2041.

Detailed sheets for each CIP project presented in this chapter can be found in Appendix K of the Plan. Table 9.3 summarizes the total cost and annual cost for each planning period.

Table 9.3 CIP Planning Period Summary

Planning Period	Total Cost	Annual Cost
Short-term (2022-2031)	$41.0 M	$4.1 M
Long-term (2032-2041)	$22.4 M	$2.2 M

Maintenance projects accounts for 35 percent of the CIP projects at $22.1 M, followed by treatment plant projects at $17.0 M (27 percent) and pump station projects at $16.6 M (26 percent). Table 9.4 summarizes the total estimated capital costs by facility type. Figure 9.1 shows the various project types of CIP allocation.

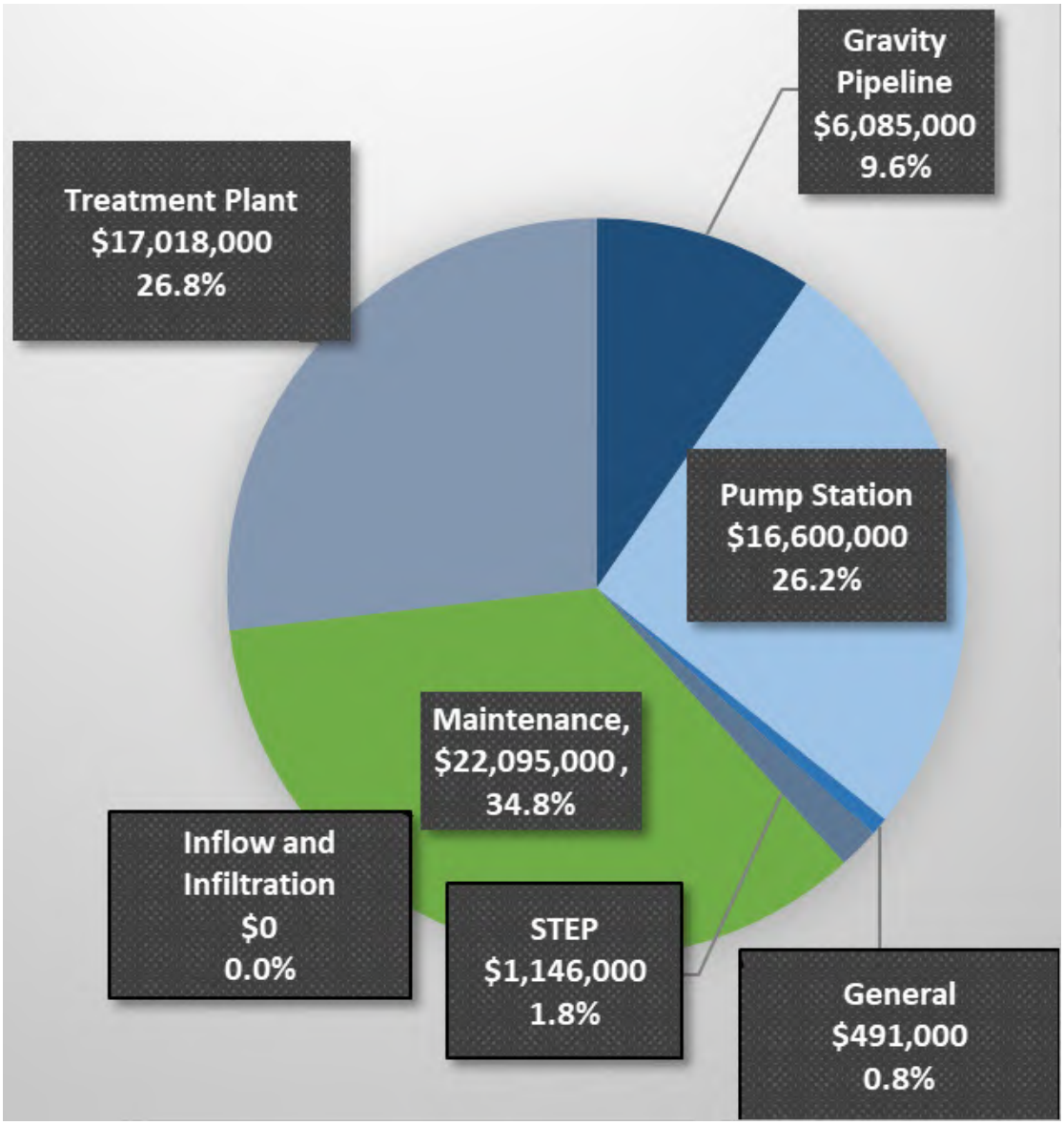


Figure 9.1 Cost by Project Type

Table 9.4 CIP Summary by Project Type

Project ID	Title	Total Capital Cost	Planning Period	
			Short-term (2022-2031)	Long-term (2032-2041)
Pump Station				
PS-01	South Prune Hills Pump Station Improvements	$510,000	$510,000	
PS-02	West Camas Pump Station Improvements	$520,000	$510,000	
PS-03	Crown View Hill Pump Station Improvements	$520,000	$510,000	
PS-04	Main Pump Station Improvements	$520,000	$510,000	
PS-05	Upgrade Pump Station Telemetry	$14,560,000	$1,747,000	$12,813,000
STEP				
S-01	STEP Main Flows	$229,000		$229,000
S-02	STEP Main Modeling	$96,000		$96,000
S-03	STEP Main Condition Assessment/ Cleaning	$821,000	$821,000	
Pipeline				
P-01	NW Fargo Street Upsize	$664,000	$664,000	
P-02	Division Street Upsize	$1,306,000	$1,306,000	
P-03	NW 6th Place West Upsize	$514,000	$514,000	
P-04	NW 6th Place East Upsize	$376,000	$376,000	
P-05	NW 6th Avenue West Upsize	$825,000	$825,000	
P-06	NW 6th Avenue East Upsize	$617,000	$617,000	
P-07	Adams Street Upsize	$1,235,000	$1,235,000	
P-08	NW 18th Loop Upsize	$389,000		$389,000
P-09	NE 15th Avenue Upsize	$179,000		$179,000
Inflow and Infiltration				
I&I-01	Ongoing I&I Program	--		

Project ID	Title	Total Capital Cost	Planning Period	
			Short-term (2022-2031)	Long-term (2032-2041)
Maintenance				
M-01	WWTP Repair and Replacement	$2,000,000	$2,000,000	
M-02	Pump Station Repair and Replacement	$12,000,000	$6,000,000	$6,000,000
M-03	Sewer Main Repair and Replacement	$3,000,000	$1,500,000	$1,500,000
M-04	STEP Tank Repair and Replacement	$5,095,000	$5,095,000	
Treatment Plant				
TP-01	Aeration Basin Improvements	$376,000	$376,000	
TP-02	Secondary Clarifier Improvements	$5,539,000	$5,539,000	
TP-03	Aeration Blower Replacement	$1,862,000	$1,862,000	
TP-04	Disinfection Building / Hydraulic Improvements	$1,252,000	$1,252,000	
TP-05	Effluent Pump Station Improvements	$1,276,000	$1,276,000	
TP-06	Grit Separation / Odor Control Improvements	$1,010,000	$1,010,000	
TP-07	TPS Pump Replacement	$154,000		$154,000
TP-08	Sludge Recirculation Pump Replacement	$509,000		$509,000
TP-09	Mechanical Dewatering Improvements	$1,648,000	$1,648,000	
TP-10	Plant Drain Pump Station No. 1 Improvements	$517,000	$517,000	
TP-11	SCADA Master Plan	$209,000	$209,000	
TP-12	SCADA Improvements	$645,000	$645,000	
TP-13	PLC and RIO Improvements	$1,946,000	$1,946,000	
TP-14	Secondary Treatment Expansion Planning	$75,000		$75,000
General				
G-01	Gravity Collection System Model	$491,000		$491,000

Chapter 10

FINANCIAL PLAN

10.1 Introduction

This chapter was prepared by FCS GROUP to provide a financial program that allows the City of Camas (City) sewer utility to remain financially viable during the planning period. This financial viability analysis considers the historical financial condition, current and identified future financial and policy obligations, operation and maintenance (O&M) needs, and the financial impacts of the capital projects identified in this General Sewer Plan (Plan). Furthermore, this chapter provides a review of the sewer utility's current rate structure with respect to rate adequacy and customer affordability.

10.2 Past Financial Performance

This section includes a historical summary of financial performance as reported by the City, including fund resources and uses arising from cash transactions, as well as a historical summary of comparative statements of net position, which are useful indicators of the City's financial position.

10.2.1 Comparative Financial Statements

The City legally owns and operates both a water and sewer utility. Operations and financial reporting occur on a combined utility fund basis. Table 10.1 shows a summary of the utility fund resources and uses arising from cash transactions for the previous 6 years (2015 through 2020) for the water and sewer utilities combined. Table 10.2 shows a summary of assets and liabilities, with the difference between the two reported as "net position." Increases or decreases in net position are useful indicators of the financial position of the City's utility fund. Noteworthy findings and trends are discussed following each table to demonstrate the historical performance and condition of the City's combined utility fund.

Table 10.1 Summary of Historical Fund Resources and Uses Arising from Cash Transactions

	2015	2016	2017	2018	2019	2020
Operating Revenues						
Charges for Service	$11,202,674	$11,411,593	$12,034,637	$12,436,638	$12,625,383	$13,595,484
Total Operating Revenues	$11,202,674	$11,411,593	$12,034,637	$12,436,638	$12,625,383	$13,595,484
Operating Expenses						
Water Operations and Maintenance	$1,885,556	$2,453,392	$2,102,232	$1,820,073	$3,175,678	$2,918,824
Sewer Operations and Maintenance	2,300,528	2,730,173	2,160,594	2,328,923	2,366,102	2,362,571
Customer Accounts	39,123	77,005	81,347	103,290	82,415	113,647
Administration	1,277,740	1,181,535	1,744,099	1,692,329	1,667,443	1,643,828
Taxes	389,507	435,240	470,531	517,704	589,618	535,323
Depreciation and Amortization	3,071,893	3,183,705	3,521,386	3,758,016	4,474,904	4,661,734
Total Operating Expenses	$8,964,347	$10,061,050	$10,080,189	$10,220,335	$12,356,160	$12,235,927
Operating Income (Loss)	$2,238,327	$1,350,543	$1,954,448	$2,216,303	$269,223	$1,359,557
Nonoperating Revenues (Expenses)						
Interest Earnings	$26,983	$204,446	$249,358	$403,216	$1,000,866	$547,253
State and Federal Grants	-	-	-	-	-	67,417
Interest and Fiscal Charges	(842,275)	(1,136,153)	(1,132,064)	(1,081,102)	(1,723,672)	(1,578,632)
Gain (Loss) on Disposal of Assets	(30,508)	3,821	(126,326)	298	-	(109,215)
Miscellaneous Revenue (Expense)	161,635	641,503	204,474	511,028	292,041	13,650
Debt Issuance Cost	-	-	-	-	(147,928)	-
Total Non-Operating Revenues (Expenses)	$(684,165)	$(286,383)	$(804,558)	$(166,560)	$(578,693)	$(1,059,527)
Income (Loss) before Contributions and Transfers	$1,554,162	$1,064,160	$1,149,890	$2,049,743	$(309,470)	$300,030
Capital Contributions	2,601,733	5,881,163	7,175,669	12,838,554	17,022,644	12,594,638
Transfers In	-	-	191,461	117,744	86,217	132,782
Transfers Out	-	-	(139,172)	-	-	-
Increase (Decrease) in Net Position	$4,155,895	$6,945,323	$8,377,848	$15,006,041	$16,799,391	$13,027,450
Total Net Position Beginning of Year	$68,680,879	$71,814,867	$78,614,731	$86,899,537	$101,905,578	$119,750,648
Change in Accounting Principles	(1,021,907)	-	(154,994)	-	-	-
Prior Period Adjustment	-	(145,459)	61,952	-	1,045,679	(223,860)
Total Net Position, End of Year	$71,814,867	$78,614,731	$86,899,537	$101,905,578	$119,750,648	$132,554,238
O&M Coverage Ratio	125.0%	113.4%	119.4%	121.7%	102.2%	111.1%
Net Operating Income as a % of Operating Revenue	20.0%	11.8%	16.2%	17.8%	2.1%	10.0%
Debt Service Coverage Ratio	5.93	10.45	3.58	3.89	3.09	3.94

Table 10.2 Summary of Historical Comparative Statements of Net Position

	2015	2016	2017	2018	2019	2020
Current Assets						
Cash, Cash Equivalents, Pooled Investments	$4,619,622	$6,652,747	$7,300,446	$16,034,437	$19,009,248	$12,109,932
Receivables						
Accounts	1,603,637	1,705,130	2,467,888	1,683,994	1,700,675	1,987,362
Developer Agreement	-	-	-	-	166,096	332,192
Restricted Assets						
Cash and Cash Equivalents	6,743,812	6,433,517	10,348,092	5,218,201	5,120,589	19,444,546
Investments	15,024,018	15,119,563	6,475,060	1,496,284	11,143,904	2,092,214
Interest Receivable	8,858	600	-	-	821	-
Total Current Assets	$27,999,947	$29,911,557	$26,591,486	$24,432,916	$37,141,333	$35,966,246
Long Term Assets						
Developer Agreement	$-	$-	$-	$-	$1,670,408	$1,504,312
Non-Depreciable Assets						
Land and Improvements to Land	1,108,023	1,015,178	942,835	942,835	1,073,895	1,930,433
Land Rights	-	92,845	477,394	537,394	1,619,493	3,024,486
Construction In Progress	10,074,376	4,155,957	12,576,133	2,893,525	2,600,268	4,949,841
Deferred Charges	-	-	-	-	-	-
Property, Plant and Equipment (Net)						
Building	20,913,401	21,438,584	20,914,486	24,929,225	23,949,529	23,022,438
Intangible Assets	388,526	385,721	-	55,674	310,067	255,323
Improvements Other than Buildings	5,177,60	9,918,134	9,546,801	10,483,732	10,605,403	18,545,390
Machinery and Equipment	18,567,85	18,986,219	17,816,343	16,851,938	16,236,367	16,785,492
Infrastructure	39,776,49	45,498,995	49,354,925	68,820,466	79,901,446	81,112,850
Total Noncurrent Assets	$96,006,27	$101,491,633	$111,628,917	$125,514,789	$137,966,876	$151,130,565
Total Assets	$124,006,225	$131,403,190	$138,220,403	$149,947,705	$175,108,209	$187,096,811
Total Deferred Outflows of Resources						
Deferred Amount on Refunding	246,166	223,615	201,065	127,163	171,584	$31,247
Amounts Related to Pensions	150,855	280,188	181,133		35,152	233,890
Total Deferred Outflows of Resources	397,021	503,803	382,198	127,163	206,736	$265,137
Liabilities						
Current Liabilities						
Accounts Payable	$1,161,415	$633,737	$1,412,772	$1,115,924	$445,392	$241,793
Customer Deposits	-	-	-	-	-	2,714
Accrued Interest Payable	227,132	293,713	275,429	146,455	360,199	344,933
Accrued Employee Benefits	12,916	15,476	11,162	12,417	14,053	17,002
Line of Credit	-	2,647,259	40,664	-	-	1,050,000
Unearned Revenues	35,000	-	-	-	-	2,892
Total OPEB liability - Short Term	-	-	-	-	-	13,182
Bonds, Notes and Loans Payable	2,752,641	3,012,332	3,260,036	3,367,485	3,121,308	2,642,168
Payable from Restricted Assets	78,375	407	890,039	495,674	35,330	101,849
Total Current Liabilities	$4,267,479	$6,602,924	$5,890,102	$5,137,955	$3,976,282	$4,416,533
Annual Revenue Bond Debt Service	*$896,195*	*$433,960*	*$1,531,475*	*$1,534,175*	*$1,534,775*	*$1,530,075*
Non-Current Liabilities						
Bonds, Notes and Loans Payable	$45,838,121	$44,347,386	$43,590,207	$41,307,897	$49,591,611	$48,401,818
Unearned Revenue - Developer Credit	1,083,944	604,647	453,149	310,525	694,296	689,310
Net Pension Liability	1,031,588	1,500,278	1,195,273	712,058	552,735	647,872
Accrued Employee Benefits	208,142	200,800	352,597	111,755	126,478	153,020
Total OPEB Liability	-	-	-	273,813	243,715	231,418
Total Non-Current Liabilities	$48,161,795	$46,653,111	$45,591,226	$42,716,048	$51,208,835	$50,123,438
Total Liabilities	$52,429,274	$53,256,035	$51,481,328	$47,854,003	$55,185,117	$54,539,971
Deferred Inflows of Resources						
Amounts Related to Pensions	$159,105	$36,227	$221,736	$315,287	$351,113	$212,790
Inflows - Amounts Related to OPEB	$-	$-	$-	$-	$28,067	$24,949
Total Deferred Inflows of Resources	$159,105	$36,227	$221,736	$315,287	$379,180	$237,739
Net Position						
Net Investment in Capital Assets	$64,569,715	$67,960,072	$73,863,415	$85,894,304	$98,157,464	$106,694,344
Restricted for Debt Service	1,548,179	1,567,095	1,603,591	1,622,623	1,698,047	1,716,329
Restricted for Capital Purposes	2,208,041	5,776,990	5,100,355	6,650,823	12,208,294	11,582,557
Unrestricted	3,488,932	3,310,574	6,332,176	7,737,828	7,686,843	12,561,008
Total Net Position	71,814,867	78,614,731	86,899,537	101,905,578	119,750,648	132,554,238
Current Ratio	1.5	1.3	1.7	3.4	5.3	3.3
Debt to Net Position Ratio	0.7	0.6	0.5	0.4	0.4	0.4
Debt to Noncurrent Capital Assets Ratio	0.5	0.5	0.4	0.4	0.4	0.3

Notes:
Abbreviations: OPEB - other post-employment benefits.

10.2.2 Findings and Trends

- The City's combined water and sewer charges for services increased from $11.2 million (M) in 2015 to $13.6M in 2020. The average annual compounding increase is 4.0 percent per year, with a total increase of 21.4 percent from 2015 to 2020. Expenses range from $9.0M in 2015 to $12.2M in 2020, showing increases every year. With an average annual compounding increase of 6.4 percent, expenses have grown faster than revenues over the past 6 years and have increased 36.5 percent overall. While combined water and sewer maintenance and operations expenses have increased 26.2 percent, the largest contributor to increases in expenses is depreciation and amortization, growing by 51.8 percent since 2015.
- The O&M coverage ratio (total operating revenues divided by total operating expenses) started at 125.0 percent in 2015 and has trended downward reaching a low of 102.2 percent in 2019 before recovering to 111.1 percent in 2020. A ratio of 100.0 percent or greater shows that revenue will successfully cover expenses, and the City has remained above this ratio for the past six-year period.
- Net operating income as a percent of operating revenue was 20.0 percent in 2015. This metric has varied over the past 6 years with a high of the 2015 figure of 20.0 percent reaching a low of 2.1 percent in 2019 before increasing to 10.0 percent in 2020. Similar to the O&M coverage ratio, these trends help to show how successfully operating revenue actually covered operating expenses, with higher positive numbers being the best and negative numbers showing need for improvement. In addition, these trends demonstrate the ability of the utility to invest in capital, whether through direct cash transfers or the issuance and servicing of debt.
- The debt service coverage ratio measures the amount of cash flow available to meet interest and principal payments. Typically, bond debt service coverage requires a minimum factor of 1.25 during the life of the loans. This ratio is calculated by dividing cash operating income (revenues less expenses before depreciation) by annual revenue bond expenses. The debt service coverage ratio for revenue bond debt ends 2015 at 5.93 and fluctuates year to year to a low of 3.09 in 2019 and a high of 10.45 in 2016. The ability of this ratio to remain at levels significantly higher than the bond covenant minimum of 1.25 indicates a stable capacity for new debt and will likely result in more favorable terms when entering the bond market.
- The current ratio is a measure of short-term liquidity or the City's ability to pay its current bills - it is calculated by dividing unrestricted current assets (excluding inventories and prepaid items) by current liabilities. A ratio of 1.0 indicates that the utility has exactly enough to pay its bills; higher values are desirable as they suggest an ability to pay large or unanticipated bills. The ratio begins at 1.5 in 2015 decreasing to 1.3 in 2016 before rebuilding to a high of 5.3 in 2019 and ending 2020 at 3.3 suggesting that the City has capacity to meets its short-term financial obligations.

10.3 Financial Plan

The sewer utility is responsible for generating sufficient revenue to meet all of its costs. The primary source of funding is derived from ongoing monthly service charges, with additional revenue coming from inspection fees, investment earnings, space and facilities leases, rents and charges and other miscellaneous revenues. The City controls the level of user service charges and, with City Council approval, can adjust user service charges as needed to meet financial objectives.

The financial plan can only confirm financial feasibility if it considers the total system costs of providing sewer services, both operating and capital. To meet these objectives, the following elements have been completed:

1. Capital Funding Plan. Identifies the total capital improvement plan (CIP) obligations of the planning period. The plan defines a strategy for funding the CIP, including an analysis of available resources from rate revenues, existing reserves, connection charges, debt financing, and any special resources that may be readily available (e.g., grants, developer contributions, etc.). The capital funding plan impacts the financial plan through the use of debt financing (resulting in annual debt service) and the assumed rate revenue made available for capital funding.
2. Financial Forecast. Identifies future annual non-capital costs associated with the operation, maintenance, and administration of the sewer system. Included in the financial plan is a reserve analysis that forecasts cash flow and fund balance activity, along with testing for satisfaction of actual or recommended minimum fund balance policies. The financial plan ultimately evaluates the sufficiency of utility revenues in meeting all obligations, including cash uses such as operating expenses, debt service, capital outlays, and reserve contributions, as well as any coverage requirements associated with long-term debt. The plan also identifies the future adjustments required to fully fund all utility obligations in the planning period.

10.3.1 Capital Funding Plan

To properly evaluate future capital funding needs, capital costs were escalated by 3.50 percent annually to the year of planned spending. The CIP used for this PLAN identifies $47.5M in project costs over the 10-year planning horizon from 2022-2031. The 20-year period through 2041 includes $86.0M in total project costs.

A summary of the 10-year and 20-year CIPs are shown in Table 10.3. As shown, each year has varied capital cost obligations depending on construction schedules and infrastructure planning needs. Table 10.4 provides more detail for the 10-year CIP.

Table 10.3 10-Year and 20-Year CIPs

Year	Escalated $
2022	$2,846,250
2023	8,923,304
2024	3,668,747
2025	8,166,921
2026	3,445,478
2027	2,174,553
2028	3,056,015
2029	9,010,924
2030	5,183,099
2031	1,057,949
10-Year Total	**$47,533,240**
2032 - 2041	38,425,499
20-Year Total	**$85,958,739**

Table 10.4 10-Year CIP (Escalated $)

Project	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Gravity Pipeline										
Northwest Fargo Street Upsize		$689,869								
Division Street Upsize		1,399,020								
Northwest 6th Place West Upsize		550,610								
Northwest 6th Place East Upsize		402,781								
Northwest 6th Avenue West Upsize		883,761								
Northwest 6th Avenue East Upsize		660,946								
Adams Street Upsize								729,512	928,133	
Pump Station										
South Prune Hills Pump Station Improvements		546,325								
West Camas Pump Station Improvements					605,720					
Crown View Hill Pump Station Improvements			565,446							
Main Pump Station Improvements									695,078	
Upgrade Pump Station Telemetry				2,004,723						
STEP										
STEP Main Condition Assessment/ Cleaning			910,257							
Maintenance										
WWTP R&R	2,070,000									
Pump Station R&R	621,000	642,735	665,231	688,514	712,612	737,553	763,368	790,085	817,738	846,359
Sewer Main R&R	155,250	160,684	166,308	172,128	178,153	184,388	190,842	197,521	204,435	211,590
STEP Tank R&R		1,091,578	1,129,784	1,169,326	1,210,252	1,252,611				
Treatment Plant										
Aeration Basin Improvements							478,377			
Secondary Clarifier Improvements								7,293,805		
Aeration Blower Replacement									2,537,715	
Disinfection Building / Hydraulic Improvements		1,341,174								
Effluent Pump Station Improvements							1,623,428			
Grit Separation / Odor Control Improvements				1,158,998						
Mechanical Dewatering Improvements					738,741					
Plant Drain Pump Station No. 1 Improvements		553,823								
SCADA Master Plan			231,722							
SCADA Improvements				740,152						
PLC & RIO Improvements				2,233,080						
Total	$2,846,250	$8,923,304	$3,668,747	$8,166,921	$3,445,478	$2,174,553	$3,056,015	$9,010,924	$5,183,099	$1,057,949

Notes:
Abbreviations: PLC - programable logic controller; R&R - programable logic controller; RIO - remote input/output; SCADA - supervisory control and data acquisition; WWTP - wastewater treatment plant.

10.4 Available Funding Assistance and Financing Resources

Feasible long-term capital funding strategies must be defined to ensure that adequate resources are available to fund the CIP identified in this PLAN. In addition to the City's resources, such as accumulated cash reserves, capital revenues, and rate revenues designated for capital purposes, capital needs can be met from outside sources, such as grants, low-interest loans, and bond financing. The following is a summary of the City's internal and external resources.

10.4.1 City Resources

Resources appropriate for funding capital needs include accumulated cash in the capital fund, rate revenues designated for capital spending purposes, developer contributions, and capital-related charges such as connection fee revenue. The first two resources will be discussed in the Fiscal Policies section of the Financial Forecast. Capital-related charges are discussed below.

10.4.1.1 System Development Charges

A connection charge such as the City's system development charge (SDC) refers to a one-time charge imposed on new customers as a condition of connecting to the sewer system. The purpose of the SDC is two-fold: 1) to promote equity between new and existing customers; and 2) to provide a source of revenue to fund capital projects. Revenue can only be used to fund utility capital projects or to pay debt service incurred to finance those projects. In 2021, the City charged all new customers an SDC dependent upon the location of the property. A charge of $2,493 per meter capacity equivalent (MCE) was charged for connections in the South Area while a charge of $4,420 per MCE was charged for connection in the North Shore Area.

10.4.1.2 Local Facilities Charges

While a connection charge is the manner in which new customers pay their share of system investment costs, local facilities charge funding is used to pay the costs of local facilities that connect each property to the system's infrastructure. Local facilities funding is often overlooked in rate forecasting because it is funded upfront by either connecting customers and developers, or through an assessment to properties, but never from rates.

A number of mechanisms can be considered toward funding local facilities. One of the following scenarios typically occurs: (a) the utility charges a connection fee based on the cost of the local facilities (under the same authority as the facilities assessment fee); (b) a developer funds an extension of the system to its development and turns those facilities over to the utility (contributed capital); or (c) a local assessment is set up called a Utility Local Improvement District (ULID/LID) or a Local Utility District (LUD), which collects tax revenue from benefited properties.

A local facilities charge (LFC) is a variation of the connection charge. It is a city-imposed charge to recover the cost related to service extension to local properties. Often called a front-footage charge and imposed on the basis of footage of the main "fronting" a particular property, it is usually implemented as a reimbursement mechanism to a city for the cost of a local facility that directly serves a property. It is a form of connection charge and thus can accumulate up to 10 years of interest. It typically applies in instances when no developer-installed facilities are needed through developer extension due to the prior existence of available mains already serving the developing property.

The developer extension is a requirement that a developer install on-site and sometimes off-site improvements as a condition of extending service. These are in addition to the connection charge required and must be built to City standards. Part of the agreement between the City and the developer planning to extend service might include a latecomer agreement, resulting in a latecomer charge to new connections for the developer extension.

Latecomer charges are a variation of developer extensions, whereby new customers connecting to a developer-installed improvement make a payment to the City based on their share of the developer's cost. The City passes this charge on to the developer who installed the facilities. As part of the developer extension process, this defines the allocation of costs and records latecomer obligations on the title of affected properties. No interest is allowed, and the reimbursement agreement cannot exceed 20 years in duration.

ULID/LID is another mechanism for funding infrastructure that assesses benefited properties based on the special benefit received by the construction of specific facilities. Most often used for local facilities, some ULIDs also recover related general facilities costs. Substantial legal and procedural requirements can make this a relatively expensive process, and there are mechanisms by which a ULID can be rejected.

10.4.2 Outside Resources

This section outlines various grant, loan, and bond opportunities available to the City through federal and state agencies to fund the CIP identified in the Plan.

10.4.2.1 Grants and Low-Cost Loans

Historically, federal and state grant programs were available to local utilities for capital funding assistance. However, these assistance programs have been mostly eliminated, substantially reduced in scope and amount, or replaced by loan programs. Remaining grant programs are generally lightly funded and heavily subscribed. Nonetheless, the benefit of low-interest loans makes the effort of applying worthwhile.

Appendix L to this Plan contains a document entitled "Funding Programs for Drinking Water and Wastewater Projects; Updated 2-14-2022". This document is maintained by the State of Washington's Department of Commerce and contains details on government programs, eligibility requirements, and contact information, should the City wish to inquire about program offerings and eligibility requirements.

10.4.2.2 Bond Financing

General Obligation Bonds - General obligation (G.O.) bonds are bonds secured by the full faith and credit of the issuing agency, committing all available tax and revenue resources to debt repayment. With this high level of commitment, G.O. bonds have relatively low interest rates and few financial restrictions. However, the authority to issue G.O. bonds is restricted in terms of the amount and use of the funds, as defined by the Washington constitution and statute. Specifically, the amount of debt that can be issued is linked to assessed valuation.

Revised Code of Washington (RCW) 39.36.020 states:

- (2)(a)(ii) Counties, cities, and towns are limited to an indebtedness amount not exceeding one and one half percent of the value of the taxable property in such counties, cities, or towns without the assent of three-fifths of the voters therein voting at an election held for that purpose.
  (b) In cases requiring such assent counties, cities, towns, and public hospital districts are limited to a total indebtedness of two and one-half percent of the value of the taxable property therein.

While bonding capacity can limit the availability of G.O. bonds for utility purposes, these can sometimes play a valuable role in project financing. A utility rate savings may be realized through two avenues: the lower interest rate and related bond costs, and the extension of repayment obligation to all tax-paying properties (not just developed properties) through the authorization of an ad valorem property tax levy.

Revenue Bonds - Revenue bonds are commonly used to fund utility capital improvements. The debt is secured by the revenues of the issuing utility. With this limited commitment, revenue bonds typically bear higher interest rates than G.O. bonds and require security conditions related to the financial performance (added bond debt service coverage) and may require maintenance of dedicated reserves (a bond reserve). The City agrees to satisfy these requirements by resolution as a condition of bond sale.

Revenue bonds can be issued in Washington without a public vote. There is no bonding limit, except perhaps the practical limit of the utility's ability to generate sufficient revenue to repay the debt and provide coverage. In some cases, poor credit might make issuing revenue bonds problematic.

10.4.2.3 Capital Financing Strategy

An ideal capital financing strategy would include the use of grants and low-cost loans when debt issuance is required. However, these resources are very limited and competitive in nature and do not provide a reliable source of funding for planning purposes. It is recommended that the City pursue these funding avenues but for planning purposes assume revenue bond financing to meet the needs which can't be met by available cash resources. The capital financing strategy developed to fund the CIP identified in this Plan assumes the following funding resources:

- Accumulated cash reserves, which may include proceeds from previously issued bonds,
- Transfers of excess cash (over minimum balance targets) from the Operating Fund,
- System development charge revenues, and
- Interest earned on Construction Fund balances and other miscellaneous capital resources.

The cash resources described above are anticipated to fund 61.29 percent of the 10-year CIP and 78.59 percent of the 20-year CIP. The remaining funding is assumed to come from new debt obligations. Table 10.5 presents the 10-year and 20-year capital financing strategy.

Table 10.5 10-Year and 20-Year Capital Financing Strategy

Year	Capital Expenditures Escalated	Revenue Bond Financing	Cash Funding	Total Financial Resources
2022	$2,846,250	-	$2,846,250	$2,846,250
2023	8,923,304	2,500,000	6,423,304	8,923,304
2024	3,668,747	-	3,668,747	3,668,747
2025	8,166,921	6,900,000	1,266,921	8,166,921
2026	3,445,478	-	3,445,478	3,445,478
2027	2,174,553	-	2,174,553	2,174,553
2028	3,056,015	-	3,056,015	3,056,015
2029	9,010,924	9,000,000	10,924	9,010,924
2030	5,183,099	-	5,183,099	5,183,099
2031	1,057,949	-	1,057,949	1,057,949
Subtotal	**$47,533,240**	**$18,400,000**	**$29,133,240**	**$47,533,240**
2032 - 2041	38,425,499	-	38,425,499	38,425,499
Total	**$85,958,739**	**$18,400,000**	**$67,558,739**	**$85,958,739**

10.5 Financial Forecast

The financial forecast, or revenue requirement analysis, forecasts the amount of annual revenue that needs to be generated by user rates. The analysis incorporates operating revenues, O&M expenses, debt service payments, rate-funded capital needs, and any other identified revenues or expenses related to operations. The objective of the financial forecast is to evaluate the sufficiency of the current level of rates. In addition to annual operating costs, the revenue needs also include debt covenant requirements and specific fiscal policies and financial goals of the City.

The analysis determines the amount of revenue needed in a given year to meet that year's expected financial obligations. For this analysis, two revenue sufficiency tests have been developed to reflect the financial goals and constraints of the City: cash needs must be met; and debt coverage requirements must be realized. In order to operate successfully with respect to these goals, both tests of revenue sufficiency must be met.

Cash Test: The cash flow test identifies all known cash requirements for the City in each year of the planning period. Typically, these include O&M expenses, debt service payments, rate-funded system reinvestment funding or directly funded capital outlays, and any additions to specified reserve balances. The total annual cash needs of the City are then compared to projected cash revenues using the current rate structure. Any projected revenue shortfalls are identified and the rate increases necessary to make up the shortfalls are established.

Coverage Test: The coverage test is based on a commitment made by the City when issuing revenue bonds and some other forms of long-term debt. For the purposes of this analysis, revenue bond debt is assumed for any needed debt issuance. As a security condition of issuance, the City would be required per covenant to agree that the revenue bond debt would have a higher priority for payment (a senior lien) compared to most other expenditures; the only outlays with a higher lien are O&M expenses. Debt service coverage is expressed as a multiplier of the annual revenue bond debt service payment. For example, a 1.00 coverage factor would imply that no additional cushion is required. A 1.25 coverage factor means revenue must be sufficient to pay O&M expenses, annual revenue bond debt service payments, and an additional 25 percent of annual revenue bond debt service payments. The excess cash flow derived from the added coverage, if any, can be used for any purpose, including funding capital projects. Targeting a higher coverage factor can help the City achieve a better credit rating and provide lower interest rates for future debt issues.

In determining the annual revenue requirement, both the cash and coverage sufficiency tests must be met, and the test with the greatest deficiency drives the level of needed rate increase in any given year.

10.5.1 Current Financial Structure

The City maintains a fund structure and implements financial policies that target management of a financially viable and fiscally responsible sewer system.

10.5.1.1 Fiscal Policies

A summary of the key financial policies employed by the City, as well as those recommended and incorporated in the financial program, are discussed below.

Operating Fund: Operating reserves are designed to provide a liquidity cushion to ensure that adequate cash working capital will be maintained to deal with significant cash balance fluctuations, such as seasonal fluctuations in billings and receipts, unanticipated cash expenses, or lower than expected revenue collections. Like other types of reserves, operating reserves also serve another purpose: they help smooth rate increases over time. Target funding levels for an operating reserve are generally expressed as a certain number of days of O&M expenses, with the minimum requirement varying with the expected revenue volatility. Industry practice for utility operating reserves ranges from 30 days (8 percent) to 120 days (33 percent) of O&M expenses, with the lower end more appropriate for utilities with stable revenue streams and the higher end more appropriate for utilities with significant seasonal or consumption-based fluctuations.

This financial plan targets a minimum balance in the sewer utility Operating Fund equal to 60 days of O&M expenses.

Capital Fund: A utility capital contingency reserve is an amount of cash set aside in case of an emergency should a piece of equipment or a portion of the utility's infrastructure fail unexpectedly. The reserve also could be used for other unanticipated capital needs, including capital project cost overruns. Industry practices range from maintaining a balance equal to 1 to 2 percent of fixed assets, an amount equal to a five-year rolling average of CIP costs, or an amount determined sufficient to fund equipment failure (other than catastrophic failure). The final target level should balance industry standards with the risk level of the City.

The City currently aims to maintain a capital fund balance target of $750,000 and is the target used in this financial plan.

System Reinvestment: System reinvestment funding promotes system integrity through ongoing repair and replacement of system infrastructure. Ideally, a detailed asset management plan would guide the level of rate funded system reinvestment, however, in absence of this level of effort, annual depreciation expense is commonly used as a measure of the decline in asset value associated with routine use of the system. Particularly for utilities that do not already have an explicit system reinvestment policy in place, implementing a funding level based on full depreciation expense could significantly impact rates. An alternative benchmark is annual depreciation expense net of debt principal payments on outstanding debt. This approach recognizes that customers are still paying for certain assets through the debt component of their rate and intends to avoid simultaneously charging customers for an asset and its future replacement. The specific benchmark used to set system reinvestment funding targets is a matter of policy that must balance various objectives, including managing rate impacts, keeping long-term costs down, and promoting "generational equity" (i.e., not excessively burdening current customers with paying for facilities that will serve a larger group of customers in the future).

The City does not currently have a policy in place for system reinvestment funding. No dedicated system reinvestment funding is assumed in this financial plan; however, on average, the City is able to fund approximately $2.0M annually through rates from 2022 through 2041. Dedicated system reinvestment funding is recommended for consideration during future policy review and rate planning.

Debt Management: It is prudent to consider policies related to debt management as part of a broader utility financial policy structure. Debt management policies should be evaluated and formalized, including the level of acceptable outstanding debt, debt repayment, bond coverage, and total debt coverage targets. The City has one outstanding sewer revenue bond, which will be fully redeemed in 2035. This bond carries a coverage requirement of 1.25. In addition to revenue bonds, the City has four junior lean debt obligations without a coverage requirement. While not an official policy, the City should target debt coverage ratio of 1.00 or greater on total debt to make sure enough cash is generated for the repayment of all debt.

10.5.1.2 Financial Forecast

The financial forecast is primarily based upon the City's 2022 budget and takes into consideration other key factors and assumptions needed to develop a complete portrait of the City's annual sewer utility financial obligations. The following is a list of the key revenue and expense factors and assumptions used to develop the financial forecast.

- Growth - Rate revenue escalation is based on the forecast of annual average flow provided in Chapter 3 of this PLAN. On average, annual growth for the forecast period is 2.14 percent.
- Revenue - The City has two general revenue sources: 1) sewer service charges (rate revenue); and 2) miscellaneous (non-rate) revenue. In the event of a forecasted annual shortfall, rate revenue can be increased to meet the annual revenue requirement. For the purpose of this financial forecast, rate revenues are forecasted to increase with customer growth. Non-rate revenues are forecasted to increase with either customer growth or general cost inflation.

- System Development Charge Revenue - The current SDC is forecast to generate revenue between $1.1M in 2022 and $1.7M in 2041 collected from an average of 424 new meter capacity equivalents per year.
- Expenses - O&M expense projections are based on the City's 2022 budget and forecast to increase with general cost inflation of 2.0 percent, labor cost inflation increases of 3.0 percent, and benefit cost inflation increases of 5.0 percent in subsequent years. Budget figures were used for taxes in 2022; future taxes are calculated based on forecasted revenues and prevailing tax rates.
- Existing Debt - The City's sewer utility currently has five outstanding debt issues, including one revenue bond, three PWTF loans, and one Department of Ecology loan. The revenue bond payments are on average $1.5M per year 2022 through 2035. PWTF payments range from $816,000 in 2022 to $190,000 in 2032. DOE loan payments range from $350,000 in 2021 to $175,000 in 2032. The total annual existing debt service obligations begin 2022 at $2.7M and are reduced to $1.5M in 2035, the year of final existing debt redemption.
- Future Debt - The capital financial strategy developed for this PLAN forecasts the need for $18.4M in new debt proceeds in three separate instances throughout the twenty-year forecast. The analysis performed assumes all new debt is through revenue bond financing. Annual new debt service obligations begin in 2023 at $221,000 increasing to $1.6M by 2029.
- Transfers to Capital - Operating fund balance above the minimum requirement is assumed to be available to fund capital projects and projected to be transferred to the Capital Fund each year. On average, the utility transfers $2.2M to the Capital Fund annually from 2022 to 2041.

Although the financial plan is completed through 2041, the rate strategy focuses on the shorter-term planning period of 2022 through 2031. It is recommended that the City revisit the proposed rates every 2 to 3 years to ensure that the rate projections developed remain adequate. Any significant changes should be incorporated into the financial plan and future rates should be adjusted as needed.

Table 10.6, following, summarizes the annual revenue requirements based on the forecast of revenues, expenditures, fund balances, and fiscal policies.

Table 10.6 11-Year Financial Forecast

Revenue Requirement	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Revenues										
Rate Revenues Under Existing Rates	$8,497,745	$8,679,362	$8,864,860	$9,054,322	$9,247,834	$9,445,482	$9,647,354	$9,853,541	$10,064,134	$10,279,228
Non-Rate Revenues	371,282	358,954	358,973	376,704	380,896	347,830	359,665	364,879	384,018	221,005
Total Revenues	**$8,869,027**	**$9,038,316**	**$9,223,833**	**$9,431,026**	**$9,628,730**	**$9,793,312**	**$10,007,019**	**$10,218,420**	**$10,448,152**	**$10,500,233**
Expenses										
Cash Operating Expenses	$5,281,720	$5,468,388	$5,624,604	$5,786,121	$5,952,570	$6,123,721	$6,301,205	$6,484,319	$6,673,633	$6,865,930
Existing Debt Service	2,695,128	2,695,053	2,690,328	2,688,603	2,684,627	2,678,403	2,629,788	2,074,276	2,074,528	2,071,804
New Debt Service		220,505	220,505	829,100	829,100	829,100	829,100	1,622,920	1,622,920	1,622,920
Total Expenses	**$7,976,848**	**$8,383,946**	**$8,535,438**	**$9,303,824**	**$9,466,298**	**$9,631,224**	**$9,760,093**	**$10,181,515**	**$10,371,080**	**$10,560,654**
Total Surplus (Deficiency)	**$892,179**	**$654,369**	**$688,395**	**$127,202**	**$162,432**	**$162,088**	**$246,926**	**$36,905**	**$77,071**	**$(60,421)**
Annual Rate Adjustment	**3.30%**	**3.30%**	**1.75%**	**1.75%**	**1.75%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
Cumulative Annual Rate Adjustment	**3.30%**	**6.71%**	**8.58%**	**10.48%**	**12.41%**	**12.41%**	**12.41%**	**12.41%**	**12.41%**	**12.41%**
Rate Revenues After Rate Increase	$8,778,171	$9,261,651	$9,625,137	$10,002,888	$10,395,465	$10,617,641	$10,844,564	$11,076,338	$11,313,066	$11,554,853
Additional Taxes from Rate Increase	7,206	14,964	19,537	24,376	29,492	30,122	30,766	31,423	32,095	32,781
Net Cash Flow After Rate Increase	**$1,165,398**	**$1,221,696**	**$1,429,135**	**$1,051,392**	**$1,280,572**	**$1,304,125**	**$1,413,371**	**$1,228,279**	**$1,293,908**	**$1,182,423**
Coverage After Rate Increases	3.54	3.25	3.38	2.55	2.68	2.69	2.74	2.03	2.08	1.98

The financial forecast indicates that at existing rate levels the utility becomes deficient in 2031 as new debt is added to fund the capital program. This financial analysis recognizes the annual 3.30 percent adopted rate increases in 2022 and 2023. In addition to the adopted increases annual increases of 1.75 percent are needed starting in 2024 through 2026 to meet the forecast annual operating and capital needs of the system.

10.5.2 City Funds and Reserves

Table 10.7 shows a summary of the projected Operating Fund and Capital Fund ending balances through 2031 based on the rate forecasts presented above. The Operating Fund is maintained at a minimum of 60 days of O&M expenses, and the Capital Fund balance continues to exceed the annual $750,000 target.

Table 10.7 Ending Cash Balance Summary

Ending Fund Balances	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Operating Fund	$868,228	$898,913	$924,592	$951,143	$978,505	$1,006,639	$1,035,814	$1,065,915	$1,097,036	$1,128,646
Capital Fund	5,976,844	1,934,563	860,365	1,826,388	883,982	1,249,973	878,759	3,387,097	865,896	2,335,899
Total	**$6,845,072**	**$2,833,476**	**$1,784,957**	**$2,777,531**	**$1,862,487**	**$2,256,612**	**$1,914,574**	**$4,453,012**	**$1,962,931**	**$3,464,545**

10.6 Current and Projected Rates

10.6.1 Current Rates

The City's current rate structure consists of a fixed monthly charge based on customer class and a variable charge per hundred cubic feet (ccf) for all use. Customer located outside the City limits have an outside City multiplier of 1.50 added to both the fixed monthly charge and the variable charge of their rates. Table 10.8 shows the existing rate schedule.

Table 10.8 Existing Schedule of Rates

2021 Monthly Rates	
Base Rate	**per Account**
Residential	
Inside City	$27.26
Outside City	40.89
Commercial / Industrial	
Inside City	$13.07
Outside City	19.62
Volume Charge	**per ccf**
Residential	
Inside City	$4.15
Outside City	6.24
Commercial / Industrial	
Inside City	$5.55
Outside City	8.33

10.6.2 Projected Rates

The financial forecast discussed above indicates that while the sewer utility is covering all financial obligations in the near term, with the addition of new debt, rate increases are needed to satisfy all future financial responsibilities. In addition to the adopted 3.3 percent rate increase in 2022 and 2023, a rate strategy of 1.75 percent annually from 2024 through 2026 is recommended to satisfy this forecast deficiency. Table 10.9 shows the projected rates with increases applied uniformly to all rate components in all classes.

Table 10.9 Proposed Schedule of Rates

Monthly Rates	Existing	Adopted		Proposed							
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Base Rate (per Account)											
Residential											
Inside City	$27.26	$28.16	$29.09	$29.60	$30.12	$30.65	$30.65	$30.65	$30.65	$30.65	$30.65
Outside City	40.89	42.24	43.63	44.39	45.17	45.96	45.96	45.96	45.96	45.96	45.96
Commercial / Industrial											
Inside City	13.07	13.50	13.95	14.19	14.44	14.69	14.69	14.69	14.69	14.69	14.69
Outside City	19.62	20.27	20.94	21.31	21.68	22.06	22.06	22.06	22.06	22.06	22.06
Volume Charge (per cfs)											
Residential											
Inside City	$4.15	$4.29	$4.43	$4.51	$4.59	$4.67	$4.67	$4.67	$4.67	$4.67	$4.67
Outside City	6.24	6.45	6.66	6.78	6.90	7.02	7.02	7.02	7.02	7.02	7.02
Commercial / Industrial											
Inside City	5.55	5.73	5.92	6.02	6.13	6.24	6.24	6.24	6.24	6.24	6.24
Outside City	8.33	8.60	8.88	9.04	9.20	9.36	9.36	9.36	9.36	9.36	9.36

10.7 Affordability

The Washington State Department of Health and the Department of Commerce Public Works Board use an affordability index to prioritize low-cost loan awards depending on whether rates exceed 2.00 percent of the median household income for the service area. The median household income for the City, expressed in 2019 dollars, was $111,584 between 2015 and 2019 according to the U.S. Census Bureau. The 2019 value is escalated based on the 2020 and 2021 Employment Cost Index Wages and Salaries index and utilizes the 2020 and 2021 two-year average of 2.15 percent to project the median household income in future years starting in 2022. Table 10.10 presents the City's monthly sewer bill projected to 2031, tested against the 2.00 percent monthly affordability threshold.

Table 10.10 Community Affordability Test

Year	Inflation	Median HH Income	2% Monthly Threshold	Projected Monthly Bill[(1)]	% of Median HH Income
2019		$111,584	$185.97	$52.78	0.57%
2020	2.22%	114,065	190.11	54.53	0.57%
2021	2.08%	116,439	194.07	56.31	0.58%
2022	2.15%	118,945	198.24	58.19	0.59%
2023	2.15%	121,506	202.51	60.10	0.59%
2024	2.15%	124,121	206.87	61.17	0.59%
2025	2.15%	126,793	211.32	62.25	0.59%
2026	2.15%	129,522	215.87	63.34	0.59%
2027	2.15%	132,310	220.52	63.34	0.57%
2028	2.15%	135,157	225.26	63.34	0.56%
2029	2.15%	138,067	230.11	63.34	0.55%
2030	2.15%	141,038	235.06	63.34	0.54%
2031	2.15%	144,074	240.12	63.34	0.53%

Notes:
(1) Average monthly bill assumes 7ccf water use.

Applying the 2.00 percent test, the City's rates are forecasted to remain within the indicated affordability range through 2031.

10.8 Conclusion

The results of this analysis indicate that rates must increase to provide revenue sufficient to cover all utility financial obligations, including the addition of new debt and partial cash funding of the capital program through 2031. In addition to the adopted annual increases of 3.30 percent in 2022 and 2023, annual 1.75 percent adjustments from 2024 through 2026 should provide for continued financial viability while maintaining generally affordable rates.

It is important to remember that the analysis performed in this chapter assumes growth rates from Chapter 3 of this Plan. If the future growth rates change, the existing rate strategy may need to be updated and revised.

It is recommended that the City regularly review and update the key underlying assumptions that compose the multi-year financial plan to ensure that adequate revenues are collected to meet the City's total financial obligations.

Capital Improvement Plan

General Government

Major Building Maintenance

Total Project Costs:	Ongoing
Funded:	General Fund/REET1/Debt
Area:	City-Wide

Project Description:
To replace or repair building central systems, structural problems and/or mechanical problems

		Buildings			Total
	Prior Years	$ 372,825			$ 372,825
	2021	$ 88,658			$ 88,658
	2022	$ 233,195			$ 233,195
	2023	$ 91,991			$ 91,991
	2024	$ 2,381,087			$ 2,381,087
Budget	FY 2025-2026	$ 4,759,092			$ 4,759,092
Capital Plan	FY 2027-2028	$ 1,000,000			$ 1,000,000
	FY 2029-2030	$ 1,000,000			$ 1,000,000
	Total	$ 9,926,849	$ -	$ -	$ 9,926,849

Technology Projects

Total Project Costs:	Ongoing
Funded:	All Funds/ARPA
Area:	City-Wide

Project Description:
To replace a twenty-year-old financial system with new generation software, phone systems, cybersecurity and network improvements

		Technology			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ 1,149,964			$ 1,149,964
	2023	$ 504,658			$ 504,658
	2024	$ 282,247			$ 282,247
Budget	FY 2025-2026	$ 990,000			$ 990,000
Capital Plan	FY 2027-2028	$ 1,564,424			$ 1,564,424
	FY 2029-2030	$ 808,268			$ 808,268
	Total	$ 5,299,561	$ -	$ -	$ 5,299,561

General Government (continued)

Library Improvements

Total Project Costs:	$ 3,019,765
Funded:	GF/REET 1/Debt/Grants
Area:	Downtown

Project Description:
Improvements, repairs and upgrades to the Library

		Repairs/Maint.			Total
	Prior Years	$ 126,457			$ 126,457
	2021	$ 153,423			$ 153,423
	2022	$ 67,970			$ 67,970
	2023	$ 271,174			$ 271,174
	2024	$ 1,009,263			$ 1,009,263
Budget	FY 2025-2026	$ 1,391,478			$ 1,391,478
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 3,019,765	$ -	$ -	$ 3,019,765

Streets

ADA Accessibility

Total Project Costs:	Ongoing
Funded:	Real Estate Excise Tax 1
Area:	City-Wide

Project Description:
This project is for upgrading sidewalks to ADA standards for the elderly and disabled.

		Improvements			Total
	Prior Years	$ 70,944			$ 70,944
	2021	$ 181,637			$ 181,637
	2022	$ 234,907			$ 234,907
	2023	$ -			$ -
	2024	$ -			$ -
Budget	FY 2025-2026	$ 150,000			$ 150,000
Capital Plan	FY 2027-2028	$ 150,000			$ 150,000
	FY 2029-2030	$ 150,000			$ 150,000
	Total	$ 937,487	$ -	$ -	$ 937,487

Streets (continued)

Street Preservation

Total Project Costs:	Ongoing
Funded:	Property Tax/ Sales Tax/ Tab Fees
Area:	City-Wide

Project Description:
This is a sustainable street maintenance program to be funded annually with the use of property taxes and Transportation Benefit District Funds from Sales Tax and Vehicle License Fees (Tab Fees)

		Preservation			Total
	Prior Years	$ 4,771,772			$ 4,771,772
	2021	$ 370,565			$ 370,565
	2022	$ 1,684,402			$ 1,684,402
	2023	$ 989,255			$ 989,255
	2024	$ 137,032			$ 137,032
Budget	FY 2025-2026	$ 4,324,307			$ 4,324,307
Capital Plan	FY 2027-2028	$ 4,454,036			$ 4,454,036
	FY 2029-2030	$ 4,587,657			$ 4,587,657
	Total	$ 21,319,027	$ -	$ -	$ 21,319,027

Lake & Sierra Improvements

Total Project Costs:	$ 653,788
Funded:	Transportation Impact Fees
Area:	Northwest

Project Description:
This project will add traffic control changes to the Lake and Everett Intersection. This improvement is due to increase traffic from residential growth in the area.

		Construction			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ 84,543			$ 84,543
	2024	$ 131,495			$ 131,495
Budget	FY 2025-2026	$ 437,750			$ 437,750
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 653,788	$ -	$ -	$ 653,788

Streets (continued)

SR-500/Everett Improvements

Total Project Costs:	$ 1,711,635
Funded:	TIF, Federal and State Grants
Area:	Northeast

Project Description:
This project will be completed in a series of phases over several years. The project is to improve the safety of the corridor with complete street improvements.

		ROW/Design			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ 11,635			$ 11,635
Budget	FY 2025-2026	$ 1,700,000			$ 1,700,000
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 1,711,635	$ -	$ -	$ 1,711,635

38th Ave Ph. 3 Improvements

Total Project Costs:	$ 19,989,820
Funded:	Federal & State Funding/ Debt
Area:	Northwest

Project Description:
This project is design, permit, acquire right-of-way, and construct a street from 192nd to Parker and improvements from Parker to Grass Valley

		ROW/Services			Total
	Prior Years	$ 8,453,296			$ 8,453,296
	2021	$ 416,801			$ 416,801
	2022	$ 165,543			$ 165,543
	2023	$ 185,208			$ 185,208
	2024	$ 2,993,772			$ 2,993,772
Budget	FY 2025-2026	$ 7,775,200			$ 7,775,200
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 19,989,820	$ -	$ -	$ 19,989,820

Streets (continued)

CDBG Projects

Total Project Costs:	$ 415,000
Funded:	CDBG/Gen Fund/Water Rates
Area:	Central

Project Description:

Community Development Block Grant projects are in federal qualified neighborhoods to Improve streets, sidewalks, curbing and utility infrastructure. The City has limited qualified neighborhoods.

		Construction			Total
	Prior Years	$ 1,024,280			$ 1,024,280
	2021	$ 241,357			$ 241,357
	2022	$ 397,614			$ 397,614
	2023	$ 246,676			$ 246,676
	2024	$ 6,538			$ 6,538
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 1,916,464	$ -	$ -	$ 1,916,464

Camas-Washougal Fire and EMS

Fire/EMS Equipment

Total Project Costs:	Ongoing
Funded:	Fire Inter-local Agreement
Area:	City-Wide & City of Washougal

Project Description:

The City funds replacement and new equipment for the CWFD such as replacements for the breathing apparatus and refilling station, vehicle extraction tools, and gurney lift systems.

		Equipment			Total
	Prior Years	$ 368,275			$ 368,275
	2021	$ 181,637			$ 181,637
	2022	$ 234,907			$ 234,907
	2023	$ -			$ -
	2024	$ 153,939			$ 153,939
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ 200,000			$ 200,000
	FY 2029-2030	$ 200,000			$ 200,000
	Total	$ 1,338,758	$ -	$ -	$ 1,338,758

Camas-Washougal Fire and EMS (continued)

Vehicles

Total Project Costs:	Ongoing
Funded:	Fire Inter-local Agreement
Area:	City-Wide & City of Washougal

Project Description:
The City replaces ambulances every three years and brush trucks as needed

		Vehicles			Total
	Prior Years	$ 750,789			$ 750,789
	2021	$ 214,309			$ 214,309
	2022	$ 85,277			$ 85,277
	2023	$ 294,231			$ 294,231
	2024	$ 63,193			$ 63,193
Budget	FY 2025-2026	$ 410,510			$ 410,510
Capital Plan	FY 2027-2028	$ 268,428			$ 268,428
	FY 2029-2030	$ 154,500			$ 154,500
	Total	$ 2,241,237	$ -	$ -	$ 2,241,237

Fire Engines

Total Project Costs:	Ongoing
Funded:	Debt
Area:	City-Wide & City of Washougal

Project Description:
The City replaces fire engines as needed but is scheduling a new replacement plan.

		Engines			Total
	Prior Years	$ 503,000			$ 503,000
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ 830,546			$ 830,546
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 1,333,546	$ -	$ -	$ 1,333,546

Camas-Washougal Fire and EMS (continued)

Fire Stations

Total Project Costs:	$ 38,300,000
Funded:	Voted (ULTGO Bond) Debt
Area:	Downtown/North

Project Description:
Fire Facilities Plan identified the need to replace the Headquarter Station and the Washougal Fire Station. In addition, a satellite station will be needed in the North Shore area.

		Construction	Total
	Prior Years	$ -	$ -
	2021	$ -	$ -
	2022	$ -	$ -
	2023	$ -	$ -
	2024	$ -	$ -
Budget	FY 2025-2026	$ 23,300,000	$ 23,300,000
Capital Plan	FY 2027-2028	$ -	$ -
	FY 2029-2030	$ 15,000,000	$ 15,000,000
	Total	$ 38,300,000 $ - $ -	$ 38,300,000

Parks and Recreation

Open Space, Trails, and Park Upgrades

Total Project Costs:	Ongoing
Funded:	Real Estate Excise Tax 2
Area:	City-Wide

Project Description:
This project is a placeholder for projects in the Parks Master Plan.

		Open Space	Trails	Parks	Total
	Prior Years	$ 481,082	$ 317,462	$ 103,810	$ 902,354
	2021	$ 69,469	$ -	$ -	$ 69,469
	2022	$ -	$ -	$ -	$ -
	2023	$ -	$ -	$ -	$ -
	2024	$ -	$ -	$ -	$ -
Budget	FY 2025-2026	$ 200,000	$ 150,000	$ 150,000	$ 500,000
Capital Plan	FY 2027-2028	$ 100,000	$ 275,000	$ 375,000	$ 750,000
	FY 2029-2030	$ 100,000	$ 275,000	$ 375,000	$ 750,000
	Total	$ 950,551	$ 1,017,462	$ 1,003,810	$ 2,971,823

Parks and Recreation (continued)

Crown Park Improvements

Total Project Costs:	$ 6,941,033
Funded:	REET 2 / Debt / Grants
Area:	Central

Project Description:
The City is planning to build restrooms and a sport court at Crown Park.

		Upgrades			Total
	Prior Years	$ 415,775			$ 415,775
	2021	$ -			$ -
	2022	$ 95,032			$ 95,032
	2023	$ 288,674			$ 288,674
	2024	$ 1,619,552			$ 1,619,552
Budget	FY 2025-2026	$ 4,522,000			$ 4,522,000
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 6,941,033	$ -	$ -	$ 6,941,033

Downtown Trail

Total Project Costs:	$ 1,000,000
Funded:	Real Estate Excise Tax 2
Area:	Central

Project Description:
This budget is anticipating a possible land donation for a downtown trail. The budget will fund improvements to upgrade the trail to City standards.

		Improvements			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ -			$ -
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ 1,000,000			$ 1,000,000
	FY 2029-2030	$ -			$ -
	Total	$ 1,000,000	$ -	$ -	$ 1,000,000

Parks and Recreation (continued)

NE 3rd Ave Trail
S. Lacamas Creek Trailhead

Total Project Costs:	$ 970,078
Funded:	REET 2/ Park Impact/ RCO Grant
Area:	Southeast

Project Description:
This project is to build a restroom and improve the parking lot at the Lacamas Creek Trailhead on 3rd Ave.

		Design/Permit/Constr.			Total
	Prior Years	$ 29,614			$ 29,614
	2021	$ 50,314			$ 50,314
	2022	$ 28,535			$ 28,535
	2023	$ 523,934			$ 523,934
	2024	$ 337,681			$ 337,681
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 970,078	$ -	$ -	$ 970,078

T3 / Eastlake Trail

Total Project Costs:	$ 513,860
Funded:	Park Impact Fees
Area:	Northeast

Project Description:
This project is the next phase to complete a trail around Lacamas Lake

		Design/Permit/Constr.			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ 8,368			$ 8,368
	2023	$ 5,492			$ 5,492
	2024	$ 500,000			$ 500,000
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 513,860	$ -	$ -	$ 513,860

Parks and Recreation (continued)

Bike Park

Total Project Costs:	$ 325,000
Funded:	Real Estate Excise Tax 2
Area:	Northeast

Project Description:
This project is to build a bike park for trail bikes

		Design/Permit/Constr.			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ -			$ -
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ 325,000			$ 325,000
	FY 2029-2030	$ -			$ -
	Total	$ 325,000	$ -	$ -	$ 325,000

Forest Home Park

Total Project Costs:	$ 350,000
Funded:	Real Estate Excise Tax 2
Area:	Southwest

Project Description:
This project is for upgrading improvements to the baseball fields

		Design/Permit/Constr.			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ -			$ -
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ 350,000			$ 350,000
	FY 2029-2030	$ -			$ -
	Total	$ 350,000	$ -	$ -	$ 350,000

Parks and Recreation (continued)

Park Maint. Equipment

Total Project Costs:	Ongoing
Funded:	General Fund
Area:	City-Wide

Project Description:
This ongoing to fund new or upsized replacement equipment for the growing park system.

		Equipment			Total
	Prior Years	$ 324,436			$ 324,436
	2021	$ -			$ -
	2022	$ 28,601			$ 28,601
	2023	$ 83,217			$ 83,217
	2024	$ -			$ -
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ 120,000			$ 120,000
	FY 2029-2030	$ -			$ -
	Total	$ 556,254	$ -	$ -	$ 556,254

Fallen Leaf Lake

Total Project Costs:	$ 1,614,711
Funded:	Real Estate Excise Tax 2
Area:	Northeast

Project Description:
This project is to improve accessibility to the park, including ADA access.

		Improvements			Total
	Prior Years	$ 39,711			$ 39,711
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ -			$ -
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ 1,575,000			$ 1,575,000
	Total	$ 1,614,711	$ -	$ -	$ 1,614,711

Stormwater

Stormwater Treatment

Total Project Costs:	$ 1,781,613
Funded:	Stormwater Rates
Area:	City-Wide

Project Description:
These projects are for designing and constructing storm treatment facilities

		Design/Permit/Constr.			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ 54,116			$ 54,116
Budget	FY 2025-2026	$ 1,727,497			$ 1,727,497
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 1,781,613	$ -	$ -	$ 1,781,613

Vehicles

Total Project Costs:	$ 939,632
Funded:	Stormwater Rates
Area:	City-Wide

Project Description:
This funds vehicles for a growing program

		Vehicles			Total
	Prior Years	$ 168,199			$ 168,199
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ 585,469			$ 585,469
Budget	FY 2025-2026	$ 85,964			$ 85,964
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ 100,000			$ 100,000
	Total	$ 939,632	$ -	$ -	$ 939,632

Stormwater (continued)

Lake Dam Improvements

Total Project Costs:	$ 677,946
Funded:	Stormwater Rates
Area:	Northwest

Project Description:
Mechanical upgrade improvements to the Lacamas Lake Dams, removal of unnecessary equipment and hydraulic analysis.

		Improvements			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ 85,780			$ 85,780
	2023	$ 35,350			$ 35,350
	2024	$ 6,816			$ 6,816
Budget	FY 2025-2026	$ 550,000			$ 550,000
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 677,946	$ -	$ -	$ 677,946

Lake Water Quality

Total Project Costs:	$ 2,345,607
Funded:	Stormwater Rates
Area:	Northwest

Project Description:
Provide funding for staff to work with Clark County, State and Federal agencies, and develop a short-term and long-term strategy to improve and manage water quality of Lacamas, Fallen Leaf, and Round Lakes.

		Professional Services			Total
	Prior Years	$ -			$ -
	2021	$ 130,653			$ 130,653
	2022	$ 301,558			$ 301,558
	2023	$ -			$ -
	2024	$ 43,992			$ 43,992
Budget	FY 2025-2026	$ 869,404			$ 869,404
Capital Plan	FY 2027-2028	$ 500,000			$ 500,000
	FY 2029-2030	$ 500,000			$ 500,000
	Total	$ 2,345,607	$ -	$ -	$ 2,345,607

Water

Boulder Parallel Intake Lines

Total Project Costs:	$ 308,810
Funded:	System Development Charges
Area:	North

Project Description:
This project will design a secondary intake along Boulder Creek for the Sand Filter Plant. The existing intake line gets blocked due to upstream boulders. This line would allow for plant operation to continue during blockages.

		Construction			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ 3,973			$ 3,973
	2024	$ 59,837			$ 59,837
Budget	FY 2025-2026	$ 245,000			$ 245,000
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 308,810	$ -	$ -	$ 308,810

Crown Road Booster Station Upgrades

Total Project Costs:	$ 1,431,640
Funded:	System Development Charges
Area:	Southeast

Project Description:
This new booster station will serve the North Shore and better meet domestic and fire flow needs.

		Design/Permit/Constr.			Total
	Prior Years	$ -			$ -
	2021	$ 87,623			$ 87,623
	2022	$ -			$ -
	2023	$ 124,780			$ 124,780
	2024	$ 94,237			$ 94,237
Budget	FY 2025-2026	$ 1,125,000			$ 1,125,000
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 1,431,640	$ -	$ -	$ 1,431,640

Water (continued)

Well and Reservoir Security Upgrades

Total Project Costs:	Ongoing
Funded:	System Development Charges
Area:	City-Wide

Project Description:
This package provides for fencing, cameras and other security devices at sites to deter or eliminate access by the public into buildings and reservoirs.

		Upgrades	Total
	Prior Years	$ -	$ -
	2021	$ -	$ -
	2022	$ -	$ -
	2023	$ -	$ -
	2024	$ -	$ -
Budget	FY 2025-2026	$ 300,000	$ 300,000
Capital Plan	FY 2027-2028	$ -	$ -
	FY 2029-2030	$ -	$ -
	Total	$ 300,000 $ - $ -	$ 300,000

North Shore Water Transmission Main

Total Project Costs:	$ 4,003,435
Funded:	System Development Charges
Area:	North

Project Description:
This project completes the connection along 232nd Street which will create a loop around Lacamas Lake. The Sand Filter plant will provide water to NW portion of the City and minimize the need to utilize the south waterlines.

		Construction	Total
	Prior Years	$ -	$ -
	2021	$ -	$ -
	2022	$ -	$ -
	2023	$ 48,528	$ 48,528
	2024	$ 2,051,159	$ 2,051,159
Budget	FY 2025-2026	$ 1,903,748	$ 1,903,748
Capital Plan	FY 2027-2028	$ -	$ -
	FY 2029-2030	$ -	$ -
	Total	$ 4,003,435 $ - $ -	$ 4,003,435

Water (continued)

PFAS Evaluation and Mitigation

Total Project Costs:	$ 13,939,246
Funded:	Water Rates / Debt / Grant Funds
Area:	City-Wide

Project Description:
This project is to address the PFAS in the water at Well 13

		Construction			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ 939,246			$ 939,246
Budget	FY 2025-2026	$ 13,000,000			$ 13,000,000
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 13,939,246	$ -	$ -	$ 13,939,246

Vehicles

Total Project Costs:	$ 217,184
Funded:	Water Rates
Area:	City-Wide

Project Description:
Vehicles will be purchased when new staff is hired and when the replacement model is inadequate for the utility

		Vehicles			Total
	Prior Years	$ 181,013			$ 181,013
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ -			$ -
	2024	$ 36,171			$ 36,171
Budget	FY 2025-2026	$ -			$ -
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 217,184	$ -	$ -	$ 217,184

Water (continued)

Washougal River Wellfield

Total Project Costs:	$ 400,000
Funded:	Water Rates
Area:	Southeast

Project Description:
This project is to maximize the amount of water pulled from existing Washougal River wellfield. This package funds repair, replacement, upgrades and capacity related needs within the City's primary wellfield.

		Construction	Total
	Prior Years	$ -	$ -
	2021	$ -	$ -
	2022	$ -	$ -
	2023	$ -	$ -
	2024	$ -	$ -
Budget	FY 2025-2026	$ 400,000	$ 400,000
Capital Plan	FY 2027-2028	$ -	$ -
	FY 2029-2030	$ -	$ -
	Total	$ 400,000 $ - $ -	$ 400,000

New Operations Center

Total Project Costs:	$ 6,075,000
Funded:	Water Rates
Area:	Northeast

Project Description:
This project is to acquire land, design and construct a new centrally located Operations Center

		Acquisition	Total
	Prior Years	$ -	$ -
	2021	$ -	$ -
	2022	$ -	$ -
	2023	$ -	$ -
	2024	$ 75,000	$ 75,000
Budget	FY 2025-2026	$ 6,000,000	$ 6,000,000
Capital Plan	FY 2027-2028	$ -	$ -
	FY 2029-2030	$ -	$ -
	Total	$ 6,075,000 $ - $ -	$ 6,075,000

Water (continued)

SE 6th Ave Bridge Waterline

Total Project Costs:	$ 2,183,631
Funded:	Water Rates
Area:	Central

Project Description:
This package replaces an existing waterline on the SE 6th Ave. bridge due to the existing steel line's deterioration and leakage.

		Construction			Total
	Prior Years	$ -			$ -
	2021	$ -			$ -
	2022	$ -			$ -
	2023	$ 7,332			$ 7,332
	2024	$ 679,719			$ 679,719
Budget	FY 2025-2026	$ 1,496,580			$ 1,496,580
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 2,183,631	$ -	$ -	$ 2,183,631

Repairs and Replacements

Total Project Costs:	Ongoing
Funded:	Water Rates
Area:	City-Wide

Project Description:
The City's 2019 Water Plan Update identified a number of repair and replacement related needs. This placeholder budget will allow for planned and unplanned water system projects to be completed in the biennium.

		Construction			Total
	Prior Years	$ 36,121			$ 36,121
	2021	$ 331,433			$ 331,433
	2022	$ 171,808			$ 171,808
	2023	$ 177,361			$ 177,361
	2024	$ 10,453			$ 10,453
Budget	FY 2025-2026	$ 1,000,000			$ 1,000,000
Capital Plan	FY 2027-2028	$ 1,000,000			$ 1,000,000
	FY 2029-2030	$ 1,000,000			$ 1,000,000
	Total	$ 3,727,176	$ -	$ -	$ 3,727,176

Sewer

Pump Station Telemetry Upgrades

Total Project Costs:	$ 1,800,000
Funded:	System Development Charges
Area:	City-Wide

Project Description:
This project provides more reliable communications with pump stations.

		Upgrades	Total
	Prior Years	$ -	$ -
	2021	$ -	$ -
	2022	$ -	$ -
	2023	$ -	$ -
	2024	$ -	$ -
Budget	FY 2025-2026	$ 1,800,000	$ 1,800,000
Capital Plan	FY 2027-2028	$ -	$ -
	FY 2029-2030	$ -	$ -
	Total	$ 1,800,000 $ - $ -	$ 1,800,000

Wastewater Treatment Plant Upgrades

Total Project Costs:	$ 21,516,841
Funded:	System Development Charges
Area:	South

Project Description:
This placeholder is for projects identified in General Sewer Plan and WWTP Facilities Plan for upgrades, repairs, replacements, and maintenance.

		Construction	Total
	Prior Years	$ 74,925	$ 74,925
	2021	$ 164,391	$ 164,391
	2022	$ 158,587	$ 158,587
	2023	$ 231,579	$ 231,579
	2024	$ 2,887,359	$ 2,887,359
Budget	FY 2025-2026	$ 18,000,000	$ 18,000,000
Capital Plan	FY 2027-2028	$ -	$ -
	FY 2029-2030	$ -	$ -
	Total	$ 21,516,841 $ - $ -	$ 21,516,841

Sewer (continued)

Gravity Sewer Upgrades

Total Project Costs:	$ 1,772,553
Funded:	System Development Charges
Area:	Southeast

Project Description:
This placeholder is for projects identified in General Sewer Plan and WWTP Facilities Plan for upgrades, repairs, replacements, and maintenance.

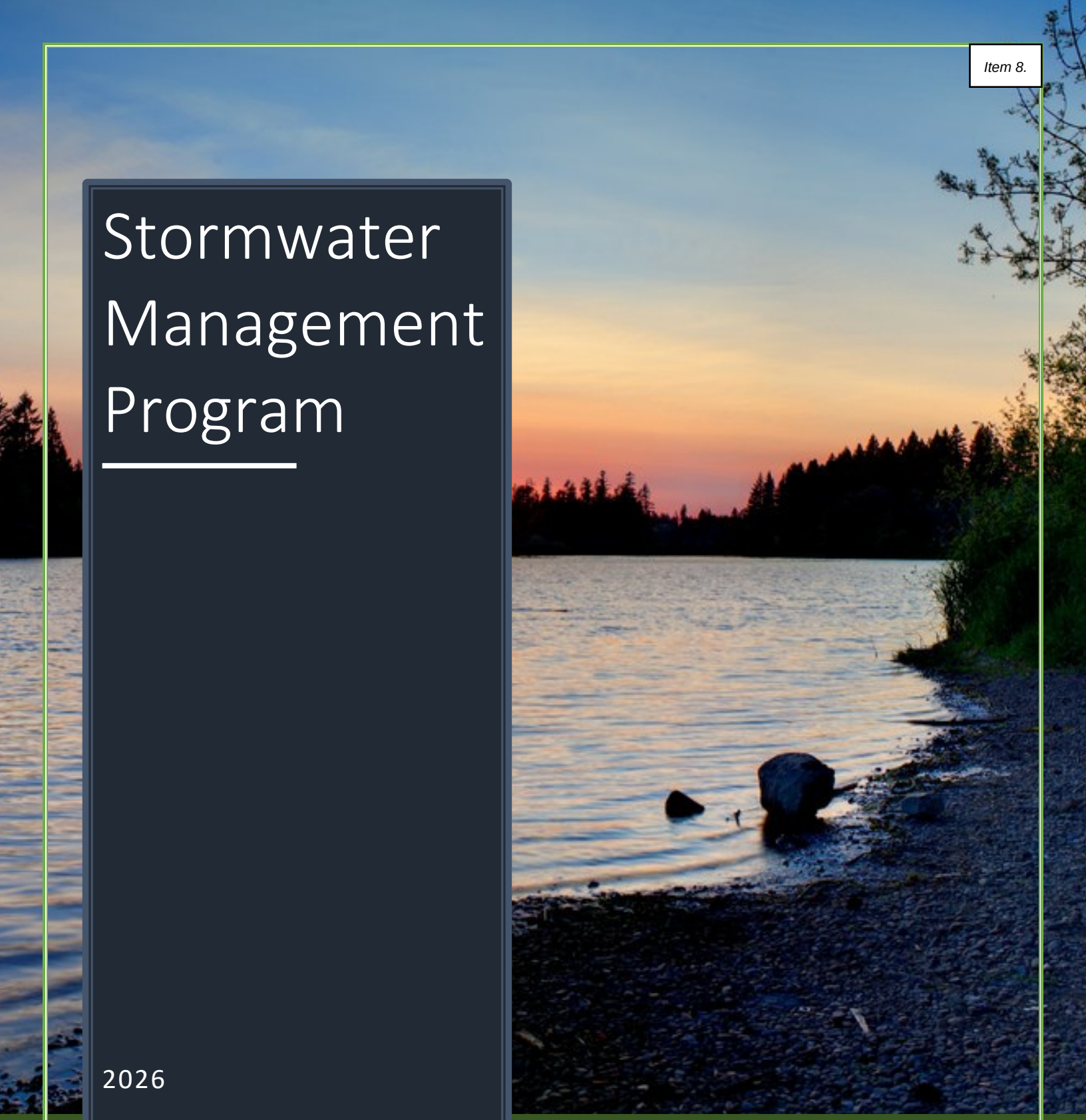
		Construction			Total
	Prior Years	$ -			$ -
	2021	$ 39,277			$ 39,277
	2022	$ 134,476			$ 134,476
	2023	$ 7,567			$ 7,567
	2024	$ 291,233			$ 291,233
Budget	FY 2025-2026	$ 1,300,000			$ 1,300,000
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 1,772,553	$ -	$ -	$ 1,772,553

Pump Station Repairs and Replacements

Total Project Costs:	$ 5,351,065
Funded:	Sewer Rates
Area:	City-Wide

Project Description:
This placeholder is for projects identified in General Sewer Plan and WWTP Facilities Plan for upgrades, repairs, replacements, and maintenance.

		Construction			Total
	Prior Years	$ -			$ -
	2021	$ 98,678			$ 98,678
	2022	$ 781,883			$ 781,883
	2023	$ 273,638			$ 273,638
	2024	$ 196,866			$ 196,866
Budget	FY 2025-2026	$ 4,000,000			$ 4,000,000
Capital Plan	FY 2027-2028	$ -			$ -
	FY 2029-2030	$ -			$ -
	Total	$ 5,351,065	$ -	$ -	$ 5,351,065



Stormwater Management Program

2026

City of Camas
Stormwater Division | Public Works

City of Camas WASHINGTON

Page left blank intentionally

Introduction

The National Pollutant Discharge Elimination System (NPDES) Permit addresses water pollution from point sources into surface waters, such as rivers, lakes, and streams. The U.S. Environmental Protection Agency (EPA) gave the Washington State Department of Ecology (Ecology) authority to write and issue the NPDES Permit in Washington State. The Western Washington Phase II Municipal Stormwater Permit (Permit) was first issued by Ecology in 2007.

The City of Camas (City) Municipal Separate Storm Sewer System (MS4) is regulated by the Permit. This Annual Report covers implementation of components from the 2024-2029 Permit. The 2024-2029 Permit was reissued on July 1, 2024, and became effective August 1, 2024. The Permit cycle is from August 1, 2024, to July 31, 2029. The City will continue to implement current programs and include new permit requirements as they come into effect.

The Stormwater Management Program (SWMP) is required per Section S5 of the Permit. The SWMP is organized per the program components listed in S5.C. The SWMP is updated annually and submitted to Ecology by March 31st of each year. The SWMP consists of the following components (program components, current activities and planned activities are discussed in the SWMP):

- S5.C.1 Stormwater Planning
- S5.C.2 Public Education and Outreach
- S5.C.3 Public Involvement and Participation
- S5.C.4 MS4 Mapping and Documentation
- S5.C.5 Illicit Discharge Detection and Elimination
- S5.C.6 Controlling Runoff from New Development, Redevelopment, and Construction Sites
- S5.C.7 Stormwater Management for Existing Development
- S5.C.8 Source Control Program for Existing Development
- S5.C.9 Operations and Maintenance

The SWMP is designed to protect water quality by reducing the discharge of pollutants from the regulated small MS4 to the Maximum Extent Practicable (MEP) and shall use All Known, Available, and Reasonable methods of prevention, control, and Treatment (AKART) to prevent and control pollution of waters of the State of Washington.

The City has an ongoing program for gathering, tracking, maintaining and using information to evaluate SWMP development, implementation, permit compliance, and to set priorities.

The SWMP is a planning and implementation document. The program has three separate objectives depending on the intended audience:

- Ecology – Provide written documentation on how the City will meet the permit requirements for the SWMP.
- The Public – Solicit input and build local support for the City's SWMP.
- City Staff and Officials – Build support and understanding for the SWMP.

S5.C.1 Stormwater Planning

The City has three distinct watersheds: the Lacamas Lake Basin, the Columbia River Basin and the Washougal River Basin. The three watersheds ultimately drain into the Pacific Ocean. The City has been rapidly growing since 2015, adding a significant amount of both new people and infrastructure to the City's watersheds. A Comprehensive Stormwater Plan was developed in 2013 to plan for new stormwater regulations and future capital improvements that would help meet the City's goals and growth demands. The Stormwater Planning Program is to inform and assist in the development of policies and strategies as water quality management tools to protect receiving waters.

PERMIT REQUIREMENTS (S5.C.1):

a. Convene an inter-disciplinary team to inform and assist in the development, progress, and influence of this program.

b. Coordination with long-range plan updates:
   - Describe how stormwater management needs and protection/improvement of receiving water health are (or are not) informing the planning update processes and influencing policies and implementation strategies. Annual reports shall describe the water quality and watershed protection policies, strategies, codes, and other measures intended to protect and improve local receiving water health through planning, considering stormwater management needs or limitations.

c. Low impact development (LID) code-related requirements:
   - Continue to require LID Principles and LID Best Management Practices (BMPs) when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed. The intent shall be to make LID the preferred and commonly used approach to site development.
   - Annually, assess and document any newly identified administrative or regulatory barriers to implementation of LID Principles or LID BMPs since local codes were updated in accordance with the 2013 Permit, and the measures developed to address the barriers. If applicable, the report shall describe mechanisms adopted to encourage or require implementation of LID principles or LID BMPs.
   - No later than December 31, 2028, adopt and implement tree canopy goals and policies to support stormwater management.
   - Establish a long term (e.g. 5, 10 year or longer) goal of canopy, existing or future projection, to be used for stormwater management.
   - Specific considerations for canopy for stormwater management on Permittee-owned or operated lands shall include:
     - Maintaining or increasing canopy in overburdened communities.
     - Maintaining existing mature canopy.
     - Document considerations, reasoning, and rationale for goals and polices.

d. Stormwater Management Action Planning (SMAP):
   No later than March 31, 2027, develop a SMAP for at least one new high priority catchment area, or additional actions for an existing SMAP, that identifies all the following:
   - A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations. Include

projects that address transportation-related runoff from high traffic areas.

- Land management/development strategies and/or actions identified for water quality management.
- Focused, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including: IDDE field screening, Prioritization of Source Control inspections, O&M inspections or enhanced maintenance, Public Education and Outreach behavior change programs. Identified actions shall support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular.
- If applicable, identification of changes needed to local long-range plans, to address SMAP priorities.
- A proposed implementation schedule and budget sources for: short-term actions (accomplished within six years), long-term actions (accomplished within seven to 20 years).
- Actions in the SMAP that may benefit overburdened communities, including specifically vulnerable populations and highly impacted Communities.
- A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.

CURRENT ACTIVITIES (S5.C.1):

The City's Stormwater Control Ordinance (CMC 14.02) will maintain the requirements for LID Principles and LID BMPs in all developments within city limits.

Presented Camas City Council on NPDES Phase II Permit updates and upcoming requirements of 2024-2029 Permit term.

The City's interdisciplinary team will continue to collaborate in the stormwater planning process. The core team members include the Public Works Director, Utilities Manager, Operations Supervisor and Stormwater Permit Coordinator. Other departments may be involved, as needed. City Council and stakeholders will be notified and part of the decision-making process as planning progresses.

The Department of Ecology awarded the City two Water Quality Combined Funding Grants; the City of Camas Downtown Regional Stormwater Retrofit Project and the City of Camas Crown Park Regional Stormwater Retrofit Project. These projects were identified in the previous SMAP process. The grant funds will help the City complete the planning and design phases of the two projects. The projects will provide treatment of stormwater from 216 acres of largely untreated area. Both projects are in the planning and design phase.

PLANNED ACTIVITIES (S5.C.1):

The City's short-term actions in support of stormwater facility retrofits will be detailed feasibility reviews to identify and prioritize retrofit projects for the long-term planning of the SMAP.

The City is working to adopt and implement tree canopy goals and policies to support stormwater management, and will establish long -term goals of canopy, existing or future projection for City owned or operated lands. Goals and policies will be adopted no later than December 31, 2028.

The City will complete and submit a SMAP for one new high priority catchment area, or additional actions for the Upper Camas Slough priority catchment area. A new SMAP or additional actions to existing SMAP will be completed no later than March 31, 2027.

S5.C.2 Public Education & Outreach

The City continues to implement an education and outreach program for the area served by the MS4. The Education and Outreach Program is designed to build general awareness about methods to address and reduce impacts from stormwater runoff, effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts, and create stewardship opportunities that encourage community engagement in addressing the impacts from stormwater runoff.

PERMIT REQUIREMENTS (S5.C.2):

Implement an education and outreach program for the area served by the MS4. The program design shall be based on local or regional water quality information and priority audience characteristics to identify high priority audiences, subject areas, and/or BMPs.

a. General Awareness: Annually select, at a minimum, one priority audience and one subject:

- *Priority audience*: General Public (including overburden communities, school age children, college/university, or trade students), or Businesses (including home-based and mobile businesses).
  Subject areas:
  1) General impacts of stormwater on surface waters, including impacts from impervious surfaces.
  2) Low impact development (LID) principles and LID BMPs.
- *Priority audience:* Engineers, contractors, developers, property owners/managers, or Land-use Planners.
  Subject areas:
  1) Technical standards for stormwater site and erosion control plans.
  2) LID principles and LID BMPs.
  3) Stormwater treatment and flow control BMPs/facilities.
  4) Source control BMPs for building materials to reduce pollution to stormwater, including but not limited to stormwater pollution from PCB-containing materials.
- Provide subject area information to the target audience on an ongoing or strategic schedule.

b. Behavior Change: To affect behavior change, Permittees shall select, at a minimum, one priority audience and one BMP.

- *Priority audience*; Residents, landscapers, property managers/owners, developers, school age children, college/university, trade students, or businesses (including home-based or mobile businesses).
  BMPs:
  1) Use and storage of: pesticides, fertilizers, and/or other household chemicals.
  2) Use and storage of: automotive chemicals, hazardous cleaning supplies, carwash soaps, and/or other hazardous materials.
  3) Prevention of illicit discharges.
  4) Yard care techniques protective of water quality.
  5) Carpet cleaning.
  6) Repair and maintenance BMPs for: vehicles, equipment, and/or home/building.
  7) Pet waste management and disposal.
  8) LID Principles and LID BMPs.
  9) Stormwater facility maintenance, include LID facilities.
  10) Dumpster and trash compactor maintenance.
  11) Litter and debris prevention.

12) Sediment and erosion control.
13) Source Control BMPs.
14) Locally-important, municipal stormwater-related subject area.

- Social marketing campaign development. No later than July 1, 2025, each Permittee shall follow social marketing practices and methods and develop a campaign that is tailored to the community, including development of a program evaluation plan.
- Behavior change campaign implementation. No later than September 1, 2025, begin to implement the developed strategy.
- Behavior change campaign evaluation. No later than March 31, 2029, evaluate and submit a report on the changes in understanding and adoption of behaviors resulting from the implementation of the strategy; and any planned or recommended changes to the campaign to be more effective; describe the strategies and process to achieve the results.
- Behavior change campaign adaptive management. Permittees shall use results of the evaluation to continue to direct effective methods and implementation of the ongoing behavior change program.

c. Stewardship: Provide and advertise stewardship opportunities and/or partner with existing organizations (including non-permittees) to encourage residents to participate in activities or events planned and organized within the community.

CURRENT ACTIVITIES (S5.C.2):

General Awareness – General Public:

- Contribute to Stormwater Partners (Partners) for regional education and outreach efforts.
- Participated in tree planting events along Everett Street corridor.
- Don't wait to inflate.
- Maintain stormwater website.
- Pet waste management and disposal.
- Provided pet waste signs.
- Proper disposal of household hazardous waste.
- Prohibit illegal dumping and littering in stormwater facilities.
- Illicit discharge hotline and flyer.



- KPTV 'Clean Water' public service announcement campaign.
- Neighborhood meetings for non-HOA neighborhoods to educate property owners on stormwater facility ownership, responsibilities and maintenance.
- Frequent stormwater social media post.
- Tabeling events at Camas Farmers Market to spread the word on Private Stormwater Facilities, IDDE, Poop Smart, Don't Drip and Drive and other stormwater program activities.

General Awareness – School age children

- Poop toss game to educate children on proper pet waste disposal.





- Student Video Contest for grades 6-12.
- Met with Girl Scouts to discuss stormwater and the surrounding environment.

General Awareness – college/university and trade students

- Educational presentations at local colleges.

General Awareness – Engineers, contractors, developers, property managers land use planners:

- City staff assist teaching Vegetated Stormwater Facilities Maintenance course at Clackamas Community College.
- City staff assisted in leading Private/Public Facility Inspection workshop at MuniCon 2025.

Behavior Change:

Pet Waste

Pet waste is an ongoing issue in the City. The City evaluated the existing pet waste program and decided to continue to tackle the pet waste issue. The City has joined forces with Clark County and neighboring cities to promote pet waste management with the Canines for Clean Water Campaign. The team developed a behavior change campaign strategy and schedule. The City continues to implement the strategy developed for the pet waste management campaign. The City hands out "There is no poop fairy" signs to residents and HOA's that experience excessive dog poop on lawns and in public spaces.

Dumpster Maintenance Campaign

The City, as a collaborator and contributor to Stormwater Partners (Partners), have selected Dumpster Maintenance as our new behavior change campaign. The Partners selected Point North Consulting to help implement the new Dumpster Maintenance Program. Social marketing campaign development started in the fall of 2024, where the team developed a strategy and schedule for a new priority audience and BMP behavior change campaign. The behavior change campaign strategy implementation began in July 2025. Phase I work included toolkit refinement and strategic planning. Phase II included pilot campaign implementation and evaluation. The campaign is currently in evaluation and strategy refinement.



Stewardships:

- Doody Pledge



- Backyard Habitat Certification Program
- Ivy League
- Lacamas Lake Clean-up
- Watershed Stewards Program
- Student Video Contest





- Adopt a Drain



PLANNED ACTIVITIES (S5.C.2):

The City will continue to implement the Current Activities.

The City, in partnership with the Student Watershed Monitoring Network, are starting the Students Offer Runoff Mitigation Program (STORM) with selected Camas 5th grade classes. The program will continue watershed education in classes with an emphasis on watershed health and stormwater and how they can be improved by catch basin cleaning.

The City and Partners will continue to develop and implement the Dumpster Maintenance Campaign throughout Clark County.

The City and Partners are developing and hosting informational workshops to bring awareness of source control BMPs for building materials to reduce stormwater pollution from PCB-containing materials. The workshops will be offered in 2026 to municipal staff, contractors and building owners. Meetings will be both virtual and in person.





C5.C.3 Public Involvement & Participation

The City continues to provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees and other similar activities. The City complies with applicable state and local public notice requirements when developing elements of the SWMP and SMAP.

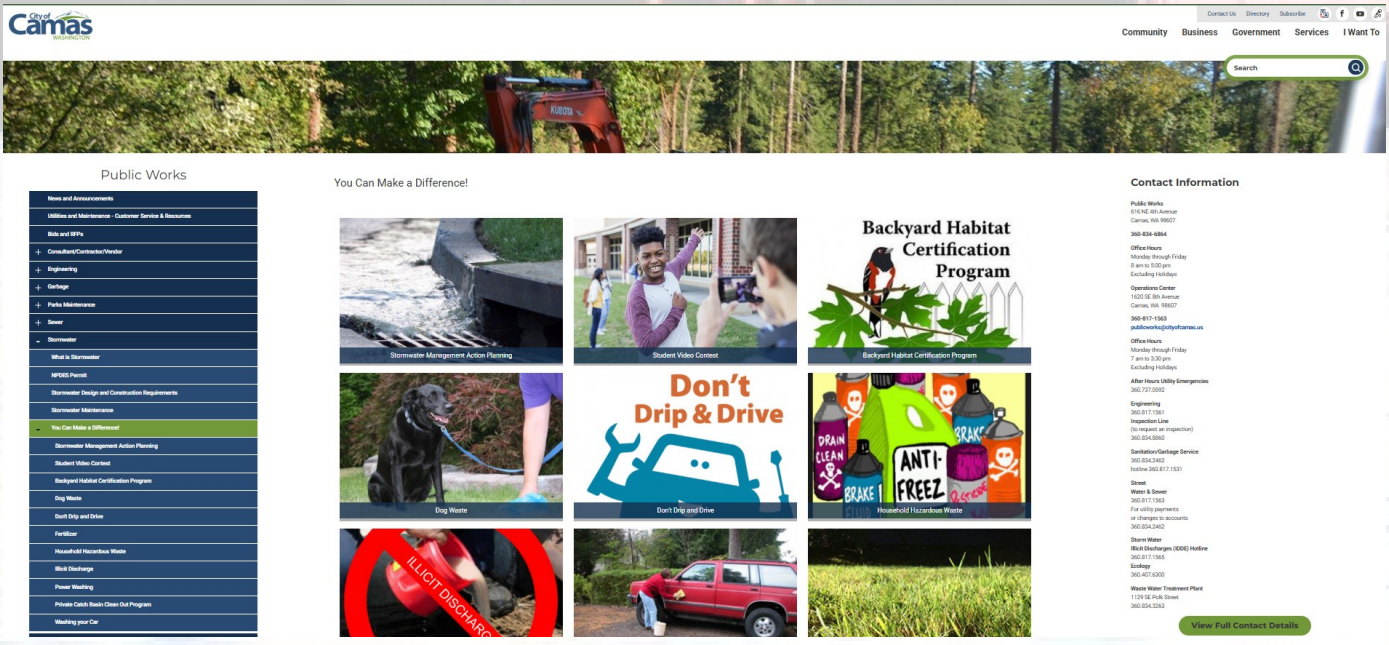
I. Annually, document specific public involvement and participation opportunities provided to overburdened communities and specifically highly impacted communities.

II. No later than December 31, 2026, document methods used to identify overburdened communities.

PERMIT REQUIREMENTS (S5.C.3):

a. Create opportunities for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementing and update of the SMAP and SWAP. Specific outreach measures shall be documented for overburdened communities.

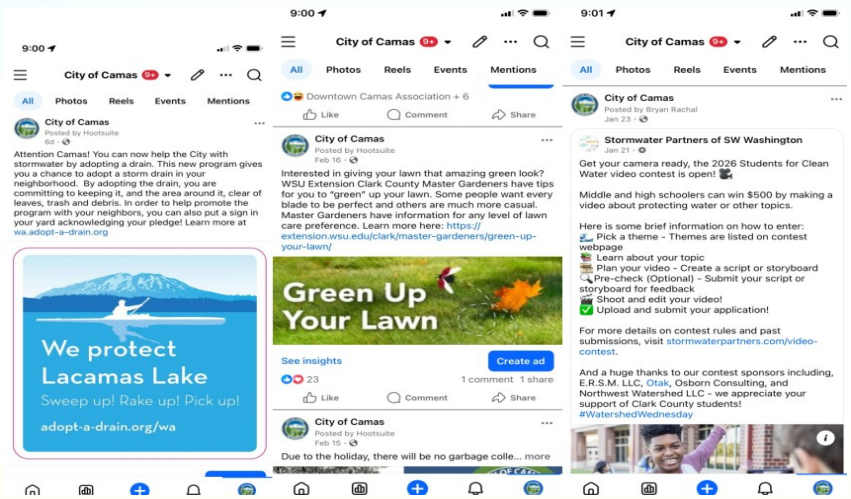
b. The City shall post the SWMP Plan and the annual report on the website, no later than May 31st of each year. All other submittals shall be available to the public upon request.



CURRENT ACTIVITIES (S5.C.3)

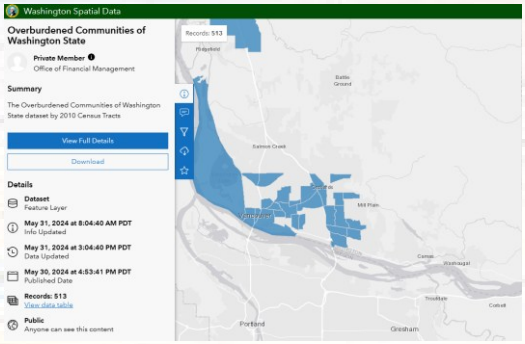
The City utilizes various communication mediums to convey involvement and participation events to the public, such as: social media, City website, newspaper articles and other web-based channels. The City posts the latest annual report and Stormwater Management Program (SWMP) on the website by March 31st each year. When the updated SWMP is posted on the City's website, a newsfeed is generated to notify the public and request for comments on the SWMP.

The City generates monthly to quarterly stormwater related topics and posts on City's social media to promote education and awareness. A link to the SWMP and SMAP are included in the post to help generate awareness and opportunity for the public to provide comments.
The City released 15 stormwater related posts on Facebook, Instagram and NextDoor in 2025.



PLANNED ACTIVITIES (S5.C.3):

The City will continue to implement the Current Activities and explore other means of public involvement opportunities. The public was a key stakeholder that we asked for input during the first SMAP process. Environmental justice data was incorporated in the development of the SMAP.



The City will continue to incorporate feedback from stakeholders in SMAP developments and decision making processes.

The City will document specific public involvement and participation opportunities provided to overburdened communities and specifically highly impacted communities.

The City will document methods used to identify overburdened communities no later than December 31, 2026.

S5.C.4 MS4 Mapping and Documentation

The City has an ongoing program for mapping and documentation of the MS4.

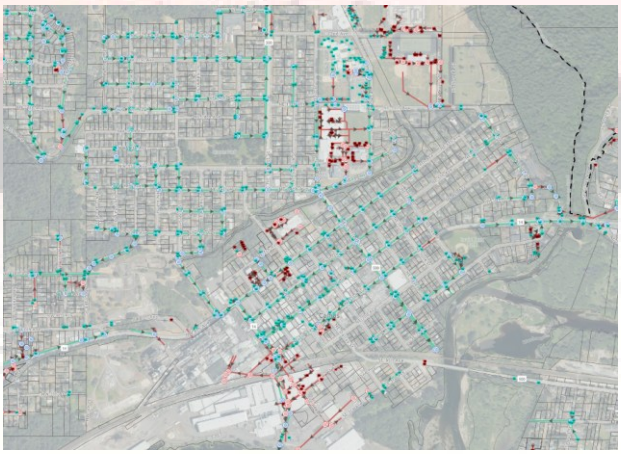
PERMIT REQUIREMENTS (S5.C.4):

a. Ongoing Mapping of MS4:
   - Known MS4 outfalls and known MS4 discharge points, including outfall size and material where known.
   - Receiving waters, other than groundwater.
   - Public stormwater treatment and flow control BMPs/facilities.
   - Geographic areas that do not discharge stormwater to the surface waters.
   - Tributary conveyance to all known outfalls and discharge points with a 24 inch diameter or larger, or an equivalent cross-sectional

area for non-pipe system (tributary conveyance type, material, size, associated drainage areas, land use).

- Connections between the MS4 owned or operated by the other municipalities or public entities.
- All connections to the MS4 authorized or allowed by the City after February 16, 2007.
- New Mapping requirements:
- No later than March 31, 2026, submit locations of all known MS4 outfalls according to the standard templates and format provided in the Annual Report. Report size and material of outfalls, where known.
- No later than December 31, 2026, using available, existing data, map tree canopy to support stormwater management on Permittee-owned or operated properties. Permittees shall develop and follow a methodology to intentionally identify canopy for stormwater management proposes, which may be updated annually or as needed.
- No later than March 31, 2028, implement a methodology to map and assess acreage of MS4 tributary basins to outfalls with a 24-inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems that have stormwater treatment and flow control BMPs/facilities owned or operated by the permittee.
- Submit with the March 31, 2028, Annual Report a map(s) (.pdf) and table (.xlsx) with a breakdown of the MS4 tributary basins quantifying estimated acres managed or unmanaged by stormwater treatment and flow control BMPs/facilities owned or operated by the Permittee.
- No later than December 31, 2028, using available, existing data map overburdened communities in relation to stormwater treatment and flow control BMPs/facilities, outfalls, discharge points, and tree canopy on Permittee-owned or operated properties.

b. The required format for mapping is electronic (e.g. Geographic Information System (GIS), CAD drawings, or other software that can map and store points, lines, polygons, and associated attributes), with fully described mapping standards.
c. Upon request, make maps available to Ecology.
d. Upon request, and to the extent appropriate, provide mapping information to federally recognized Indian Tribes, municipalities, and other Permittees. The Permit does not preclude the City from recovering reasonable costs associated with fulfilling mapping information requests by federally recognized Indian Tribes, municipalities and other Permittees.



CURRENT ACTIVITIES (S5.C.4):

The City maintains the MS4 mapping by incorporating record drawing information from new developments and correcting existing features as needed. All known MS4 outfalls (size and material) have been added to the MS4 mapping, update as needed. All known connections from the MS4 to privately owned stormwater system have been mapped. Staff are using GPS to add and adjust assets to correct locations. Desktop data entry using as-builts is being conducted to clean up the City's GIS layer. The City MS4 mapping is performed in ArcGIS.

The City will submit locations of all known MS4 outfalls according to the standard templates and format provided by Ecology.

The City is working with various mapping programs to map tree canopy to support stormwater management on Permittee-owned or operated properties.

PLANNED ACTIVITIES (S5.C.4):

The City will continue to update and maintain MS4 mapping within ArcGIS and associated applications.

The City will implement GIS capabilities on the television pipe line inspection vehicle for detailed pipe information and asset locations.

S5.C.5 Illicit Discharge and Elimination (IDDE)

Discharges from cities often include waste and wastewater from sources other than stormwater. Illicit discharges are those that enter the public storm system in two ways, (1) by direct connection of wastewater piping to storm lines; or (2) through indirect connections, such as infiltration from cracked wastewater piping, dumping of illicit material into storm drains, or accidental spills that result in wastewater flowing into storm drains.





PERMIT REQUIREMENTS (S5.C.5):

a. The program shall include procedures for reporting and correcting or removing illicit connections, spills and other illicit discharges when they are suspected or identified. The program shall also include procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4.
   - Illicit connections and illicit discharges must be identified through, but not limited to: field screening, inspections, complaints/report, construction inspections, maintenance inspections, source control inspections, and/or monitoring information, as appropriate.

b. Inform public employees, businesses, and the public of hazards associated with illicit discharges and improper disposal of waste.

c. Implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges into the MS4 to the maximum extent allowable under state and federal law.
   - The ordinance or other regulator mechanism in effect as of the effective date of this Permit shall be revised if necessary to meet the requirements of this Section no later than July 1, 2027.
   - External washdown of buildings with potential PCB containing materials shall not discharge washdown water to the MS4.

d. Implement an ongoing program designed to detect and identify non-stormwater discharges and illicit discharges and illicit connections into the MS4.
   - Implement a field screening methodology appropriate to the characteristics of the

MS4 and water quality concerns. Complete field screening for an average of 12% of the MS4 each year.

- Provide a publicly listed and publicized hotline or other telephone number for public reporting of spills and other illicit discharges.
- Ongoing training program for all municipal field staff on identification of an illicit discharge and/or connection, and on proper procedures for reporting and responding to the illicit discharge and/or connection. Provide follow-up training as needed to address changes in procedures, techniques, requirements, or staffing. Document and maintain records of the trainings provided and the staff trained.

e. Implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the MS4.

- Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the City. Procedures shall address the evaluation of whether the discharge must be immediately contained and steps to be taken for containment of the discharge.



- Procedures for post-emergency clean-up following firefighting activities:
    - No later than December 31, 2026, the City shall coordinate with firefighting agencies/departments that serve the areas that discharge to the MS4 to be notified when PFAS-containing AFFFs are used during emergency firefighting activities.
    - No later than January 1, 2027, the City shall update and implement procedures to minimize discharges to the MS4 during post-emergency clean-up and disposal activities including, but not limited to, the immediate clean-up in all situations where PFAS-containing AFFFs have been used, diversions, and other measures that prevent discharges to the MS4. The City is not expected to deploy measures during an emergency.
- Procedures for tracing the source of an illicit discharge.
- Procedures for eliminating the discharge, including notification of appropriate authorities and property owners.

f. Ensure municipal staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections are trained to conduct these activities. Provide follow-up training as needed to address changes in procedures, techniques, requirements, or staffing. Document and maintain records of the training provided and the staff trained.

g. Recordkeeping: Track and maintain records of the activities conducted. In the Annual Report, submit data for the illicit discharges, spills and illicit connections including those that were found by, reported to, or investigated by the City during the previous calendar year.



CURRENT ACTIVITIES (S5.C.5):

The City's Illicit Detection and Discharge Elimination Ordinance (CMC 14.04) incorporates the various aspects of the Permit requirements.

The ongoing IDDE program includes procedures for addressing illicit discharges, source tracing, and eliminating the discharge.

The IDDE program continues to educate the public on the harmfulness of improper disposal of waste. An educational IDDE flyer with the hotline number is available to the public at City Hall, the Operations Center, and at tabling events at the Camas Farmers Market. The same information is available on the City's website where the public can access all year round.

The City maintains a hotline and mobile application (CamasConnect 24/7) that allows citizens to report illicit discharges/connections. Calls/complaints are routed to the appropriate staff. All reports are investigated immediately upon submission.

Outfall inspections are the chosen method for field screening assessment. The City tracks the total percentage of outfalls screened annually since the issuance of the 2019-2024 Permit.

The City inspected 21 outfalls for the IDDE screening and documented the inspections in Survey 123. Staff also completed GPS mapping of all known public outfalls and screened for illicit discharges when mapping.

Field staff are trained when first hired and then annually. Records of staff training is documented.

All inspections, investigations, illicit discharges and spill-related activities are tracked in excel spreadsheets and Customer Relationship Management (CRM) Software.

The City completed IDDE reporting data in accordance with the format provided in Appendix 12. The IDDE reporting data will be submitted with the Annual Report.

PLANNED ACTIVITIES (S5.C.5):

The City will continue to implement the Current Activities.

The City no longer uses PFAS-containing AFFFs during firefighting activities.

The City will update procedures to minimize discharges to the MS4 during post-emergency clean up and disposal activities by January 1, 2027.



S5.C.6 Controlling Runoff from Development & Construction

The City will implement, and enforce a program to reduce pollutants in stormwater runoff from new development, redevelopment, and construction site activities. The program shall apply to private and public development, including transportation projects.

PERMIT REQUIREMENTS (S5.C.6):

a. Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects.
   - Adopt and make effective a local program, no later than June 30, 2027, that meets the requirements of Section S5.C.6.b(i) through (iii), below, and shall apply to applications submitted:
     i. On or after July 1, 2027
     ii. Prior to January 1, 2017, that have not started construction by January 1, 2022
     iii. Prior to July 1, 2022, that have not started construction by July 1, 2027
     iv. Prior to July 1, 2027, that have not started construction by July 1, 2032

b. The ordinance shall include, at a minimum:
   - The Minimum Requirements, thresholds, and definitions in Appendix 1, or the 2019 Appendix 1 amended to include the changes identified in Appendix 10, or Phase I program approved by Ecology and amended to include Appendix 10, for new development, redevelopment, and construction sites. Adjustment and exceptions criteria equivalent to those in Appendix 1 shall be included. Such local requirements and thresholds shall provide equal protection of receiving waters and equal levels of pollutant control to those provided in Appendix 1.
   - The local requirements shall include the following requirements, limitations, and criteria that, when used to implement the minimum requirements in Appendix 1 will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy the State requirements under chapter 90.48 RCW to apply AKART prior to discharge:
     i. Site planning requirements
     ii. BMP selection criteria
     iii. BMP design criteria
     iv. BMP infeasibility criteria
     v. LID competing needs criteria
     vi. BMP limitations
   - The legal authority, through the approval process for new development and redevelopment, to inspect and enforce maintenance standards for private stormwater facilities that discharge to the MS4.

c. The program shall include a permitting process with plan review, inspection and enforcement capability to meet the standards listed below, for both private and public projects, using qualified personnel. At a minimum, the program shall be applied to all sites that that meet the minimum thresholds adopted pursuant to S5.C.6.b.i.
   - Review all stormwater site plans for proposed development activities.
   - Inspect, prior to clearing and construction, all permitted development sites that have a high potential for sediment transport.
   - Inspect all permitted development sites during construction to verify proper installation and maintenance of required

erosion and sediment controls. Enforce as necessary based on the inspection.

- Inspect all stormwater treatment and flow control BMPs/facilities, and catch basins, in new residential developments at least twice per 12-month period with no less than 4 months between inspections, until 90% of the lots are constructed (or when construction has stopped and the site is fully stabilized), to identify maintenance needs and enforce compliance with maintenance standards as needed.
- Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. Verify that a maintenance plan is completed and responsibility for maintenance is assigned for stormwater treatment and flow control BMPs/facilities. Enforce as necessary based on the inspection.
- Compliance by achieving at least 80% of scheduled inspections.
- Include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.
- An enforcement strategy shall be developed and implemented to respond to issues of non-compliance.

d. Make available the link to the electronic Construction Stormwater General Permit Notice of Intent (NOI) form and Industrial Stormwater General Permit NOI form. Continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.

e. Ensure that municipal staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training must be provided as needed to address changes in procedures and techniques or staffing. Document and maintain records of the training provided and the staff trained.

CURRENT ACTIVITIES (S5.C.6):

The City has an ongoing program for the permit process with plan review, inspections and enforcement capabilities. All inspections are documented.

The City's Stormwater Control Ordinance (CMC 14.02) was adopted on February 1, 2010 and revised November 21, 2016, and incorporates the various Permit requirements.

The City adopted (CMC 14.02.050) the latest Stormwater Management Manual for Western Washington (SWMMWW) to help control runoff from developments and construction sites. The requirements, limitations, and criteria of the 2024 SWMMWW will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy State AKART.

All applicable field staff are trained in erosion control inspection and have a Certified Erosion and Sediment Control Lead (CESCL) certification.





The City continues to refine the tracking mechanism for inspections and enforcements, development inspection procedures and site plan review standards.

The City inspects all stormwater treatment and flow control BMPs/facilities, and catch basins, in new residential developments at least twice per 12-month period with no less than 4 months inspections, until 90% of the lots are constructed (or when construction has stopped and the site is fully stabilized), to identify maintenance needs and enforce compliance with maintenance standards as needed.

PLANNED ACTIVITIES (S5.C.6):

The City will continue to implement the Current Activities.

S5.C.7 Stormwater Management for Existing Development

The City will implement a Program to control or reduce stormwater discharges to waters of the State from areas of existing development. The Program shall aim to focus on strategic stormwater investments over longer planning timeframes.

PERMIT REQUIREMENTS (S5.C.7):

a. Implement stormwater facility retrofits, or tailored SWMP actions that meet the criteria described in Appendix 12, using one or a combination of the following:
   i. Strategic stormwater investments identified in Stormwater Management Action Plan(s) (SMAP) or similar stormwater planning process and/or
   ii. Opportunistic stormwater investments identified by leveraging projects outside of SMAP areas to improve stormwater management infrastructure
b. With each Annual Report, the City shall provide a list of planned individual projects scheduled for funding or implementation during this Permit term for the purpose of meeting the assigned equivalent acreage in Appendix 12. Equivalent acreage for the City of Camas is 4.4 acres.
c. No later than March 31, 2028, Permittees shall fully fund, start construction, or completely implement project(s) that meet the assigned equivalent acreage and submit documentation with the Annual Report, due March 31, 2028.
d. Permittees may collaborate to meet regional goals.
e. The City shall report the amount of estimated or projected equivalent acres managed by stormwater facility retrofits for the next Permit term (2029-2032) by March 31, 2028.



CURRENT ACTIVITIES (S5.C.7):

The City has been awarded two Water Quality Combined Financial Assistance Grants from the Department of Ecology. The grants fund the City of Camas Crown Park Regional Stormwater Retrofit Project and the City of Camas Downtown Regional Stormwater Retrofit Project. The grants are to help fund planning and design of the two projects. The projects will capture and treat over 200 acres of minimally treated stormwater.

Due to timing of grant applications and the current timeline for the planning and design phase of the identified SMAP projects, it is undetermined if the grant funded projects identified in the SMAP process will count towards this current permit terms equivalent acres.

The City is working on prioritizing rehabilitation and retrofit projects on public stormwater facilities.

The city is currently implementing street sweeping, conveyance line cleaning and focused source control inspections in the priority catchment area to contribute towards the City's 4.4 acres.

PLANNED ACTIVITIES (S5.C.7):

The City will look for opportunities to meet the assigned equivalent acreage requirements.

S5.C.8 Source Control Program for Existing Development

The City shall implement a program to prevent and reduce pollutants in runoff from areas of existing development that discharge to the MS4. The program shall include application of source control BMPs, inspections, and enforcement.

PERMIT REQUIREMENTS (S5.C.8):

a) Enforce ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities.
   - The City shall update and make effective the ordinance(s), or other enforceable documents, as necessary to meet the requirements of S5.C.8 by August 1, 2027.

b) Implement a program to identify publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4. Permittees shall update the inventory at least once every 5 years. The inventory shall include:
   i. Businesses and/or sites identified based on the presence of activities that are pollutant generating and;
   ii. Other pollutant generating sources, based on complaint response, such as: home-based businesses and multifamily sites.

c) Implement an inspection program, performed by qualified personnel, for sites identified in the inventory.

i. All identified sites with a business address shall be provided information about activities that may generate pollutants and the source control requirements applicable to those activities. This information shall be provided by mail, telephone, electronic communications, or in person. This information may be provided all at one time or spread out over the permit term to allow for tailoring and distribution of the information during site inspections.

ii. Annually complete the number of inspections equal to 20% of the businesses and/or site listed in their source control inventory to assess BMP effectiveness and compliance with source control.

iii. Inspect 100% of sites identified through credible complaints.

d) Implement a progressive enforcement policy that requires sites to comply with stormwater requirements within a reasonable time period.

e) Ensure municipal staff who are responsible for implementing the source control program are trained to conduct these activities. The ongoing training program shall cover the legal authority for source control, source control BMPs and their proper application, inspection protocols, lessons learned, typical cases, and enforcement procedures. Provide follow-up training as needed to address changes in procedures, techniques, requirements, or staff. Document and maintain records of the training provided and the staff trained.

CURRENT ACTIVITIES (S5.C.8):

The City has created a Business Inventory List of publicly and privately owned institutional, commercial, and industrial sites in accordance with Appendix 8 of the Permit. The City has adopted a Water Resources Protection ordinance CMC14.04.

The City has entered an Interlocal Agreement with Clark County Public Health, Ecology, and Washougal to fund a full-time employee to assist with City source control inspections. Postcards explaining the Source Control Program and a link to the Source Control webpage on City's website were sent to all businesses on the Business Inventory List in 2023.

At least 20% of businesses are inspected annually, with an emphasis on businesses within the priority catchment area.

All credible complaints are inspected immediately by City staff.

PLANNED ACTIVITIES (S5.C.8):

The City has implemented a business inspection program. City staff will follow up on all public requests for source control issues as well as any follow up issues during initial source control inspections.

Source Control inventory was updated in February 2025. New outreach materials will be produced for businesses and/or sites for specific types of job functions.

Review City ordinances and other enforceable documents by August 1, 2027.

Staff will continue to participate in trainings.

S5.C.9 Operations & Maintenance

The City developed and implemented an Operations and Maintenance (O&M) program to regulate and conduct maintenance activities to prevent or reduce stormwater impacts.

PERMIT REQUIREMENTS (S5.C.9):

a) Implement maintenance standards that are as protective, or more protective, of facility function than those specified in the SWMMWW. Maintenance standards shall be developed for facilities that do not have maintenance standards. No later than June 30, 2027, maintenance standards shall be updated to meet Permit requirements.
   i. Unless there are circumstances beyond the City's control, when an inspection identifies an exceedance of the maintenance standards, maintenance shall be performed:
      - Within 1 year for typical maintenance of facilities, except catch basins.
      - Within 6 months for catch basins.
      - Within 2 years for maintenance that requires capital construction of less than $25,000.
   ii. For each exceedance of the required timeframe, the Permittee shall document the circumstances and how they were beyond their control.

b) Implement a stormwater facility maintenance program for facilities regulated by the City.
   i. The program should include provisions to verify adequate long-term O&M of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S5.C.6.c and shall be maintained in accordance with S5.C.9.a.
      - Implementation of an ordinance or other enforceable mechanism that clearly identifies the party responsible for maintenance, requires inspection of facilities, and establishes enforcement procedures.
      - Annual inspections of all private stormwater treatment and flow control BMPs/facilities that discharges to the MS4 and were permitted by the City, including those permitted in accordance with requirements adopted pursuant to the 2007-2019 Permits.
   ii. Compliance with the inspection requirements by achieving at least 80% of required inspections.
   iii. The program shall include a procedure for keeping records, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.

c) Implement a stormwater facility maintenance program for facilities owned or operated by the City.
   i. Annual inspection of all municipally owned or operated stormwater treatment and flow control BMPs/facilities and taking appropriate maintenance actions.
   ii. Spot check potentially damaged stormwater treatment and flow control BMPs/facilities after major storm events. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards.
   iii. Inspect all catch basins and inlets owned or operated by the City every two years. Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the SWMMWW.

iv. Compliance by achieving 95% of required inspections.

d) No later than December 31, 2027, implement practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City, and road maintenance activities under the functional control of the City. Lands owned or maintained by the City include, but are not limited to: streets, parking lots, roads, highways, buildings, parks, open spaces, road rights-of-way, maintenance yards, and stormwater treatment and flow control BMPs/facilities.



Program shall address the following activities:

- Pipe cleaning
- Cleaning of culverts that convey stormwater in ditch systems
- Ditch maintenance
- Street cleaning
- Road repair and resurfacing, including pavement grinding
- Snow and ice control
- Utility installation
- Pavement striping maintenance
- Maintaining roadside areas, including vegetation management
- Dust control
- Application of fertilizers, pesticides, and herbicides
- Sediment and erosion control
- Landscape maintenance and vegetation disposal
- Trash and pet waste management
- Building exterior cleaning and maintenance
    - For City owned buildings built or renovated between 1950-1980, update policies, practices, or procedures to include Source Control BMPs to minimize PCBs from entering the MS4. The City shall not discharge washdown water to the MS4 if the building is confirmed or suspected to have PCB-containing materials.
- Preparing City owned buildings for renovation or demolition
    - Update policies, practices, or procedures to include Source Control BMPs for building materials to prevent PCBs from entering the MS4 in preparation for and during demolition and renovations.

e) No later than July 1, 2027, develop and implement a municipal street sweeping program to focus on priority areas and times during the year that would reasonably be expected to result in the maximum water quality benefits to receiving waters. The following program elements shall be included:

- Priority areas: curbed municipal streets that discharge to outfalls and meet either/both of high traffic streets, such as arterials or collectors and/or streets that serve commercial or industrial land use areas.
- Program timing: sweep priority areas at least once between July and September of each year and at least two additional times a year.

    - Compliance is sweeping at least 90% of priority areas each sweeping event.
- Operational Procedures: follow equipment design and performance specifications.
- Street waste disposal: dispose of sweeper waste in accordance with Appendix 6 – Street Waste Disposal.
- Reporting: no later than March 31, 2028 submit with the annual report:
    - Priority areas swept identified on a map
    - Sweeping dates
    - Sweeping frequency
    - Type of sweeper
    - Total curb miles of priority areas and curb miles swept
    - Approximation of debris removed

f) Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities. SWPPPs shall include the following information at a minimum:
- A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed.
- At a minimum, annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine of additional or different BMPs are needed.
- Inventory of materials and equipment stored on-site.
- A site map showing facility stormwater drainage, discharge points, and areas of potential pollutant exposure.
- A plan for preventing and responding to spills at the facility which would results in an illicit discharge.

g) Implement an on-going training program for staff whose primary construction, operations, or maintenance job functions may impact stormwater quality. The training program should address the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, street sweeper operation, ways to perform their job activities to prevent or minimize impacts to water quality and procedures for reporting water quality concerns. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Document and maintain records of training provided and staff trained.

h) Maintain records of activities conducted by the City to meet the requirements of this section.

CURRENT ACTIVITIES (S5.C.7):

The Operations storm maintenance crew has an ongoing program to inspect and clean catch basins, and to inspect and maintain public stormwater facilities. Street sweeping is done on a regular basis. There is a list of 'Hot Spots' that are checked after all major storm events.

The City has an ongoing program to inspect private stormwater facilities and coordinate with private owners for maintenance.

The City has an ongoing training program for employees, who encounter stormwater on a regular basis, to learn the importance of protecting water quality.

A SWPPP was developed for the City Operations Center to comply with permit requirements. This is a dynamic document; contents are updated as needed. The SWPPP was updated in December 2022.

The City updated the maintenance standards in June 2022.

The City has partnered with other local jurisdictions to support a Catch Basin Cleaning Assistance Program which allows private owners to pay only $50 per catch basin cleaning. The program is presented to HOA's and businesses during stormwater facility inspections, Camas Farmers Market and Source Control Inspections.



PLANNED ACTIVITIES (S5.C.7):

The City will continue to implement current activities.

The City will continue to inspect and maintain every public catch basin annually.

The City will continue to review the inventory of legacy stormwater facilities for rehabilitation and retrofit opportunities.

The City will continue to implement ESRI applications for more efficient and streamlined field operations and inspections.

The City will update policies, practices and procedures to include source control BMPs for building materials to prevent PCBs from entering the MS4.

Complete a new SWPPP for the Buma property, home of the stormwater maintenance crew.

The city will adjust and improve the street sweeping program to meet the requirements of S5.C.9 no late than July 1, 2027.

The City will review and update, if necessary, any maintenance standards identified in the SWMMWW no later than June 30, 2027.

S8 Monitoring & Assessment

During the 2019-2024 Permit term, the City chose S8.A.2 Regional Status and Trends Monitoring Option in which the City made a one-time payment into the Stormwater Action Monitoring (SAM) collective fund to implement regional small streams and marine nearshore areas status and trends monitoring in urban streams in the Lower Columbia River basin.

The City chose to continue this commitment during the current Permit term. The annual payments into the collective fund are due on or before August 15 each year beginning in 2025.

During the 2019-2024 Permit term, the City chose S8.B Effectiveness Studies Option in which the City made a one-time payment into the collective fund for Stormwater Action Monitoring (SAM) to

implement effectiveness studies and source identification studies.

The City chose to continue this commitment during the current Permit term. The annual payments into the collective fund are due on or before August 15 each year beginning in 2025.

The City's 2025 contribution for Regional Status and Trends Monitoring was $8,993 and for Stormwater Management Program (SWMP) Effectiveness and Source Identification Studies was $10,083.

S9 Reporting Requirements

a) An annual report is required to be submitted no later than March 31st of each year of the Permit, beginning in 2025. The report covers the reporting period from January 1st through December 31st unless otherwise specified. Annual Reports shall be submitted electronically using Ecology's Water Quality Permitting Portal (WQWebPortal) available on Ecology's website.

b) The City is required to keep all records related to the Permit and the SWMP for at least five (5) years.

c) All records related to this permit and the City's SWMP shall be available to the public at reasonable times during business hours. A copy of the most recent annual report will be provided to any individual or entity, upon request.
   - A reasonable charge may be assessed for making photocopies of records.
   - City may require reasonable advance notice of intent to review records related to this permit.

d) The annual report shall include the following:
   - The current Stormwater Management Plan (SWMP);
   - Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this permit during the reporting period.
   - Attachments to the annual report form including summaries, descriptions, reports, and other information as required, or as applicable, to the requirements of this permit during the reporting period.
   - If applicable, notice that MS4 is relying on another entity to satisfy any of the obligations under this permit.
   - Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
   - A notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period.

e) No later than March 31st of each year, the new annual report and the updated SWMP will be available to the public on the City's webpage at https://www.cityofcamas.us/publicworks/page/npdes-permit

Date:	May 6, 2024
To:	Nicole McDermott, WSP
From:	Tyler Bump, Jennifer Cannon, and Mary Chase, ECOnorthwest
Subject:	DRAFT Economic Conditions and Opportunities Analysis, City of Camas Comprehensive Plan Update

Section 1. Economic Profile Analysis

Introduction

The City of Camas Comprehensive Plan update offers an opportunity to refine **the Economic Development Element** vision, goals, and policies for the next two decades from 2025 to 2045 (current plan was adopted in 2015). The Comprehensive Plan is a foundational document that provides a vision and policy direction for managing growth and development while considering effects on the built and natural environment and public facilities. This guiding document provides clear linkages with future investments, priorities, land use changes, and can lead to revisions of codes and regulations. The updated plan must be responsive to changing community dynamics, the strategic vision established by the City Council and include focused goals to address social inequities and climate change.

The current Economic Development Element aims to include goals and policies that help ensure the economic development in the City of Camas provides a range of employment opportunities throughout the City. The economic health and well-being of the City are tied to commitments to promote a wide range of employment opportunities for the citizens of the community and to provide a setting and quality of life that attracts businesses and residents.

The approach for updating the Economic Development Element will be informed by community input, state legislation requirements, priorities for the city, a comprehensive housing inventory and analysis based on the best available existing data. This Economic Profile Analysis integrates the best available information from public and private data sources to assess the city's economic trajectory, opportunities, challenges, and economic conditions and competitiveness. The insights from this analysis help build a factual basis for the economic development goal and policy updates.

Planning Context

Growth Management Act Requirements

Comprehensive planning in Washington is guided by the Growth Management Act (GMA), a series of statutes first adopted in 1990 which requires cities and towns within eighteen of the state's most populous counties to fully plan for future growth (RCW 36.70A). Given Clark County and the City of Camas population size, both jurisdictions must address all the mandatory comprehensive plan elements, including land use, housing, capital facilities, utilities, and transportation. Economic development is included as a mandatory element (RCW 36.70A.070(7-8)), but since no state funds have been allocated to assist jurisdictions in creating these plans, they are currently optional.

Economic Development Planning in Washington

The City of Camas is including an Economic Development Element as part of the current comprehensive plan update process, following the GMA Goal 5 to:

> *"Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, promote the retention and expansion of existing businesses and recruitment of new businesses, recognize regional differences impacting economic development opportunities, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities[1]." (RCW.36.70A.070(7))*

In Washington, state provisions set limits on what actions cities and counties can take to support economic development, which often guides the strategies, goals, objectives, and policies that jurisdictions establish in economic development comprehensive plan elements. Article 8, Section 7 of the state constitution specifies that "No county, city, town or other municipal corporation shall hereafter give any money, property, or loan its money, or credit to or in aid of any individual, association, company or corporation, except for the necessary support of the poor and infirm."2 Given this limitation, cities generally cannot directly use public funds to attract private development and instead target policies that facilitate economic growth through land use, infrastructure, tourism, marketing, and partnerships with nonprofit community-based organizations.

[1] In 2023, E2SHB 1181 updated the language of Comprehensive Plan goals (including economic development) to reflect climate change and resiliency goals.

[2] RCW 35.21.703 does allow cities to contract with nonprofit corporations to advance economic development.

The City of Camas's first Comprehensive Growth Management Plan was adopted in 1994, which was replaced by the current Comprehensive Plan in June 2016 to fulfill the requirements of Washington State's Growth Management Act (GMA). The GMA is a series of state statutes first adopted in 1990 aimed at managing population growth, particularly in the state's fast-growing areas. In Clark County, RCW 36.70A.040 requires all cities to "fully plan" for the elements of a Comprehensive Plan, including land use, housing, capital facilities, utilities, transportation, and climate change.3 The current update process is part of a period update also required by the GMA, as part of an established schedule by County.

Regional Economic Development Planning

Cities in Washington also coordinate with county-level Associate Development Organizations (ADOs) that represent each of Washington's counties, funded in part by the state Department of Commerce. The Columbia River Economic Development Council (CREDC) represents Clark County and presents a baseline of goals and objectives for the region. Their current 2018-2023 Comprehensive Economic Development Plan outlines goals and actions based on a vision and set of values and guiding principles identified through extensive engagement with local partners.

Exhibit 1. Goals and Objectives from 2018-2023 CREDC Comprehensive Economic Development Plan
Source: CREDC

1. Expand the Existing Base	2. Support People	3. Create Place
• Become Industry Experts • Strategically Market Industry Clusters • Build a Startup Ecosystem	• Foster Skills Development • Prepare Youth for Economic Opportunity • Launch a Brain Gain Initiative • Promote an Ethical and Socially Just Society through an Intentional Commitment to Inclusion, Equity, and Diversity	• Each Community Creates a Placemaking Strategy • Embrace Economic Opportunity in our Urban Center • CREDC Tells the Story of Place • Make Employment Areas Desired by Industry Clusters Shovel Ready • Determine all Transportation Needs on a Regional Level Specifically to Support Economic Development

CREDC is now in the process of updating its 2018-2023 priorities and identifying new strategic actions to respond to Clark County's quickly changing demographic and economic profile, with a new plan anticipated to provide further guidance in 2024.

Implications for Growth Management

While economic development elements are currently optional under the GMA, aspects of the required land use and housing elements are linked to economic development and the associated

[3] The GMA includes other optional elements for economic development, parks and recreation, conservation, energy, sub areas, and ports.

current conditions within jurisdictions. Cities fully planning for adequate land capacity to meet the needs of the community must understand their current employment base, development trends, workforce housing availability, income segments of the population, and future projections.

State statute requires that land use elements must *"[designate] the proposed general distribution and general location and extent of the uses of land, where appropriate, for agriculture, timber production, housing, commerce, industry, recreation, open spaces and green spaces, urban and community forests within the urban growth area." (36.70A.070(1)) This includes population densities, building intensities, and estimates of future population growth. RCW 36.70A.070(2)(d) requires that a housing element "Makes adequate provisions for existing and projected needs of all economic segments of the community, including... consideration of housing locations in relation to employment location."*

To fully plan for growth and meet community needs in compliance with state provisions, more suburban cities like Camas that are growing in terms of employment must understand the dynamics of the local and regional economy, consider where employment is concentrated and how residents and workers access employment opportunities, what industries are growing or declining, and whether there is sufficient space to fulfill anticipated employment land needs alongside other uses.

Buildable Land Capacity and Employment Capacity

In 1997, Washington's Review and Evaluation Program, also known as the "Buildable Lands Program," was added to the GMA (RCW 36.70A.215). It requires some counties and cities within them to establish their own buildable lands programs (including Clark County) and produce a report every eight years. In 2017, the Washington legislature passed E2SSB 5254 which amended the buildable lands statute and required counties to *"determine whether [its] cities are achieving urban densities within urban growth areas by comparing growth and development assumptions, targets, and objectives contained in the countywide planning policies and the county and city comprehensive plans with actual growth and development that has occurred"* (RCW 36.70A.215).

RCW 36.70A.215 also includes provisions about determining the development capacity of land and identifying sufficient land for employment. Specifically, jurisdictions should identify the "*amount of land developed for commercial and industrial uses within the urban growth area since the adoption of a comprehensive plan... [and] the amount of land needed for commercial, industrial, and housing for the remaining portion of the twenty-year planning period.*"[4]

[4] The state's methodology used to evaluate employment land does not differentiate land by any market criteria such as size, infrastructure presence, cost, ownership, or availability.

In the last Comprehensive Plan update in 2016, Clark County adopted two planning assumptions (Resolution 2016-03-01) anticipating 100,200 new jobs in the County and a jobs-to-housing ratio of 1:1. The County's 2015-2035 Comprehensive Plan projected that based on the Vacant Buildable Lands Model (VBLM) this would include:

- 75,847 new jobs from vacant buildable lands;
- 16,775 jobs accommodated through redevelopment; and
- 7,400 public sector jobs on publicly owned parcels not included in the VBLM.

Clark County is now updating its VBLM as a part of their 2025 periodic update of their Comprehensive Plan. Exhibit 2 below shows the County's current allocation of jobs for the Camas Urban Growth Area (UGA) and land capacity in the interim planning analysis. This has been slightly modified since the County's 2020 Buildable Lands Report, which identified 963 net buildable acres (296 on commercial land, 667 on industrial land) in the Camas UGA (Exhibit 3).

Exhibit 2. Employment Capacity and Allocation by UGA, Clark County[5]
Source: Clark County Population, Housing and Employment Allocation. Vacant Buildable Lands Model (VBLM). Urban Growth Area (UGA).

Clark County's Buildable Lands Report, 2022, Key Findings:

Clark County's Buildable Lands Report was adopted in June 2022 to update the methodology and Vacant Buildable Lands Model (VBLM). The report found that:

Based on employment growth through 2020, redevelopment, and public sector job assumptions, the Clark County Buildable Lands Report indicates that there is sufficient employment capacity for employment growth in the county through 2035.

Clark County added 12,700 jobs in 2016-2020 out of its target from the 2015-2035 Plan of adding 100,200 jobs by 2035. **Therefore anticipating 87,500 more jobs to be added by 2035 in Clark County**.[6] Of this total, 72,878 jobs are expected to be accommodated on vacant buildable lands and the remainder through redevelopment or public sector employment.

The Camas UGA has the second largest share of total projected jobs in Clark County after the City of Vancouver and the Vancouver Unincorporated Urban Area (U). The City's UGA is expected to accommodate 11,921 jobs, with half of new employment on industrial land and half on commercial.

There are 963 total net buildable acres of employment lands identified in the Camas UGA; 30% (296 net acres) are commercial land, and 70% (667 net acres) are industrial land.

JURISDICTION	2023-2045 EMPLOYMENT ALLOCATION	2023 VBLM CAPACITY
Camas UGA	11,528	11,363
UGA TOTAL	65,071	65,091

[5] The County total estimate is 88,100 jobs accounting for government, construction, rural, and work from home jobs.

[6] Clark County Community Development, "Clark County Buildable Lands Report," June 2022. The Buildable Lands Report must meet the Washington State requirements described under RCW 36.70A.215.

Exhibit 3. Commercial and Industrial Land Capacity and Employment Capacity Estimates, by Clark County Jurisdiction, UGA, or Unincorporated Urban Area, 2020
Source: Clark County Buildable Lands Report.
Note: The calculation from gross to net acres involves several factors, including infrastructure and land constraints

Jurisdiction	Commercial			Industrial			Total Jobs
	Gross Acres	Net Acres	Jobs	Gross Acres	Net Acres	Jobs	
Battle Ground UGA	643	395	7,881	157	71	643	8,524
Camas UGA	452	296	5,920	1,398	667	6,001	11,921
La Center UGA	115	79	1,573	64	34	308	1,881
Ridgefield UGA	374	252	5,031	806	418	3,762	8,793
Vancouver	433	304	6,089	2,758	1,470	13,225	19,314
Vancouver (U)	638	444	8,886	1,710	953	8,579	17,465
Washougal UGA	165	114	2,281	509	262	2,362	4,643
Woodland UGA	-	-	-	-	-	-	-
Yacolt UGA	5	4	81	49	29	256	337
Urban Total	**2,825**	**1,888**	**37,742**	**7,451**	**3,904**	**35,136**	**72,878**

Source: Clark County GIS, Vacant Buildable Lands Model, June 2022; Council Resolution 2022-06-01
Notes: A – Employment growth target for 2035 set by Clark County Council Resolution 2016-03-01.
B – Urban Total includes capacity in incorporated cities/towns and their unincorporated urban areas.
C – Unincorporated urban area is designated with a (U).

Clark Countywide Planning Policies

The Clark Countywide Planning Policies provide guidance on economic development across incorporated and unincorporated areas of the County (the County also distinguishes policies specifically for unincorporated areas, but not for jurisdictions and their UGAs). These policies (adopted in 2015) are currently being updated. The updated version will be reviewed as a part of the policy and goal development stage of the Comprehensive Plan update.

City of Camas Profile

More than 10,000 years ago, Native Americans occupied the Columbia River Valley in the area where Camas is now situated. Before Camas was incorporated, a paper mill owned by the LaCamas Colony Company was established in 1883 to help supply newsprint for The Oregonian. Shortly thereafter, the City of Camas became an incorporated city in 1906. The City is named after the camas lily, a deep blue flowered plant with edible onion-like bulbs valued by various Columbia river Native American Tribes.[7] The paper mill expanded in the early 20th Century

[7] City of Camas history: https://www.cityofcamas.us/community/page/camas-history

playing an important role in the local economy and grew to become Clark County's largest manufacturing company with 2,700 employees by 1971.[8] Located in the western edge of Downtown Camas along the Columbia River, the mill then experienced a downturn beginning in the 1980s that continued into the 21st Century, resulting in a reduced workforce. More recently, in 2018, the mill now owned by Georgia-Pacific, shut down facilities and all but one of its paper machines and downsized its workforce to roughly 150 workers.

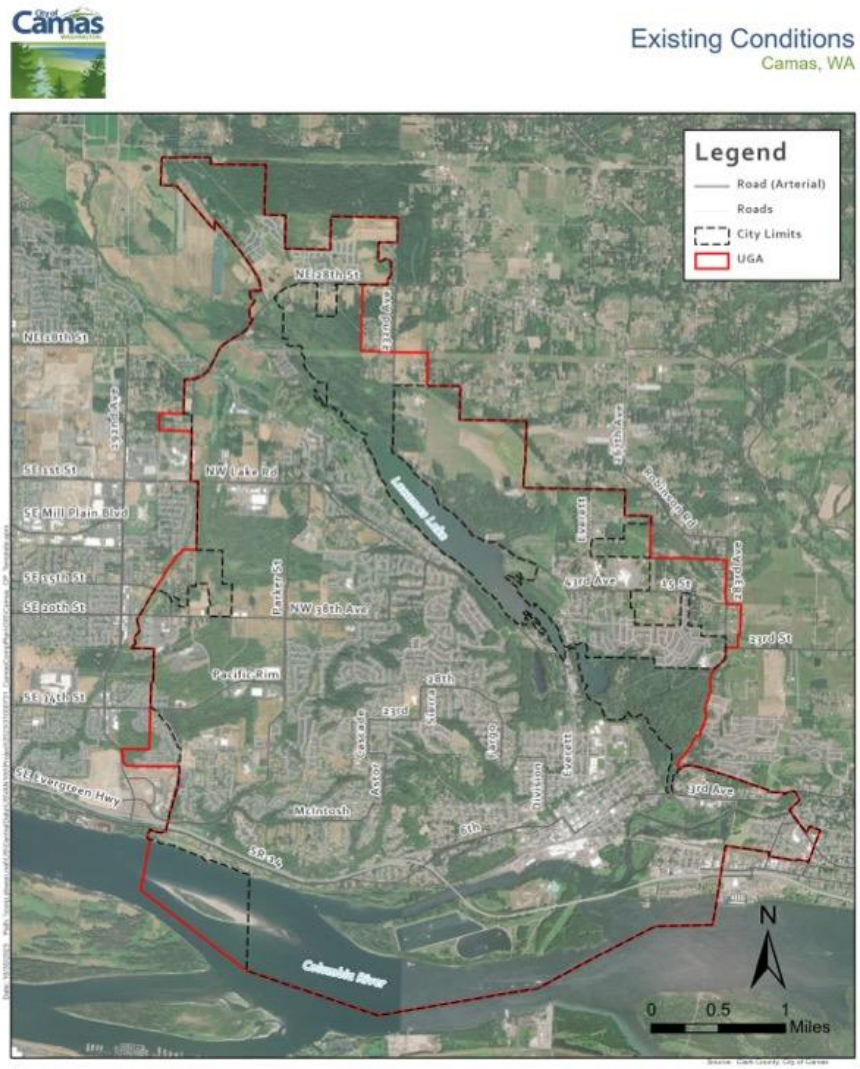
The early economy in Camas was at first dominated by manufacturing but has shifted and diversified over time. The 2015 Comp Plan describes a transition where the City's past economic health was closely tied to the paper mill and then shifted to become more diversified supporting many technology and manufacturing firms, as well as a growing school system and professional offices. In the last four decades, the family-friendly City with close ties to the Portland Metropolitan Region has continued to attract more residents especially from 1990 to 2000 by almost doubling in size to almost 13,000 people, increasing to a little over 19,000 people in 2010, and then reaching 27,420 people by 2023. Similar to the City of Vancouver, Camas has experienced high population growth over the last two decades, with an average annual growth rate of 5.2% which is double the rate in Clark County and Washington State.

Today, the City of Camas is a highly desirable place to live, offering a prime location nearby the growing cities and employment centers of Vancouver and Portland, and the smaller cities of Washougal and Battle Ground in south Clark County. The City of Camas is sandwiched between the City of Vancouver (sharing a border on the west side of Camas) to the west and the City of Washougal to the east. At a regional level, the City is interconnected to the Portland Metropolitan region, located northeast of Portland (see map below).

Camas has been working to advance its economic development goals in recent years while investing in quality-of-life amenities that make it as competitive location for attracting workers and residents. The Port of Camas-Washougal is currently working towards a catalytic new project on the waterfront which broke ground in 2023; once completed this effort will bring new mixed-use residential development with apartments, retail, restaurants, and recreational space to the area to contribute to a growing sense of local identity. The City has also been expanding its inventory of parks space by leveraging the County's Legacy Lands program to expand its offerings of natural areas and recreation facilities. As larger economic trends increase locational flexibility (especially for professional services and traditionally office-based jobs), these types of investments will be critical for cities in the region to continue drawing in and retaining a residential base and workforce.

[8] Source: https://www.camaspostrecord.com/news/2023/sep/07/camas-mill-celebrates-its-140th-birthday/#:~:text=An%20entire%20wall%20of%20photos,built%20the%20mill%20to%20produce

Exhibit 4. Site Location Map, City of Camas
Source: WSP, City of Camas



The following economic focused analysis helps build up the understanding of the city's economy, real estate market and demographics, and serves as a tool that can be leveraged to shape the city's economic development vision. Cities fully planning for adequate land capacity to meet the needs of the community must understand their current base of employment, development trends, workforce housing availability, income segments of the population, and future projections.

Summary of Demographic and Economic Trends

A summary of key findings from this Economic Development Element analysis is provided below to help describe key insights regarding the economic context, economic opportunities and

challenges, and to inform Comprehensive Plan policy updates. The next section provides the full results and detail regarding these findings.

Community Demographic Trends

- **Camas had a median age of 40 years in 2022, with a growing share of residents aged 60 years and over.** This group typically represents late-career workers or retirees. Median age in Camas is higher than Clark County overall and quickly growing since 2012, likely indicating a combination of natural growth and in-migration of older adults.
- **Camas has a higher share of residents 25 and over with bachelor's degrees and higher compared to Clark County or Washington State,** with 79% of residents holding these degrees in 2022. This share of residents with bachelor's degrees or higher rose quickly from only 37% in 2012. Likewise, the City has a shrinking share of residents 25 and over with a high school degree or less.
- **Median household income for all households in Camas was $133,000 in 2022, higher than Clark County or Washington State.** Since 2012, median income for residents of Camas increased by about 30% (in nominal dollars, not adjusted for inflation), more than either the County or State (both of which increased by about 20%).
- **The share of residents living below the poverty threshold determined by the US Census was lower in Camas compared to Clark County and Washington in 2022**. The share of residents living below poverty in the City decreased by 8 percentage points since 2012, which likely reflects new growth in high-income households earning $150,000 or more.

Economic Context

- **The City of Camas has seen generally positive trends in employment growth over the last two decades,** with notable increases in the number of workers in 2005, 2010, and 2016. Comparatively, Clark County overall had fluctuations in employment growth in the wake of the 2008 recession and at the onset of the COVID-19 in 2020. The County has also seen a fast rebound from pandemic trends, seeing roughly 6% positive growth between 2020 and 2021.
- **The current employment to housing ratio in Camas was 1.0 in 2021, meaning that there is about one employee working in the City for every housing unit.** This ratio indicates that Camas has well balanced housing stock to accommodate workers in the City that will be important to maintain as it grows in the coming years.
- **In 2021, the top five industries by employment in Camas were Finance and Insurance; Manufacturing; Educational Services; Professional, Scientific, and Technical Services; and Wholesale Trade.** In the County overall in 2021, four of these five top industries paid above average wages (all except Educational Services paid below average wages). Finance and Insurance was the City's fastest growing industry (with an average annual growth rate of about 33%). Other top industries saw more moderate increases except for Manufacturing, which remained among the City's top sectors but lost over 350 employees (or about 15% of workers) between 2011 and 2021.

- **Top employers also reflect many of the County's largest industries, including professional services like finance and insurance, technology, manufacturing, and health care. Four of the City's top ten employers were in the manufacturing industry as of 2020.** Within Camas, employment is concentrated at two nodes, including the Downtown area to the southeast and corporate campuses on the northwest side along the border with the City of Vancouver.

- **Camas is part of an interconnected region, with more residents commuting out of Camas for work than employees commuting in as of 2021.** Top commuting destinations for Camas residents are primarily nearby, larger cities with employment hubs like Vancouver and Portland, while only 10% remained in the City. The fourth most common destination for residents was Seattle, likely indicating remote workers at companies based in the Puget Sound area. Workers in Camas commuted from similar destinations, with one quarter coming from Vancouver.

- **Washington State Employment Security Department projections for future employment growth estimated that the Southwest Washington region will grow by about 19% overall by 2031.** The sectors expected to see the greatest increase in their share of employment are Professional and Business Services, Leisure and Hospitality, Education and Health Services, Information, and Other Services.

- **Camas has a larger share of remote workers compared with Clark County and Washington State. In 2022 one in four workers in Camas was a remote employee,** compared to 15% in both the County and State overall. The share of remote workers in Camas has grown since 2008-2012 with the onset and long-term implications of the COVID-19 pandemic likely driving this trend.

- **Since 2020, the City has issued 8,652 new business permits,** with the largest volume of new permits in 2020 and a decreasing amount annual since. General business establishments accounted for the largest portion of these permits (74%), followed by home occupations (25%), and nonprofits (1%). Regionally, 6,241 new business applications were filed in Clark County in 2022, with the annual number of applications rising steadily since 2012. Business applications in Clark County accounted for approximately 26% of all new firms started within the four-county metro area (including Clark, Clackamas, Multnomah, and Washington Counties) in 2022.

- **Camas's taxable retail sales were higher than those in most comparable jurisdictions in Clark County over the past decade,** competing primarily with the City of Battle Ground for the highest annual sales. In 2022, total taxable retail sales reached an all-time high of over $600 million in Camas.

Real Estate Market Trends

- **Office space in the City of Camas makes up only a small share of Clark County's overall office stock (6.5%), with slightly lower rents and higher vacancies in 2024 year-to-date (YTD).** Rents per square foot (PSF) grew steadily for office space grew Clark County since 2014, while fluctuating above and below County averages in Camas. Vacancy rates in Camas also fluctuated over the last ten years but fell from a high of nearly 16% in 2015 to 6.5 % in 2024 YTD. In comparison, Clark County's office vacancy rates steadily fell in general since 2014. The City and the County have generally had positive net absorption of office space since 2014, with the largest delivery of new office space in Camas in 2020 (132,000 new square feet).

- **Like office real estate, Camas's square footage of retail space made up a small part of Clark County's overall inventory (4.2%) in 2024 YTD. However, retail trends tracked closely with the County in terms of rent and vacancies.** Retail rents in both Camas and the County had slight upward growth since 2014, with rents in the City slightly lower than the County average. Vacancies in retail have fluctuated in Camas and Clark County over the past decade, with a general downward trend since 2014. Rising rents PSF coupled with falling vacancy rates indicate increasing demand for retail in both areas. However, some level of vacancy is indicative of a healthy market with natural turnover. In Camas, there have been some years with small spikes of new retail construction in the last decade, with the largest increase of about 27,000 SF in 2018 and 15,000 SF in 2023.

- **Industrial real estate in the City of Camas is performing well compared to Clark County in 2024 YTD.** The City is home to only about 3.9 % of Clark County's industrial real estate in square footage but saw a sharp increase of industrial rents PSF in 2022, growing by over 200% year-over-year (YOY) to $23. Vacancy rates for industrial real estate were also extremely low in Camas in 2024 YTD at 1.7%, indicating high demand in the industrial market locally. In comparison, industrial vacancies in Clark County have been generally low and steady, standing at 5.2% in 2024. Camas had its largest amount of new industrial square footage added in 2020 (75,000 SF).

Community Demographic Trends

Population growth, demographic composition, and income distribution can all have important implications for a city's economic development. Key characteristics such as population growth over time, age of residents, median income, and disparities by race and ethnicity provide useful context about Camas's households and recent trends. The purpose of this analysis is to evaluate the socioeconomic conditions that will influence demand for different land uses and shape the economic opportunities in the city over the current comprehensive plan horizon. This information can also help to identify which communities in Camas are not benefiting from current efforts and inform the City's work to address current gaps for equitable economic development as part of the comprehensive plan update.

This section provides an overview of key socioeconomic conditions in Camas that are useful for evaluating economic opportunities and challenges. To better understand the City's standing within the region, the analysis also includes comparisons to Clark County and other geographies such as Washington State and surrounding cities as needed to contextualize conditions in Camas.

Population Growth, Age, Race and Ethnicity

As cities grow, planning for economic development is important to help ensure opportunities for economic prosperity to all residents. See the **Camas Housing Inventory Analysis** for details about projected population and household growth.

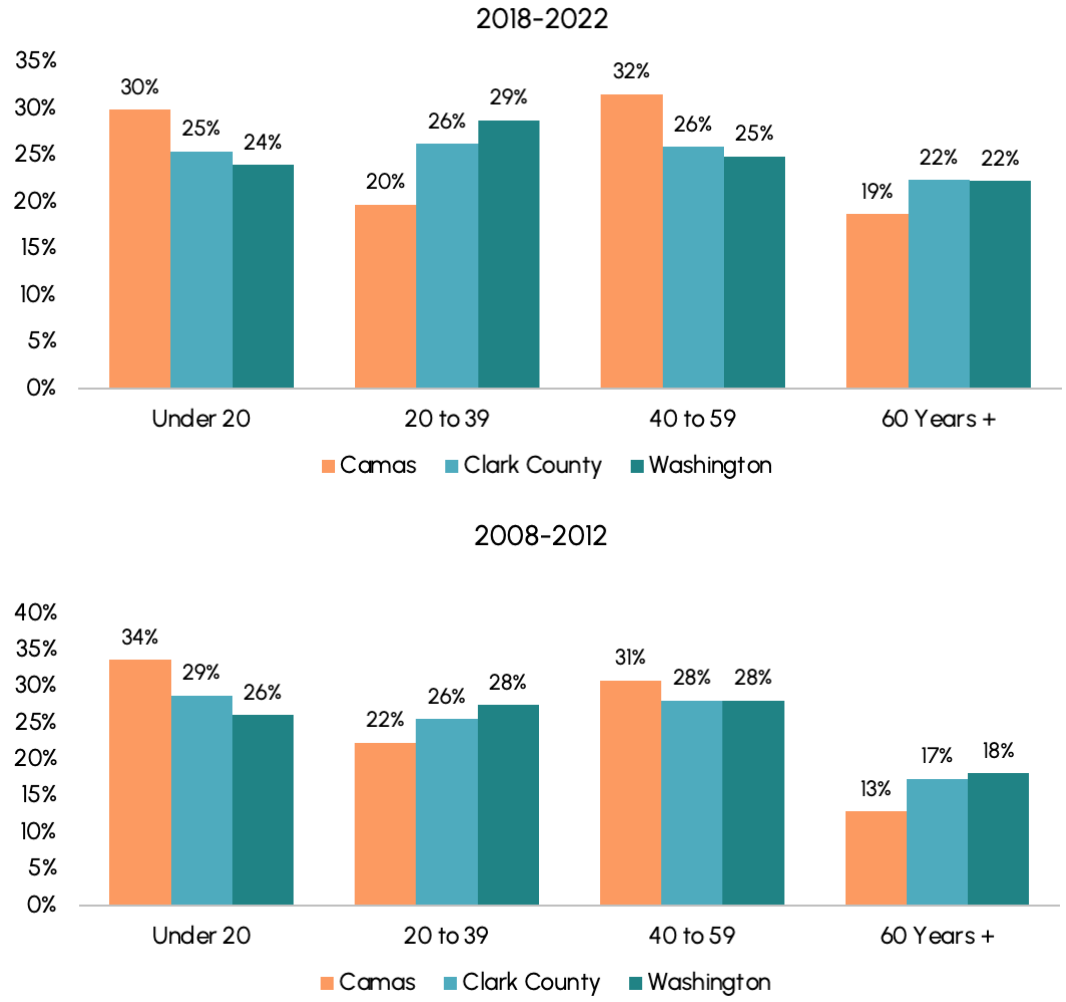
Camas had a median age of 40 in 2022, higher than Clark County and quickly growing since 2012, likely indicating a combination of natural growth from the 40- to 59-year-old age group as well as in-migration of older adults.

Exhibit 5. Median Age, Camas, Clark County, Washington, and Comparison Geographies 2012 -2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates

JURISDICTION	2008-2012	2018-2022	CHANGE
City of Camas	**36 years**	**40 years**	**+4.3**
Clark County	37 years	39 years	+2.0
State of Washington	37 years	38 years	+0.8

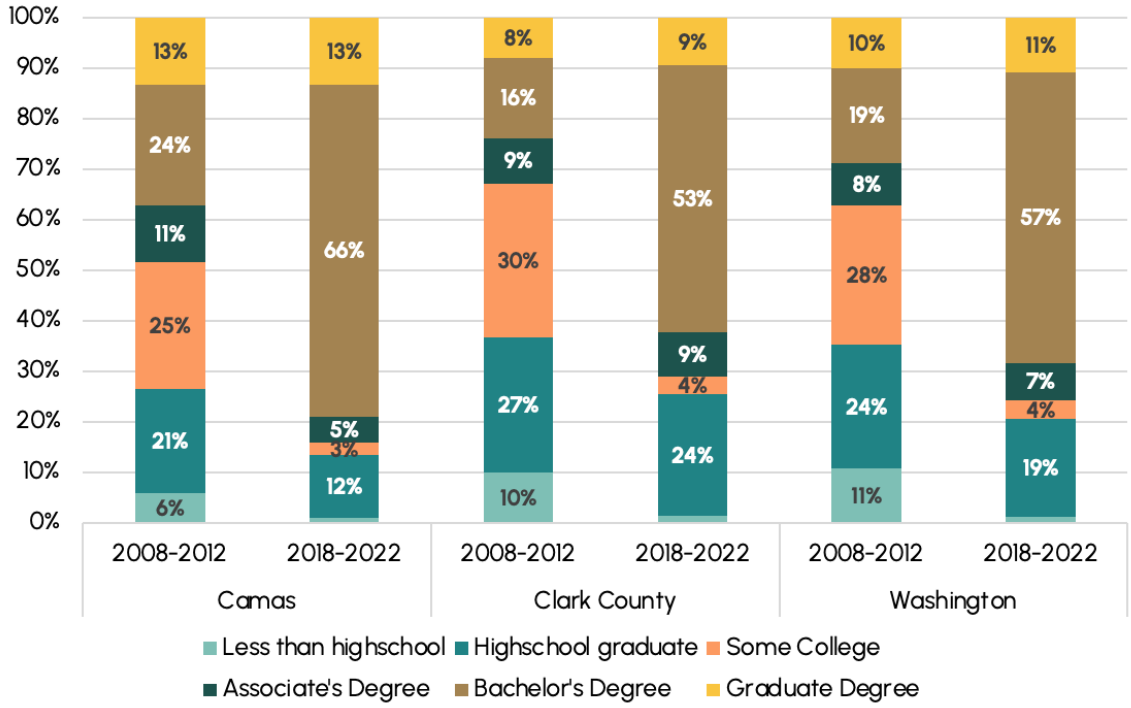
The distribution of age categories in the City shows that it has a growing share of residents aged 60 years and over (typically either late-career workers or retirees), although still lower compared to the County and the State (Exhibit 6).

Exhibit 6. Age Distribution, Camas, Clark County, and Washington, 2012 -2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates.



Educational attainment is an important indicator for economic opportunities and the type of available workforce in an area. Economic development strategies may target different types of skill development, industry pipelines, or training programs depending on the existing level of education among residents. Between 2012 and 2022, Camas saw a sharp increase in residents with bachelor's degrees and higher, as well as a quick decrease in those with some college, a high school degree, or less than a high school degree. Educational attainment in the City is generally higher than the County as a whole, as well as Washington State.

Exhibit 7. Educational Attainment, Camas, Clark County, and Washington, 2012 -2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates.
Note: Values less than or equal to 1% not shown on chart.



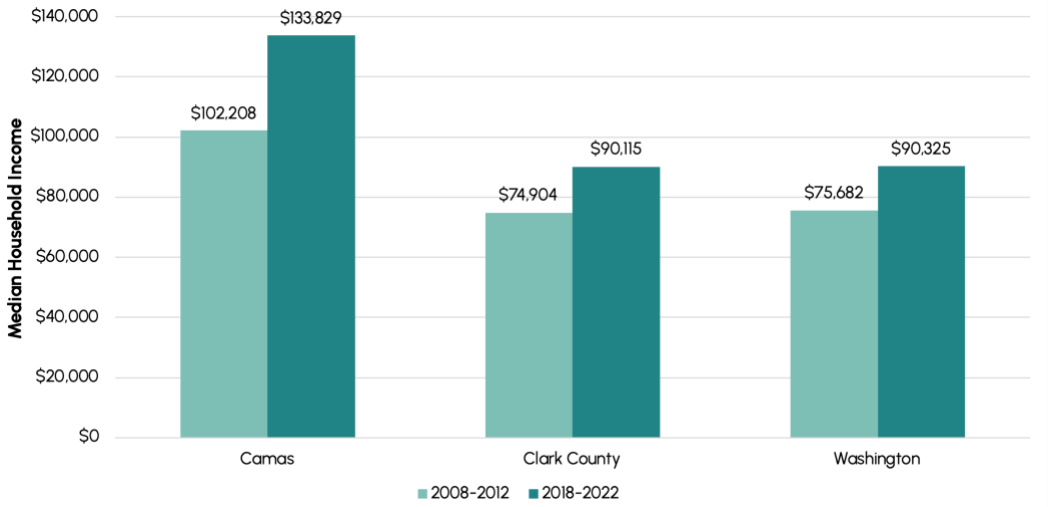
Economic Context

A number of factors can indicate changes in economic conditions for cities, their residents, and their workforce. This section provides context about current conditions and recent trends in Camas related to household income, employment, commuting, and wages.

Income

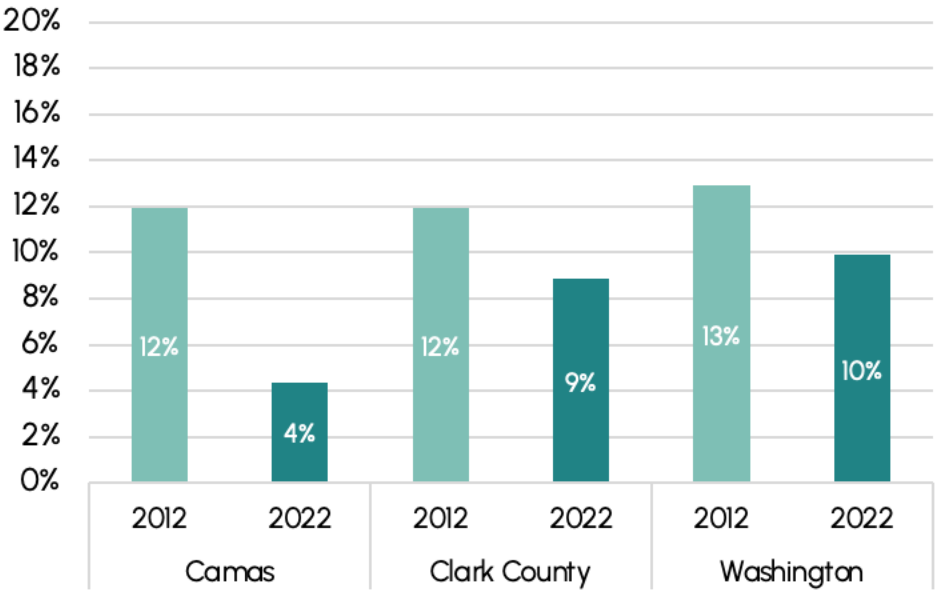
Overall income levels and distribution are critical indicators of economic prosperity for cities. Income levels directly reflect the purchasing power and standard of living of individuals and households; higher incomes generally enable people to afford better education, healthcare, and access to essential goods and services, contributing to overall well-being and productivity. The distribution of income and disparities between demographic groups are also critical considerations for addressing economic inequality and reducing concentrations of poverty. **Median household income in Camas is higher than both Clark County overall and the state of Washington at $133,000 in 2022. Adjusting for inflation, median income in the City still increased by 31% since 2008-2012. This increase is primarily due to grown in households earning over $100,000 per year (Exhibit 8).**

Exhibit 8. Median Household Income, Camas, Clark County, and Washington (2022$)
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates
Note: 2008-2012 values are adjusted for inflation



The share of residents living below the poverty was also about the same in the City of Camas compared to Clark County and Washington in 2008-2012 at 12 % but decreased by 8 %age points by 2018-2022. This change likely reflects new growth in high-income households earning $150,000 or more during this period (indicated in the Camas Housing Inventory Analysis).

Exhibit 9. Percent of Population with Income Below Poverty Level in the Last 12 Months, 2012 -2022
Source: U.S. Census Bureau, 2008-2012 and 2018-2022 ACS 5-Year Estimates



Employment Trends

Clark County overall has seen fluctuations in employment change since 2000, with the most notable decreases in employment in the wake of the 2008 recession and at the onset of the COVID-19 in 2020. However, the County has also seen a fast rebound from pandemic trends, seeing roughly 6 % positive growth between 2020 and 2021. The City of Camas has generally seen positive growth in employment over the last two decades, with notable increases in the number of workers in 2005, 2010, and 2016. The City also saw less of a decrease during 2020 than Clark County overall, which may reflect Camas's growth in remote workers during this period (Exhibit 21).

Exhibit 10. Total Covered Employment Change YOY, Clark County (2001-2022)
Source: Washington Employment Security Department

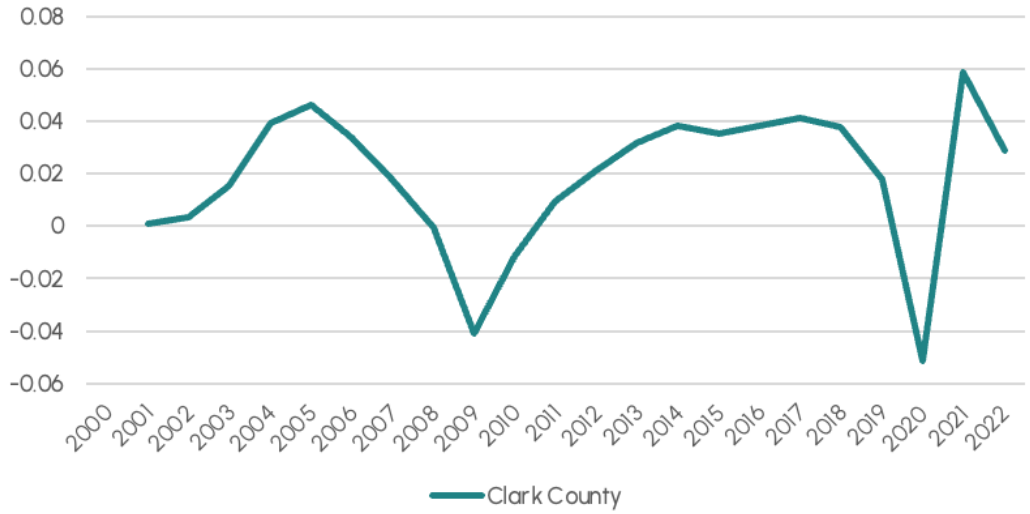
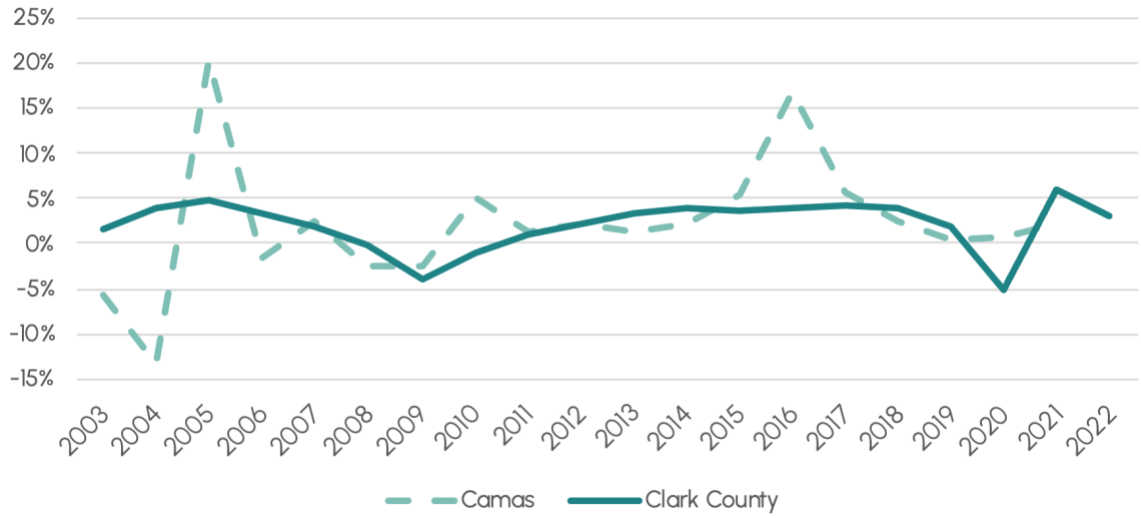


Exhibit 11. Total Employment Change YOY (Primary Jobs), Camas Clark County (2011-2022)
Source: Washington Employment Security Department, LEHD-LODES
Note: LEHD-LODES data for the City of Camas only available through 2021



Growth in employment, population, and housing are interconnected. In general, communities with a high ratio of population to employment can be characterized as "bedroom" or commuter communities, where there are fewer jobs than residents in the city. **In Camas, this ratio has changed only slightly since 2010, with the number of persons per job decreasing from 3.0 in 2010 to 2.8 in 2021.** In the same period, the ratio of jobs to housing has slightly increased from 0.9 to 1.0, indicating a healthy balance of housing units in comparison with employment. As the City grows, maintaining this trend can help to ensure that there is adequate housing for those who work in Camas.

Exhibit 12. Population, Employment, and Jobs Comparison Ratios, Camas, 2010-2021
Source: OFM, LEHD-LODES
Note: Employment data is currently only available at the City level through 2021.

	TRENDS			RATIOS	
	POPULATION	EMPLOYMENT	HOUSING UNITS	POPULATION : JOBS	JOBS : HOUSING
2010	19,355	6,508	7,072	3.0	0.9
2021	26,870	9,558	9,586	2.8	1.0

In Camas, top employers reflect many of the County's largest industries, including professional services like finance and insurance and technology, manufacturing, and health care. **Four of the City's top ten employers were in the manufacturing industry as of 2020.**

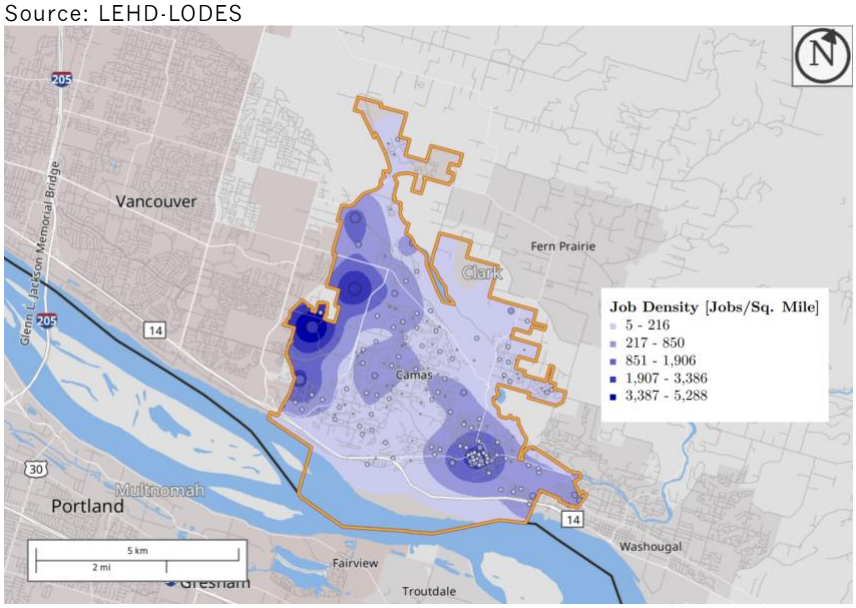
Exhibit 13. Top 10 Employers, Camas, 2020
Source: Camas Housing Action Plan, Washington Employment Security Department, Columbian Newspaper

EMPLOYER	EMPLOYEES	PERCENT OF TOTAL CITY EMPLOYMENT	INDUSTRY
Fisher Investments	1,725	20.2%	Finance and Insurance
Wafertech	1,000	11.7%	Manufacturing
Camas School District	800	9.4%	Education
Linear Technology (Analog)	340	4.0%	Manufacturing
Sigma Design	273	3.2%	Technology
City of Camas	226	2.6%	Government
Georgia Pacific	150	1.8%	Manufacturing
Fuel Medical	150	1.8%	Health Care
Plexys	91	1.1%	Technology
Bodycote	50	0.6%	Manufacturing

Employment locations plays an important role in where people live and vice versa it can influence where people choose to relocate. Within Camas, employment is concentrated at two nodes, including the Downtown area to the southeast and corporate campuses on the northwest side along the border with the City of Vancouver (Exhibit 14).

Exhibit 14. Employment Density, Camas, 2021

Source: LEHD-LODES



Top commuting destinations for Camas residents are primarily nearby, larger cities with employment hubs like Vancouver and Portland, while only 10 % remained in the City. The fourth most common destination for residents was Seattle, likely indicating remote workers at companies based in the Puget Sound area. Workers in Camas commuted from similar destinations, with one quarter coming from Vancouver, as well as shares coming from Portland (8%) and Washougal (6%).

Exhibit 15. Top Destinations Where Camas Residents Worked, 2021

Source: LEHD-LODES

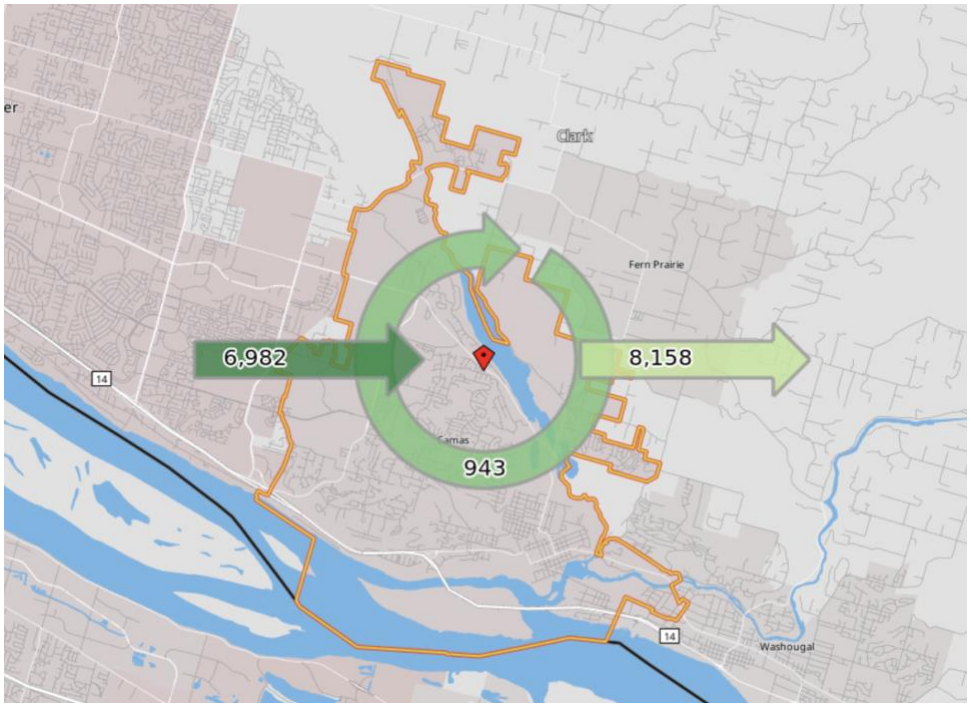
2,411 (26%)	1,592 (17%)	943 (10%)	319 (3%)
Vancouver	Portland	Camas	Seattle

Exhibit 16. Top Locations Where Camas Workers Lived, 2021

Source: LEHD-LODES

1,995 (25%)	943 (12%)	629 (8%)	593 (6%)
Vancouver	Camas	Portland	Washougal

Exhibit 17. Camas Commuting Inflow and Outflow, 2021
Source: LEHD-LODES. Disclaimer Note: The arrows are conceptual graphics showing employees commuting into and outside of the City of Camas generally and are not representing the exact direction of commuting.



Industry data from the Washington Employment Security Division (ESD) is not available at the City level but given the City's interconnected relationship with surrounding jurisdictions a County and regional perspective provides relevant insights on industry grow and wage trends.

In Clark County, the industries with the largest employment in 2022 were **Healthcare and Social Assistance; Government; Retail Trade; Construction; and Accommodation and Food Services**. Of these industries, Government and Construction had average wages per employee above the average wage for all covered employment across the county, while Retail and Accommodation and Food Services paid below average wages. Healthcare and Social Assistance paid roughly equivalent wages with the county average.

Exhibit 18. Covered Employment Change, Clark County, 2012-2022
Source: Washington Employment Security Division
Note: The top five industries with the highest share of covered employment in 2022 are shown in **bold** and those paying above the county average wage in 2022 are highlighted in green

Sector	2012	2022	Share of Total Jobs (2022)	Average Wage (2022)	Change 2012 to 2022		
					Difference	Percent	AAGR
Management of Companies and Enterprises	1,193	3,576	2.0%	$111,725	2,383	200%	11.6%
Construction	**7,964**	**16,986**	**9.7%**	**$71,499**	**9,022**	**113%**	**7.9%**
Finance and Insurance	3,781	6,451	3.7%	$112,277	2,670	71%	5.5%
Educational Services	951	1,613	0.9%	$38,791	662	70%	5.4%
Health Care and Social Assistance	**18,074**	**27,639**	**15.7%**	**$64,412**	**9,565**	**53%**	**4.3%**
Professional, Scientific, and Technical Services	6,692	10,169	5.8%	$99,988	3,477	52%	4.3%
Information	2,540	3,856	2.2%	$107,469	1,316	52%	4.3%
Accommodation and Food Services	**10,241**	**14,831**	**8.4%**	**$27,491**	**4,590**	**45%**	**3.8%**
Administrative and Waste Services	6,777	9,719	5.5%	$58,585	2,942	43%	3.7%
Real Estate and Rental and Leasing	2,158	3,078	1.8%	$59,398	920	43%	3.6%
Retail Trade	**14,646**	**19,139**	**10.9%**	**$42,261**	**4,493**	**31%**	**2.7%**
Transportation and Warehousing	2,917	3,548	2.0%	$72,086	631	22%	2.0%
Manufacturing	12,072	14,333	8.2%	$71,970	2,261	19%	1.7%
Wholesale Trade	6,042	6,953	4.0%	$92,968	911	15%	1.4%
Government	**23,026**	**25,856**	**14.7%**	**$71,555**	**2,830**	**12%**	**1.2%**
Agriculture, Forestry, Fishing and Hunting	631	594	0.3%	$48,781	-37	-6%	-0.6%
Arts, Entertainment, and Recreation	2,268	2,001	1.1%	$32,835	-267	-12%	-1.2%
Other services, Except Public Administration	7,760	5,374	3.1%	$49,730	-2,386	-31%	-3.6%
Not Elsewhere Classified	109	136	0.1%	$178,803	27	25%	2.2%
Total	**129,842**	**175,852**	**100%**	**$66,824**	**46,010**	**35%**	**3.1%**

At the City level, data is not available from ESD about employment and wages. However, the US Census provides estimates through its Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LEHD-LODES) data. This data is generated by merging previously collected survey and administrative data on jobs, businesses, and workers to understand commuting.[9] It provides an approximate picture of employment by industry locally but does not include information about wages.

In 2021, the top five industries by employment in Camas were **Finance and Insurance; Manufacturing; Educational Services; Professional, Scientific, and Technical Services; and Wholesale Trade**. In the County overall in 2021, four of these five top industries paid above average wages (only Educational Services paid below average wages). Finance and Insurance was the City's fastest growing industry, gaining over 2,000 new employees over the last decade (with an average annual growth rate of about 33%). Other top industries saw more moderate increases except for Manufacturing, which remained among the City's top sectors but lost over 350 employees (or about 15% of workers) between 2011 and 2021. Despite low overall employment in Camas, Real Estate and Rental and Leasing as well as Construction had high growth rates between 2011 and 2021, more than doubling the number of employees in that time period.

[9] US Census Bureau, 'LEHD Data,' https://www.census.gov/programs-surveys/ces/data/restricted-use-data/lehd-data.html, November 7, 2022.

Exhibit 19. Primary Jobs Change, Camas, 2011-2021

Source: LEHD-LODES

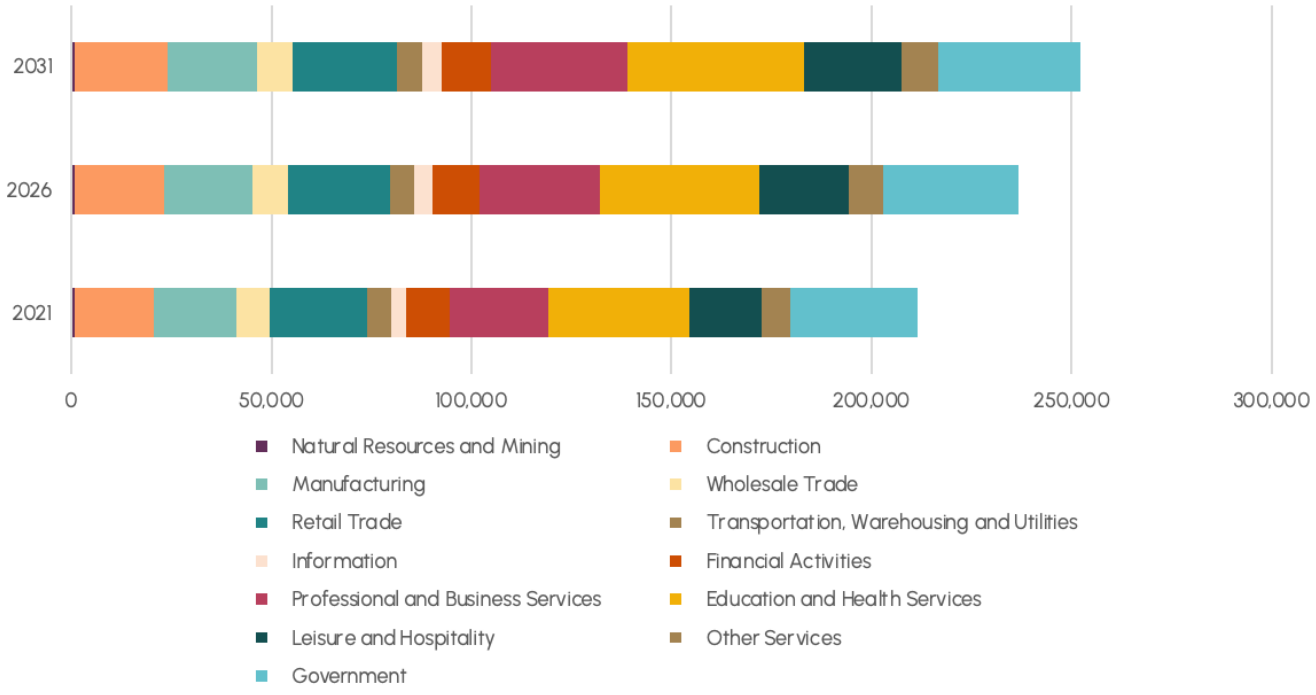
Note: The top five industries with the highest share of covered employment in 2021 are shown in **bold** and those paying above the county average wage in 2021 are highlighted in green.

Timelines for LEHD-LODES data releases are different than the Quarterly Census of Employment and Wages (QCEW) data used by ESD for County-level data. 2021 is the most recent year currently available. Due to confidentiality restrictions in QCEW data some points on County wages and employment are not available.

Sector	2011	2021	Share of Total Jobs (2021)	Average County Wage (2021)	Change 2011 to 2021		
					Difference	Percent	AAGR
Management of Companies and Enterprises	55	11	0.1%	$111,912	-44	-80%	-14.9%
Utilities	1	2	0.0%	*Not available*	1	100%	7.2%
Construction	112	276	3.0%	$68,866	164	146%	9.4%
Finance and Insurance	**126**	**2,259**	**24.4%**	**$123,062**	**2,133**	**1693%**	**33.5%**
Educational Services	**1,003**	**1,325**	**14.3%**	**$34,372**	**322**	**32%**	**2.8%**
Health Care and Social Assistance	222	329	3.6%	$60,878	107	48%	4.0%
Professional, Scientific, and Technical Services	**709**	**1,142**	**12.3%**	**$99,125**	**433**	**61%**	**4.9%**
Information	83	89	1.0%	**$102,172**	6	7%	0.7%
Accommodation and Food Services	257	364	3.9%	$25,734	107	42%	3.5%
Administrative and Waste Services	107	130	1.4%	$51,277	23	21%	2.0%
Real Estate and Rental and Leasing	19	95	1.0%	$55,215	76	400%	17.5%
Retail Trade	622	330	3.6%	$40,032	-292	-47%	-6.1%
Transportation and Warehousing	65	31	0.3%	$65,184	-34	-52%	-7.1%
Manufacturing	**2,341**	**1,987**	**21.5%**	**$69,195**	**-354**	**-15%**	**-1.6%**
Wholesale Trade	**187**	**478**	**5.2%**	**$96,010**	**291**	**156%**	**9.8%**
Agriculture, Forestry, Fishing and Hunting	2	0	0.0%	$46,736	-2	-100%	-100.0%
Arts, Entertainment, and Recreation	78	78	0.8%	$28,010	0	0%	0.0%
Other services, Except Public Administration	115	115	1.2%	$47,881	0	0%	0.0%
Public Administration	187	213	2.3%	$70,893	26	14%	1.3%
Total	**6,291**	**9,254**	**100%**	**$65,009**	**2,963**	**47%**	**3.9%**

Regionally, the Washington State Employment Security Department provides projections for future employment growth. In 2021, ESD estimated that Southwest Washington was expected to grow by about 19 % overall by 2031 (Exhibit 18). The sectors expected to see the greatest increase in their share of employment were Professional and Business Services, Leisure and Hospitality, Education and Health Services, Information, and Other Services. This increasing share of many service businesses aligns with high-wage opportunities in Clark County (such as Professional, Scientific, and Technical Services and Information). However, both Education Services and Accommodation and Food Services paid well below the County average as of 2022.

Exhibit 20. Growth Target by Sector, Southwest Washington, 2021-2031
Source: Washington State Employment Security Department



Remote Workers

Camas has a larger share of remote workers compared with the County and State, which has grown since 2008-2012 with the onset of the COVID-19 pandemic influencing this trend in many industries nationwide. In 2018-2022, one in four workers in Camas was a remote employee, compared to 15 % in the County and State overall (Exhibit 21). **Median wages for remote workers were about on par with the workforce as a whole in Camas** in 2018-2022, despite larger gaps between remote and non-remote workers in the County and State (Exhibit 21).

Exhibit 21. Share of Remote Workers, Camas, Clark County, and Washington, 2012-2022
Source: ACS, 2008-2012, 2018-2022

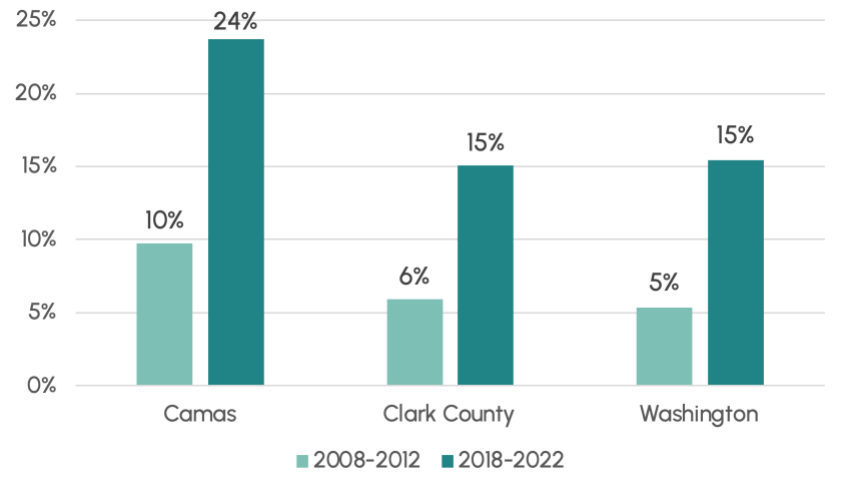
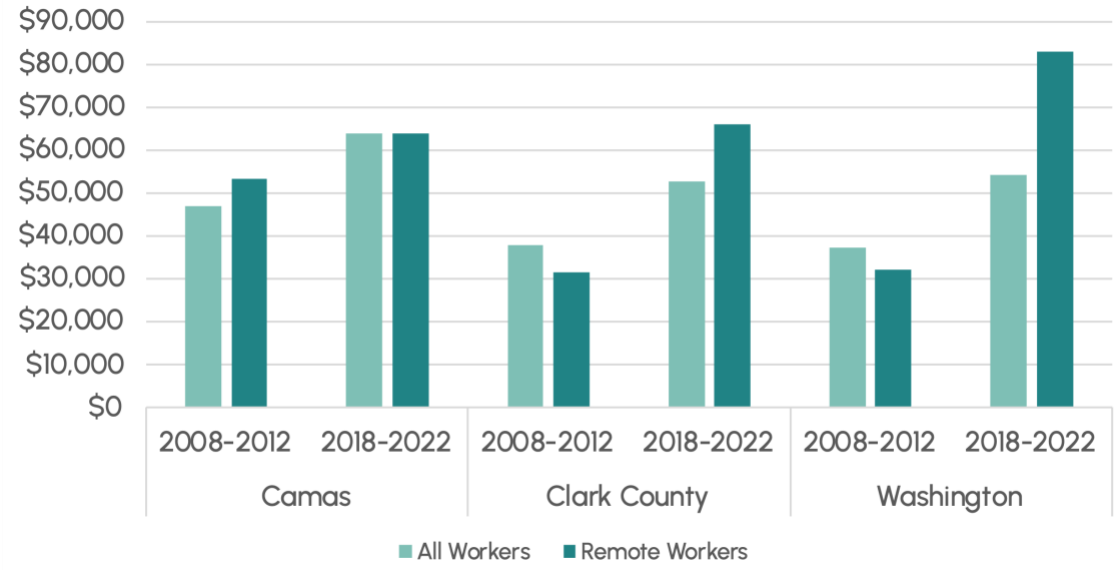


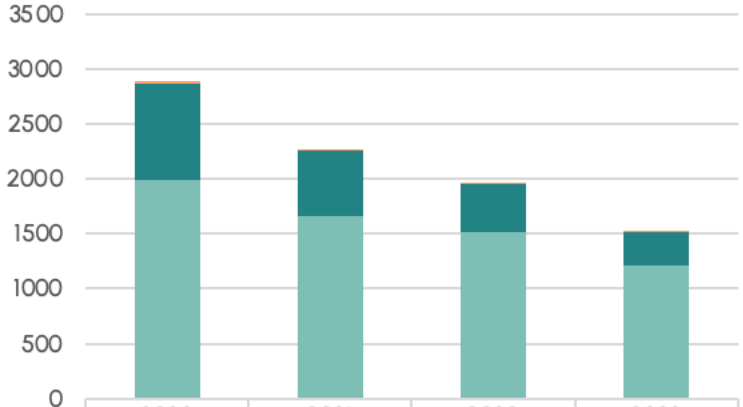
Exhibit 22. Annual Median Earnings for Remote and Non-Remote Workers, Camas, Clark County, and Washington, 2012-2022
Source: ACS, 2008-2012, 2018-2022



Business Changes

The City of Camas began requiring business licenses in 2019, so while local data does not have a long history it does help to capture post-pandemic trends in new establishments**. Since 2020, the City has issued 8,652 new business permits, with the largest volume of new permits in 2020 and a decreasing amount annual since.** General business establishments accounted for the largest portion of these permits (74%), followed by home occupations (25%). Nonprofit organizations were a very small share of new establishments (less than 1%).

Exhibit 23. Business Permits, City of Camas, 2020–2023
Source: City of Camas

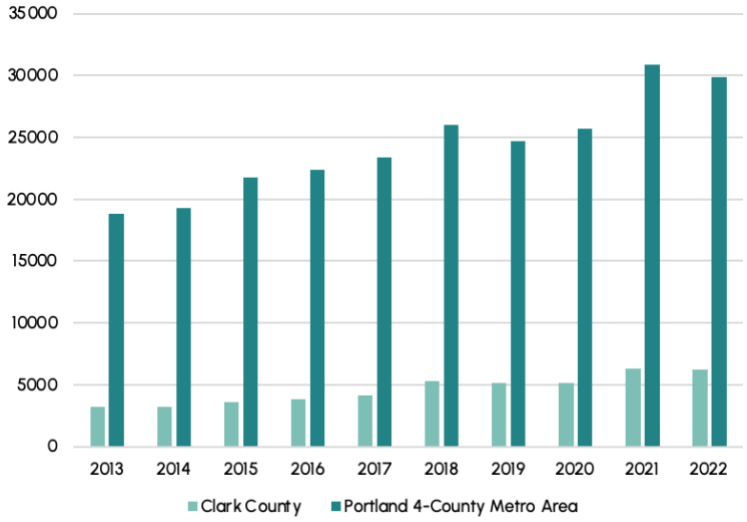


	2020	2021	2022	2023
Nonprofit	17	16	18	15
Home Occupation Business	872	591	429	302
General Business	1997	1664	1520	1211

In a regional context, 6,241 new business applications were filed in Clark County in 2022, growing steadily by more than double (106%) from the 3,031 business applications filed in 2012. The growth rate for the four-county area over this time period was only 58%, potentially indicating that Clark County has been successfully growing in their ability to attract new firms relative to the region.

Applications in Clark County accounted for approximately 26% of all new firms started within the four-county metro area (including Clark, Clackamas, Multnomah, and Washington Counties) in 2022.

Exhibit 24. Annual Business Applications, Clark County and 4-County Portland Metro (Clark, Multnomah, Washington, and Clackamas Counties), 2012–2022
Source: US Census Bureau, Business Formation Statistics. Note: This data is only available at the county level.



Fiscal Conditions

Fiscal conditions are critical indicators for economic development, which have implications for jurisdictions' capacity to invest in essential services and growth. In Washington state, the lack of income tax makes sales and other tax trends particularly important for understanding economic trends and impact on local budgets.

The City of Camas's taxable retail sales were higher than those in most comparable jurisdictions in Clark County over the past decade, competing primarily with the City of Battle Ground for the highest annual amounts. On a per capita basis, Camas had higher taxable retail sales than unincorporated areas of the County, but slightly lower sales than the Cities of Battle Ground or Washougal. In 2022, total taxable retail sales reached an all-time high of over $600 million (

Exhibit 26). In Clark County overall, the City of Vancouver and unincorporated areas had by far the highest volume of taxable retail sales, with Vancouver reaching over $6.3 billion in 2022 (

Exhibit 27).

Exhibit 25. Per Capita Taxable Retail Sales by Clark County Jurisdictions, 2012-2022 (in 2022$)
Source: WA Dep. of Commerce, US Bureau of Labor Statistics Inflation Calculator. Average Annual Growth Rate (AAGR).

JURISDICTION	2012 (IN 2022$)	2022	% CHANGE 2012-2022 (ADJ.)	AAGR
City of Camas	**$12,986**	**$19,214**	**48.0%**	**4.8%**
Unincorporated Clark County	$8,333	$13,860	66.3%	6.6%
City of Battle Ground	$13,241	$27,629	108.7%	10.9%
City of Washougal	$9,845	$20,295	106.1%	10.6%

Exhibit 26. Total Taxable Retail Sales for City of Camas and Comparison Geographies, 2012-2022

Source: Washington Department of Commerce
Note: Total amounts for by year are in nominal dollars (not adjusted for inflation).

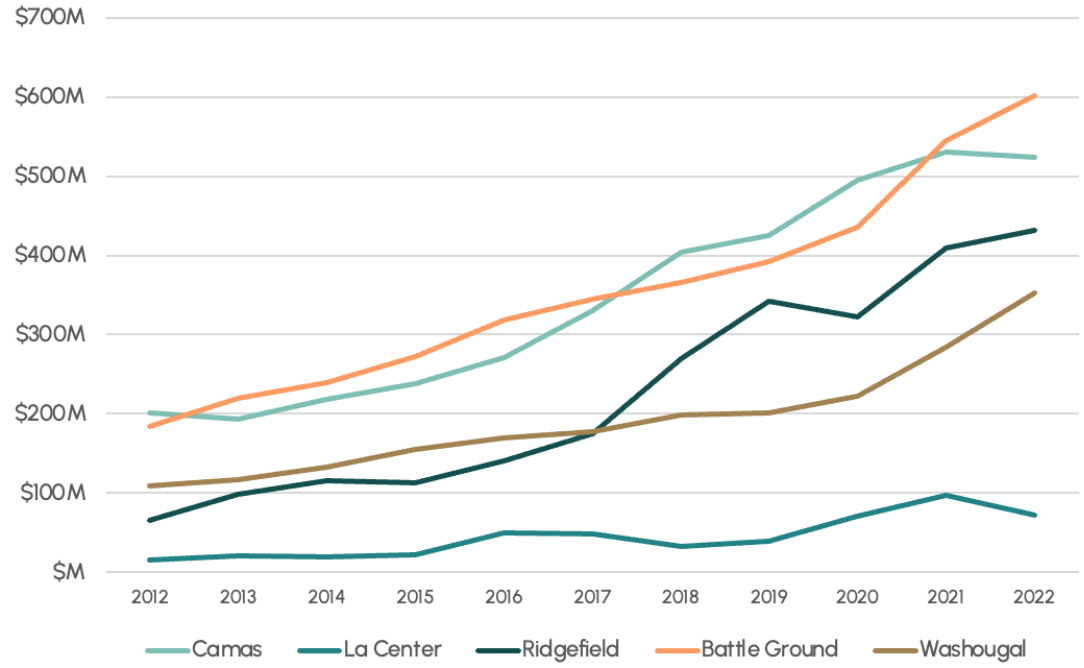
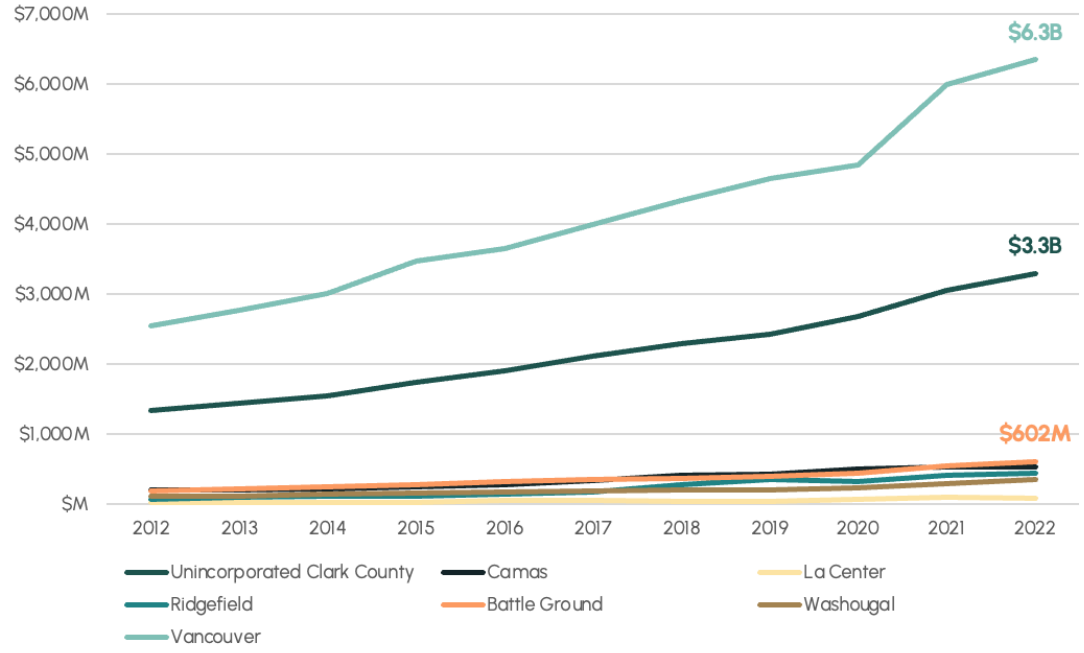


Exhibit 27. Total Taxable Retail Sales for City of Camas and Clark County, 2012-2022

Source: Washington Department of Commerce
Note: Total amounts for by year are in nominal dollars (not adjusted for inflation).



Economic Opportunities

Real Estate Market Conditions and Trends

Understanding Camas's real estate market opportunities can indicate what industries might locate and grow in the City, based on historic and current demand patterns across different real estate types. This section details Camas's commercial real estate conditions and identifies market drivers and trends that will influence the market appeal and viability of commercial uses in the area.

This report primarily covers nonresidential commercial real estate including office, industrial, and retail building types, as well as multifamily trends to illustrate opportunities for mixed-use development. The Housing Needs Assessment portion of this Comprehensive Plan Update covers the residential real estate market in greater depth. The exhibits in the section below show historical trends in the average effective rent rates and average annual vacancy rates for the analysis. In general, the analysis shows trends in Triple-Net (NNN) rents, vacancy rates, and deliveries (these are described below). This section also looks back to trends in the past decade years, capturing a longer cycle of real estate trends.

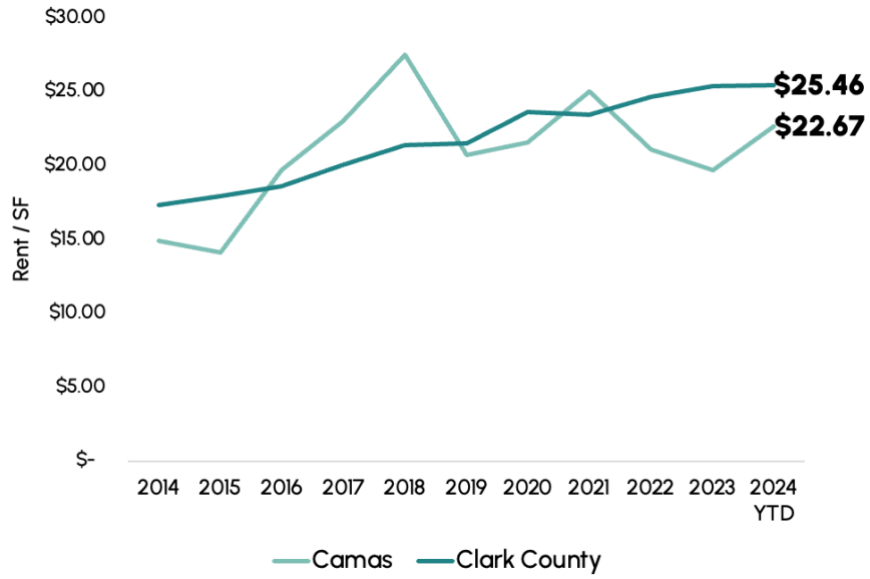
- **Triple-Net (NNN):** Represents annual rents on a per-square-foot (PSF) basis, not including any pass-through expenses such as taxes, insurance, and utilities or maintenance costs.
- **Vacancy Rates:** Represents how much space per-square-foot (PSF) is vacant in a submarket.
- **Deliveries:** Represent the total amount of new square feet of each product type that has been added to the market on an annual basis.
- **Net Absorption:** Represent annual net square feet of new occupancy or vacancy of space accounting for deliveries.

Office Market

Office space in the City of Camas made up about 6.5% of Clark County's overall office stock in 2023.

Rents PSF for office space grew in both the City and the County since 2014. The average rent in Camas fluctuated over the past ten years and were slightly below the County average in 2024 year-to-date (YTD) at $22.67 and $25.46 PSF respectively.

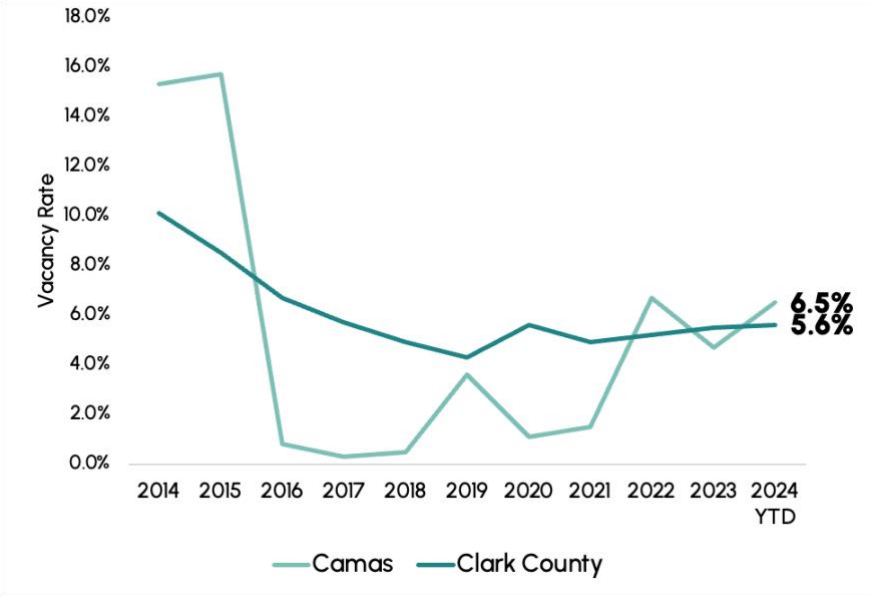
Exhibit 28. Average Office Rent per Square Foot, Camas and Clark County, 2014-2024 YTD
Source: CoStar



Vacancy rates in Camas also fluctuated over the last ten years, falling from a high of nearly 16% in 2015. In comparison, Clark County's office vacancy rates steadily fell in general since 2014, with a slight increase in 2020.

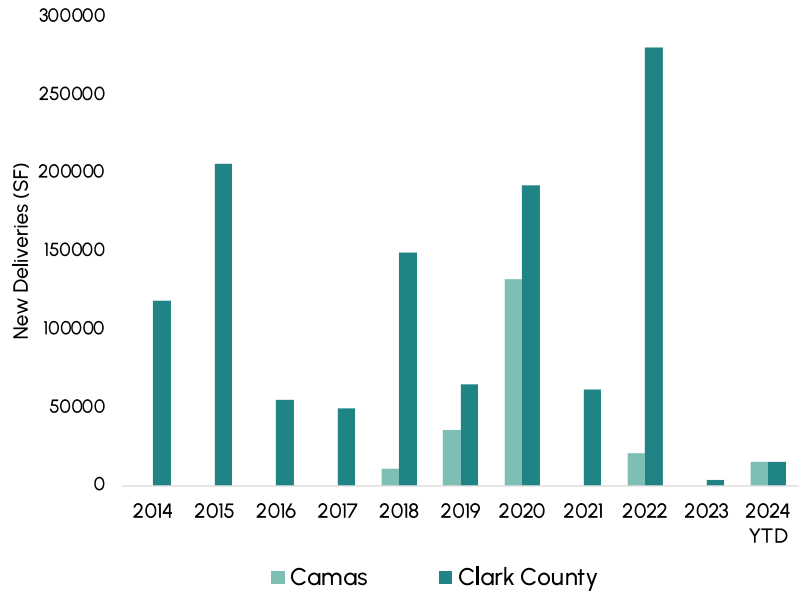
While many places throughout the United States saw spiking office vacancies in 2020 with, the City and County avoided this trend.

Exhibit 29. Average Office Vacancy Rate, Camas and Clark County, 2014-2024 YTD
Source: CoStar



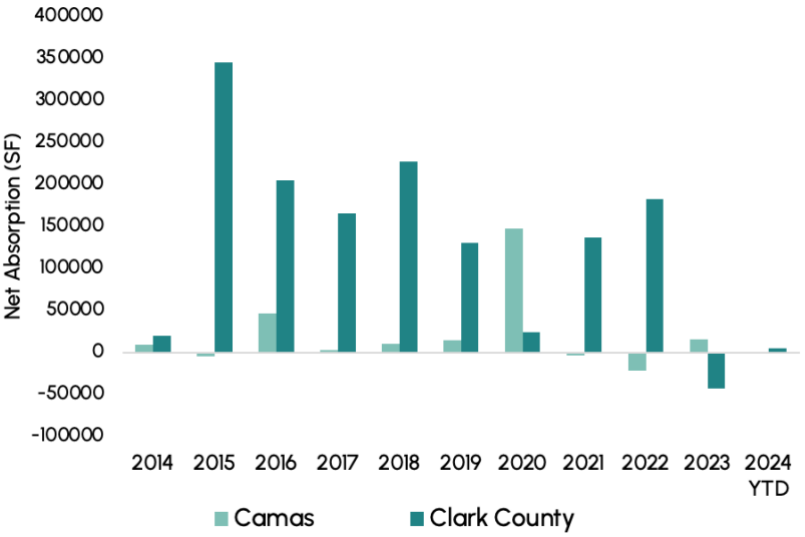
The City of Camas had its largest delivery of new office space in the last decade in 2020, adding approximately 132,000 new square feet to the market. Other areas of Clark County saw larger deliveries in 2022 and 2015.

Exhibit 30. Office Deliveries, Camas and Clark County, 2014-2024 YTD
Source: CoStar



The City and the County have generally had positive net absorption of office space since 2014, with some negative absorption in the City in 2022 (approximately 21,000 SF).

Exhibit 31. Office Net Absorption, Camas and Clark County, 2014-2024 YTD
Source: CoStar

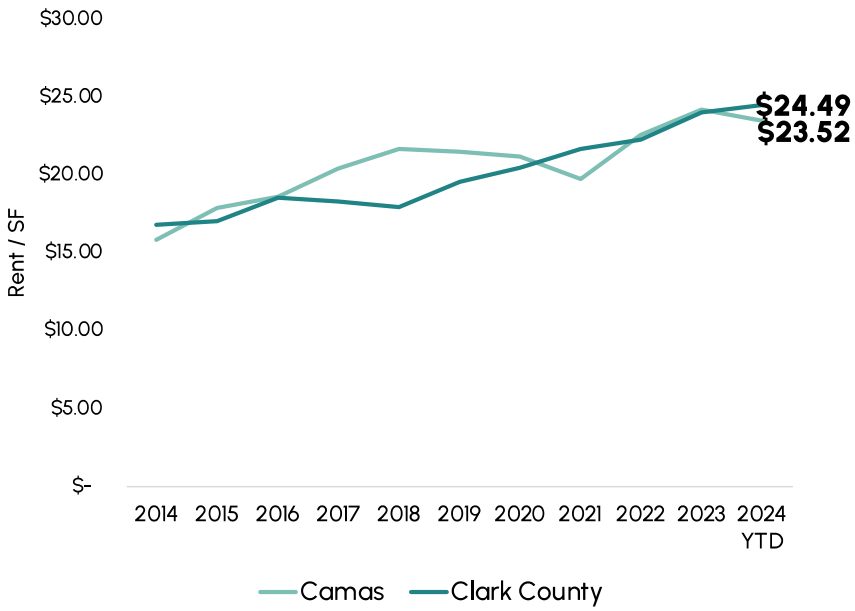


Retail Market

Camas's square footage of retail space made up about 4.2% of Clark County's overall inventory.

Retail rents PSF in Camas generally tracked closely with Clark County trends since 2014, showing slight upward growth. Rents in the City were slightly lower than the County in 2024 YTD at $23.52 PSF compared to $24.49.

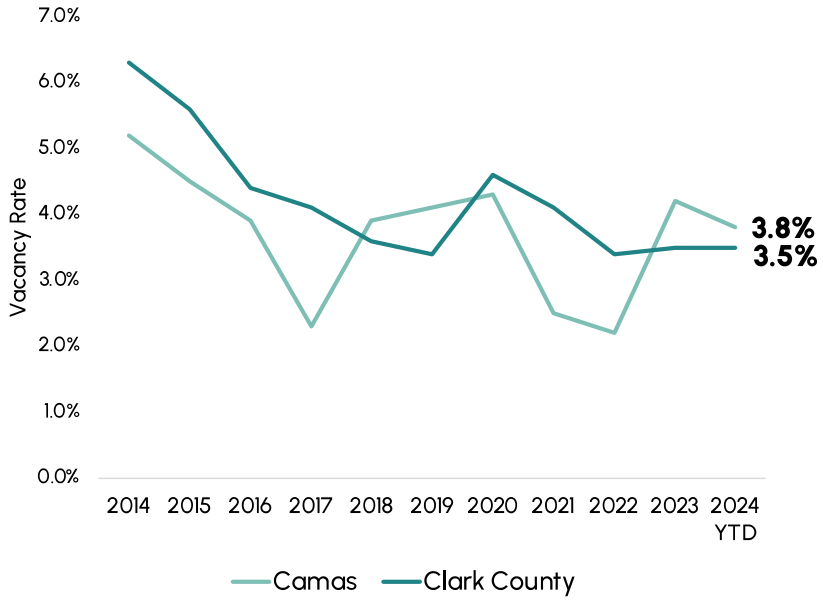
Exhibit 32. Average Retail Rent per Square Foot, Camas and Clark County, 2014-2024 YTD
Source: CoStar



Retail vacancies have fluctuated in Camas and Clark County over the past decade, with a general downward trend since 2014. Retail vacancies were slightly higher in Camas than Clark County in 2024 YTD at 3.8% compared to 3.5%.

Rising rents PSF coupled with falling vacancy rates indicate increasing demand for retail in both areas. However, some level of vacancy is indicative of a healthy market with natural turnover.

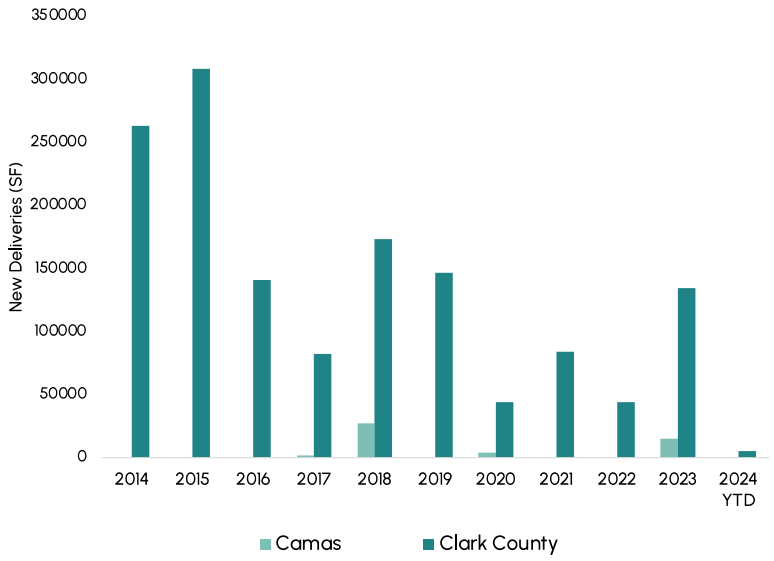
Exhibit 33. Average Retail Vacancy Rate, Camas and Clark County, 2014-2024 YTD
Source: CoStar



Clark County has seen large deliveries of new retail space primarily in 2014 and 2015, as well as additions of square footage in 2018 and more recently in 2023.

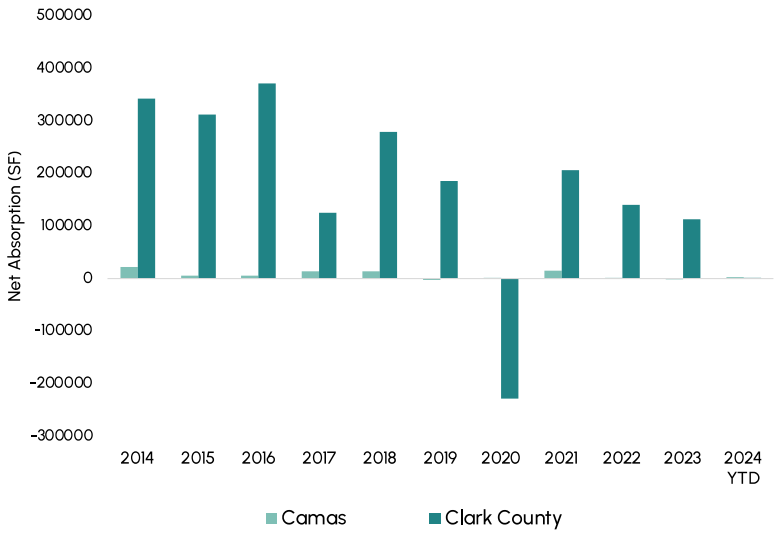
In Camas, there have been some years with small spikes of deliveries in the last decade, with the largest increase of about 27,000 SF in 2018 and 15,000 SF in 2023.

Exhibit 34. Retail Deliveries, Camas and Clark County, 2014-2024 YTD
Source: CoStar



Retail absorption has also been generally positive since 2014 in both the City and County, with the notable exception of about 229,000 square feet of negative absorption in Clark County in 2020. This is likely due to challenges in the wake of the 2020 pandemic.

Exhibit 35. Retail Net Absorption, Camas and Clark County, 2014-2024 YTD
Source: CoStar



Industrial and Manufacturing Market

The City of Camas is home to about 3.9% of Clark County's industrial real estate in square footage.

Since 2014, the County has generally had slow growth in industrial rents PSF, with an increase in 2022 and an average of $11.04 PSF in 2024 YTD.

The City of Camas saw a sharp increase of industrial rents PSF in 2022, growing by over 200% year-over-year (YOY). In 2024 YTD, industrial rent in Cams was $23.00 PSF.

Vacancy rates for industrial real estate were extremely low in Camas in 2024 YTD at 1.7%, indicating high demand in the industrial market locally. Since 2015, industrial vacancies have generally been very low in the City with the exception of 2021.

In comparison, industrial vacancies in Clark County have been generally low and steady, standing at 5.2% in 2024 YTD.

Exhibit 36. Average Industrial Rent per Square Foot, Camas and Clark County, 2014-2024 YTD
Source: CoStar

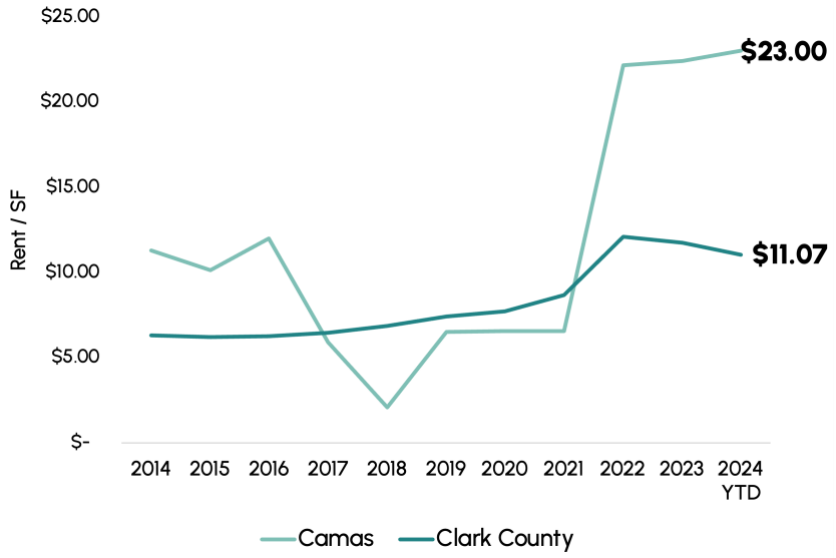
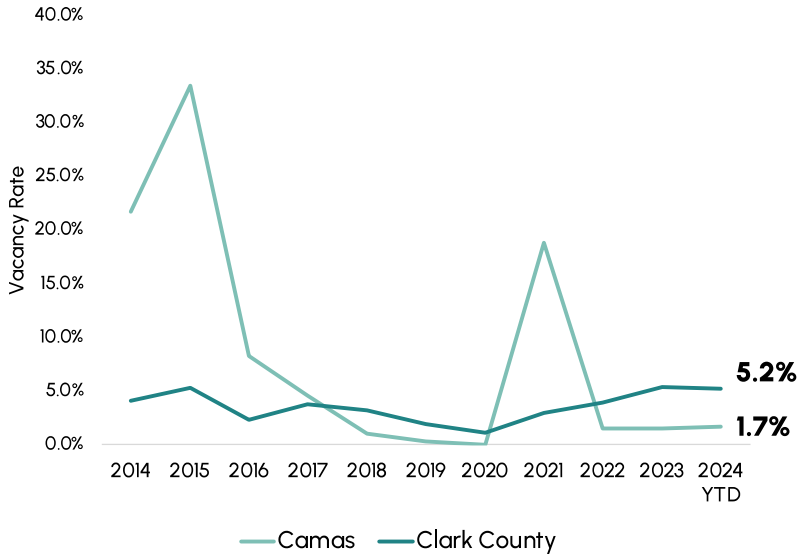


Exhibit 37. Average Industrial Vacancy Rate, Camas and Clark County, 2014-2024 YTD
Source: CoStar

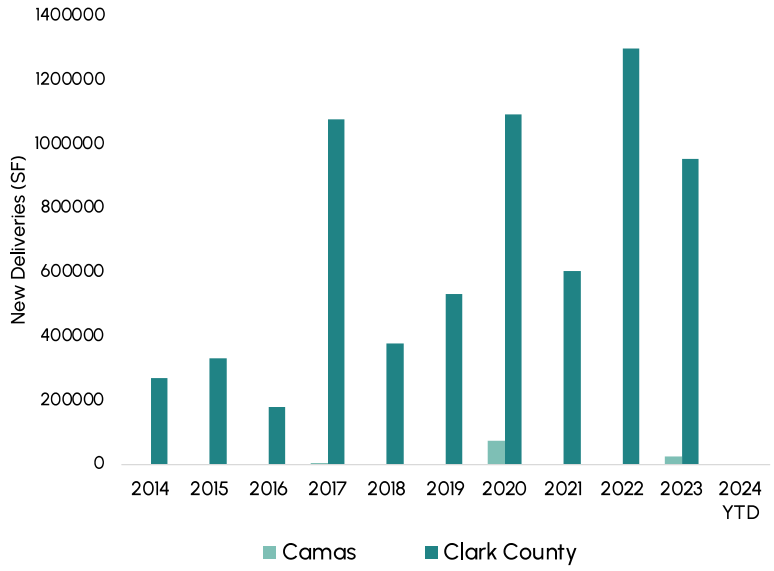


Clark County has seen growing industrial deliveries in the latter half of the 2010s and early 2020's, with large additions of new industrial space in 2017, 2020, and 2022.

Camas has seen fewer new deliveries but had its largest amount of new square footage added in 2020 (75,000 SF).

Exhibit 38. Industrial Deliveries, Camas and Clark County, 2014-2024 YTD

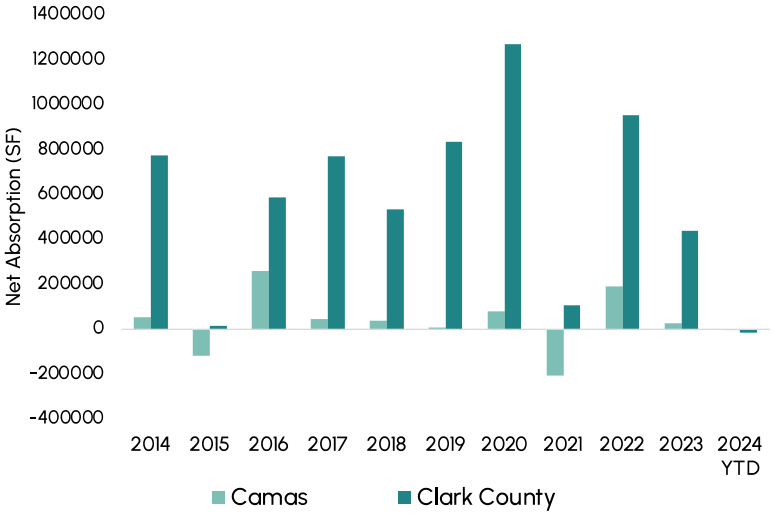
Source: CoStar



New industrial space has also generally had positive absorption in the City and County, although new deliveries from 2020 had negative absorption initially in 2021.

Exhibit 39. Industrial Net Absorption, Camas and Clark County, 2014-2024 YTD

Source: CoStar



Mixed Use Development Opportunities

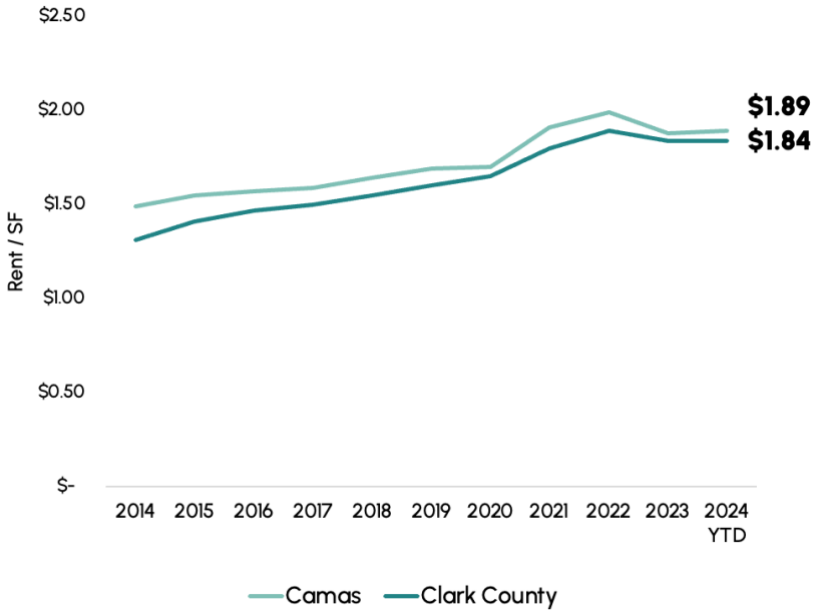
Mixed-use development with commercial and residential retail has seen growing demand nationally in recent years, as demand grows for dense, walkable areas. Trends in multifamily real estate in Camas show potential for combining demand for rental units with increases in the City's office or retail inventory.

Multifamily Residential Market

Camas's multifamily units make up about 4 % of units in the County.

Camas's multifamily rents PSF have closely followed Clark County overall, remaining slightly lower over the past decade. In 2024 YTD, multifamily rents in the City were $1.84 PSF compared to $1.89 PSF in the County.

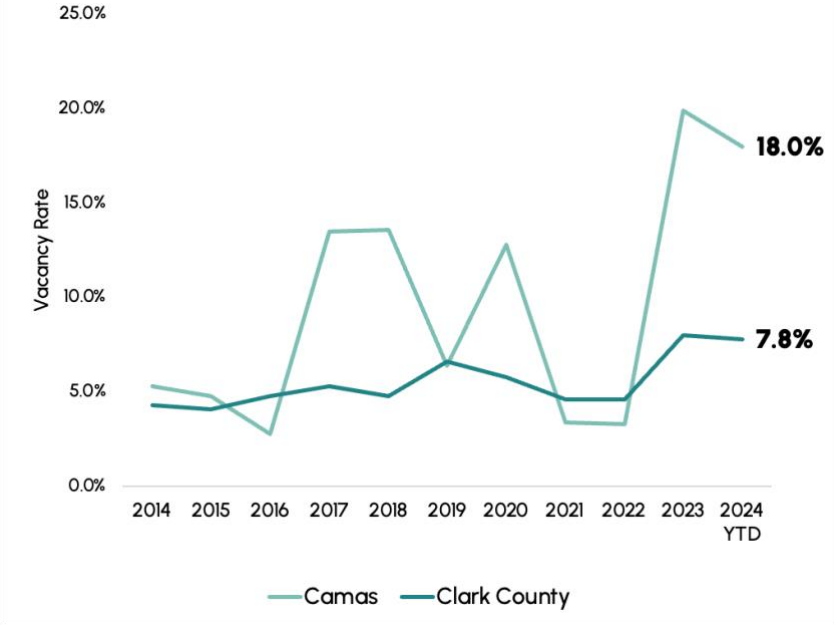
Exhibit 40. Average Multifamily Rent per Square Foot, Camas and Clark County, 2014-2024 YTD
Source: CoStar



Multifamily rents were high in 2023 and 2024 YTD in Camas County, although this spike corresponds with a recent delivery of 389 units in 2023 (the largest annual number of units delivered in the past ten years). Increasing vacancies in 2017 and 2020 also track with new multifamily units delivered.

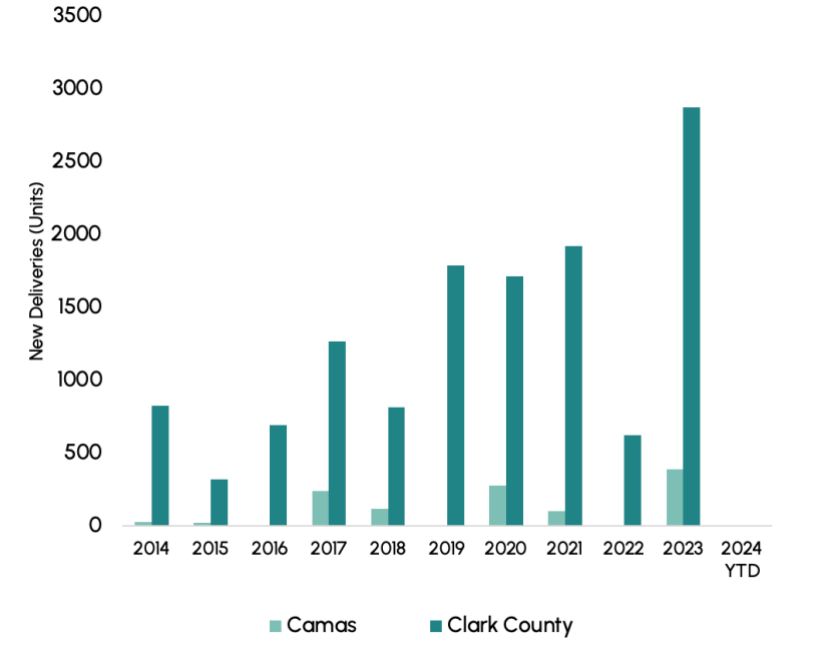
Multifamily vacancies were 7.8% in Clark County overall in 2024 YTD, also indicating increasing vacancies over time.

Exhibit 41. Average Multifamily Vacancy Rate, Camas and Clark County, 2014-2024 YTD
Source: CoStar



Clark County has seen an increase in multifamily deliveries in the past ten years, with the largest number of new units in 2023 (2,872 units).

Exhibit 42. Multifamily Deliveries, Camas and Clark County, 2014-2024 YTD
Source: CoStar



Downtown Camas Analysis

The following charts measure visitation by visitors, employees, and residents in Downtown Camas from 2017 to 2024. Visitation trends help in providing insights into how the city is rebounding after the COVID-19 pandemic, using Placer.ai's foot traffic analytics platform integrating proprietary artificial intelligence to estimate the number of visits based on GPS data.10 Visitor and employee visits have increased to pre-pandemic levels and visitation by residents has been trending upward in recent years. Overall, this indicates a healthy level of foot traffic in the Downtown area showing an upward trajectory with visitors, employees, and residents coming to the Downtown area for shopping, work, or other purposes. Market analysis of retail activity in Downtown Camas shows retail rents increasing rapidly from approximately $15 per square foot in 2022 to almost $35 per square foot in 2024, the highest rate measured from 2017 to 2024. In addition, the vacancy rates for retail have remained very low below 1.5% since 2014 which is lower than the retail vacancy rates in both the City of Vancouver (3.7%) and Clark County (3.7%) in 2023, likely indicating increased demand for retail space above the available supply.

[10] Placer.ai uses anonymous mobile phone location data to estimate visitation. A "visit" is triggered in Placer.ai's database when a cell phone seeks two Wi-Fi signals five to fifteen minutes apart (this range differs by cell phone operating system; e.g., an Android phone scans for Wi-Fi every three to seven minutes). While this means that visitors may be counted multiple times, this data is useful to provide a relative picture of trends over time.

Exhibit 43. Downtown Camas

Source: ECOnorthwest, SERA Architects



Exhibit 44. Downtown Camas Visitor Visits, 2017-2024

Source: Placer.ai

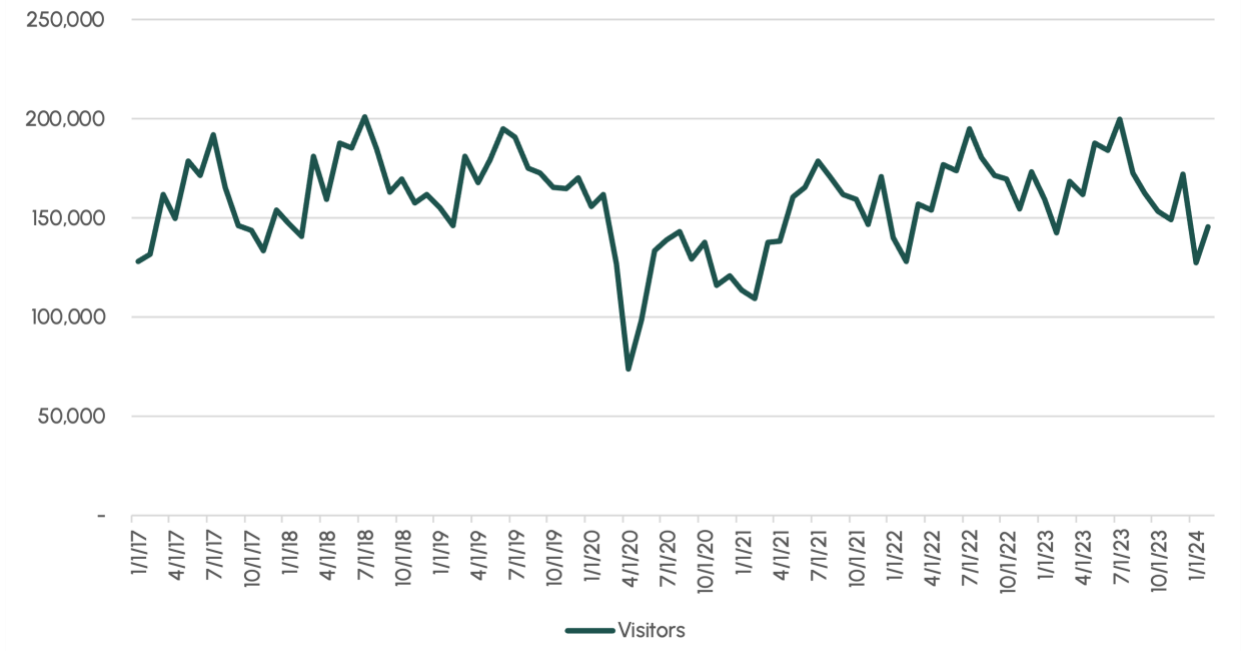


Exhibit 45. Downtown Camas Employee Visits, 2017-2024
Source: Placer.ai



Exhibit 46. Downtown Camas Resident Visits, 2017-2024
Source: Placer.ai

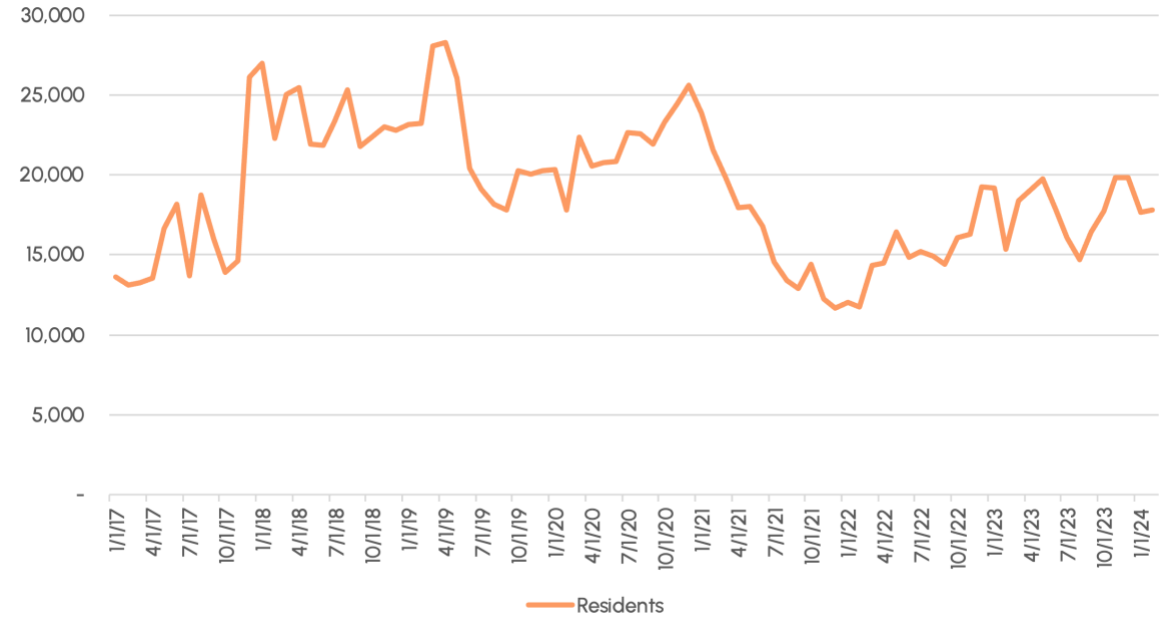
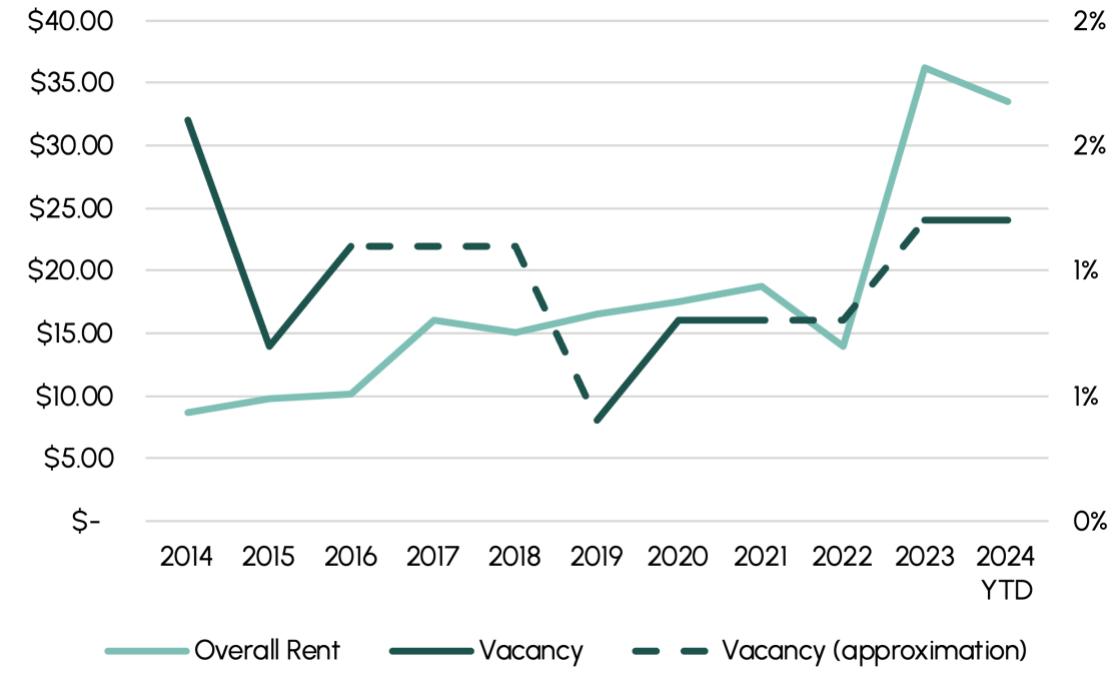


Exhibit 47. Average Retail Rent per Square Foot and Average Retail Vacancy Rate (%) in Downtown Camas, 2014-2024 Year to Date (YTD)

Source: CoStar



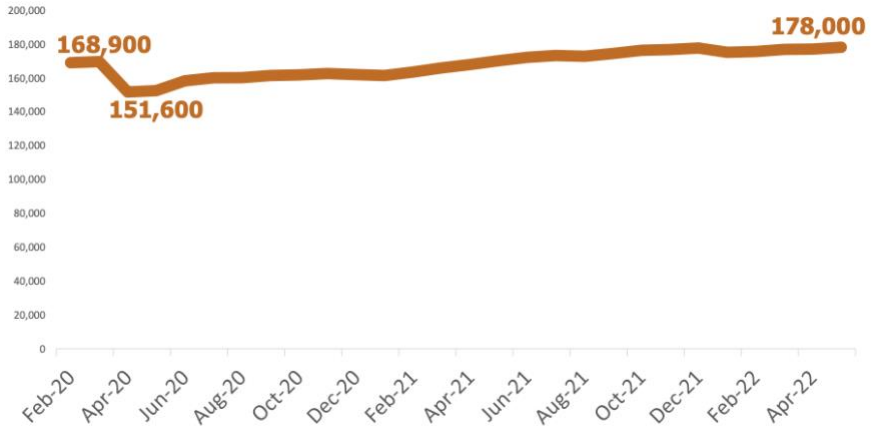
Competitive Position

As part of Clark County and the Portland Metro Area, Camas is interconnected with the regional economy. This section provides an overview of regional context and Camas's competitive position within the area to provide a basis for economic development policies.

Clark County overall has demonstrated considerable economic resilience and growth coming out of the COVID-19 pandemic. The county has recovered nearly all pandemic job losses, adding over 15,000 workers since early 2020, while many communities in the region and across the nation have experienced unpredictable changes in employment patterns.

Exhibit 48. Clark County Nonfarm Employment: February 2020 – May 2022

Source: Washington Employment Security Department, Nonfarm Employment, CREDC analysis



While the County's total population has also grown quickly in recent years, smaller communities like Camas are outpacing Vancouver with fast growth in population.

Like other smaller cities in Clark County, Camas has seen a higher rate of growth compared with Vancouver or unincorporated Clark County, more than doubling its number of residents since 2000.

Investment in quality-of-life amenities as well as new housing development and land annexations have contributed to this growth for Camas.

Camas shows some characteristics of a "bedroom community," but is expected to expand its local employment in coming decades. In 2020, the share of workers commuting to Vancouver from Camas increased and was the sixth largest group of workers in Vancouver. However, the County's projections for employment indicate that Camas will add more jobs than any city outside of Vancouver by 2045, primarily on its industrial lands.

Exhibit 49. Population % Change by Clark County Jurisdiction, 2000-2022
Source: Office of Financial Management Population Estimates

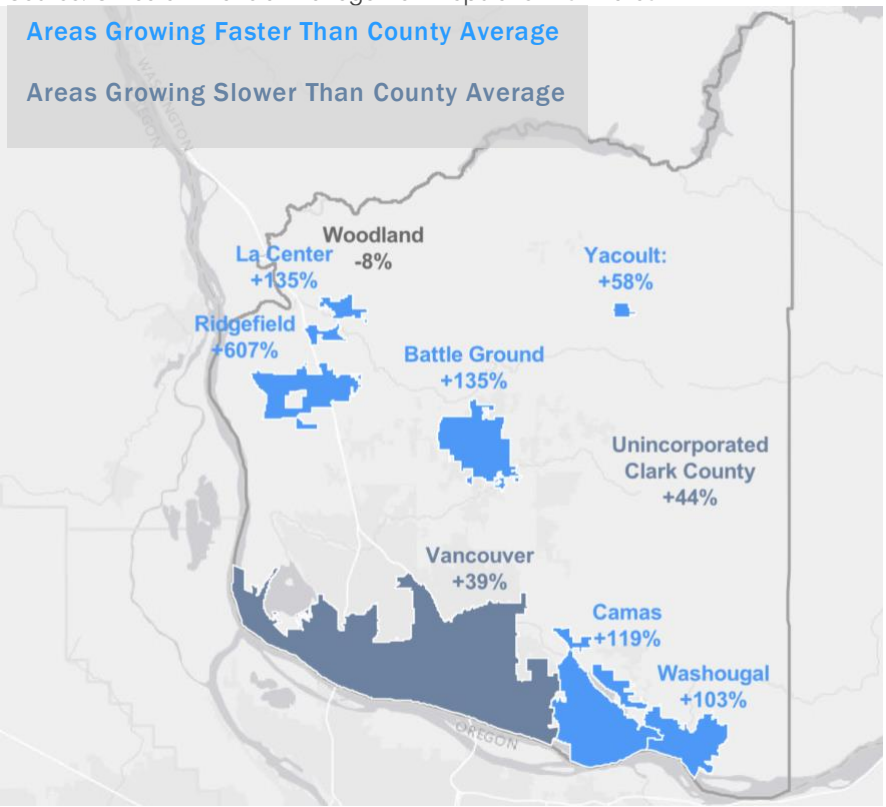
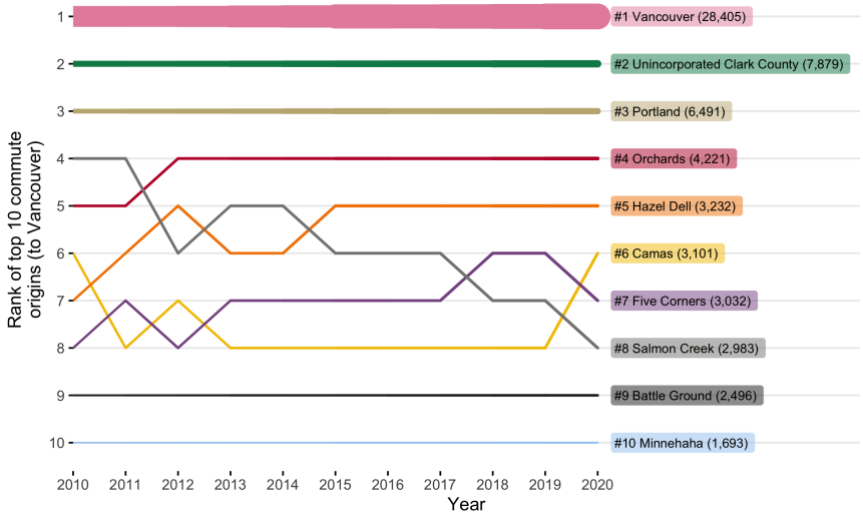


Exhibit 50. Top Commute Origins to Vancouver, 2010-2020
Source: LEHD-LODES, 2010-2020



Initial SWOT Analysis (to be updated after engagement)

SWOT analysis refers to an assessment of Strengths, Weaknesses, Opportunities, and Threats (SWOT). These represent internal and external factors that can have positive or negative impacts on economic outcomes in Camas. Exhibit 51 below outlines key findings for these factors in Camas when considering potential economic growth and development in the city.

Exhibit 51. SWOT Summary Analysis

CATEGORY	POSITIVE	NEGATIVE
INTERNAL	**Strengths:** • High quality of life amenities like parks and recreation opportunities. • Plans for place-based investments like waterfront development with Port of Camas-Washougal. • Downtown experiencing high visitation and high demand for retail spaces (increasing rents, low vacancy).	**Weaknesses:** • Rising housing costs, purchasing a home is unaffordable for those under 120% AMI. • High industrial rents and very low industrial real estate vacancies.
EXTERNAL	**Opportunities:** • Attract highly skilled workers with locational flexibility. • Develop pathways for youth to gain skills and seek jobs in Camas. • Identify target industries for managing land capacity and expected growth.	**Threats:** • Unequal rates of homeownership by race and ethnicity indicating unequal economic opportunities. • Disparities between remote and non-remote workers.

Washington State Department of Transportation

Six Year Transportation Improvement Prog

Agency: City of Camas
Co. No.: 06 Co. Name: Clark Co.
City No.: 0145 MPO/RTPO: RTC

FROM: **2027** **TO:** **2032**
Hearing Date: 6/1/2026 Adoption Date: 6/15/2026
Amend Date: Resolution No: 26-008

Funetional Class	Priority Number	Project Identification A. Pin/Project No. B. STIP ID C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description G. Structure ID	Improvement Type(s)	Status	Total Length	Utility Codes	Project Costs in Thousands of Dollars Project Phase	Phase Start (yyyy)	Fund Source Information Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds	Expenditure Schedule *(Local Agency)* 1st	2nd	3rd	4th thru 6th	Federally Funded Projects Only Envir. Type	R/W Required
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
16	1	***SR-500 (Everett St)*** NE 35th Ave to NE 43rd Ave from: to: Widen with multi-use paths, illumination, roundabouts	03	P	0.50		RW	1/1/2028	STBG	1000			381			1381				
							CN	1/1/2030					21200	21200				21200	CE	Yes
							Totals			1000		0	21581	21200	0	1381	0	21200		
16	2	***NW Lake Road*** @ NW Sierra St. from: to: Intersection improvements	24	P	00		CN	3/1/2027					3400	3400	3000	400				
							Totals			0		0	3400	3400	3000	400	0			
16	3	***SR-500 (Everett St)*** NE Lake Rd to NE 35th Ave from: to: Widen with multimodal, illumination, bridge replacement, roundabout	03	P	0.13		ALL	1/1/2029					26400	26400			1000	25400		
							Totals			0		0	26400	26400	0	0	1000	25400		
16	4	***North Shore Blvd.*** 400 Feet West of N Benton Drive to SR-500/Everett Rd from: to: New construction Includes Complete Streets, Bridge	01	P	0.40		CN	6/1/2028					25000	25000		20000	5000	25000		
							Totals			0		0	25000	25000	0	20000	5000	25000		
16	5	***North Shore Blvd*** 23700 Block to 400feet west of N. Benton Dr. from: to: New Construction Includes Complete Streets, Roundabouts	01	P	1.60		ALL	6/1/2028					22700	22700		14000	8700			
							Totals			0		0	22700	22700	0	14000	8700	0		
16	6	***NW Lake Road*** NW Lacamas Lane to Lacamas Lake Lodge from: to: Widening, sidewalk	03	P	0.45		ALL	6/1/2029					3870	3870			1000	2870		
							Totals			0		0	3870	3870	0	0	1000	2870		

Agency: City of Camas
Co. No.: 06 Co. Name: Clark Co.
City No.: 0145 MPO/RTPO: RTC

FROM: 2027 **TO:** 2032
Hearing Date: 6/1/2026 Adoption Date: 6/15/2026
Amend Date: Resolution No: 26-008

Functional Class	Priority Number	Project Identification A. Pin/Project No. B. STIP ID C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description G. Structure ID	Improvement Type(s)	Status	Total Length	Utility Codes	Project Costs in Thousands of Dollars Project Phase	Phase Start (yyyy)	Fund Source Information Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds	Expenditure Schedule (Local Agency) 1st	2nd	3rd	4th thru 6th	Federally Funded Projects Only Envir. Type	R/W Required
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
14	7	***ADA Access Upgrades*** from: Citywide to: (Ongoing)	28	P	0.00		ALL	1/1/2027					720	720	120	120	120	360		
							Totals			0		0	720	720	120	120	120	360		
16	8	***SR-500 (Everett St)*** NE 43rd Ave to N City Limits from: to: Widen with bike lanes, sidewalks two-way turn lane, illumination, roundabouts	03	P	0.83		PE	1/1/2032					1000	1000				1000		
							Totals			0		0	1000	1000	0	0	0	1000		
16	9	***Crown Road*** from: SE 23rd St. to NE 3rd Ave. Multimodal, turn lanes and intersection improvements	04	P	1.3		ALL	1/1/2030						13000				13000	CE	Yes
							Totals			0		0	0	13000	0	0	0	13000		
12	10	***SR-14 West Camas Slough Bridge*** from: to: Widen to 4 lanes NOTE: PE phase began 1/2006	03	P	0.55		ALL	1/1/2030			WSDOT	80000		80000				80000		
							Totals			0		80000	0	80000	0	0	0	80000		
17	11	***NE Goodwin Road/28th Street*** NW Camas Meadows Dr. to NE 232nd Ave. from: to: Widen to 5 lanes with bike lanes, sidewalk west of Ingle Widen to 3 lanes with bike lanes, sidewalk east of Ingle	15	P	1.72		ALL	1/1/2030						29300				29300		
							Totals			0		0	0	29300	0	0	0	29300		
00	12	***North Shore Blvd.*** NE 232nd Ave. to 23700 Block from: to: New construction Includes Critical Areas and Alignment Investigation	15	P	0.50		ALL	6/1/2030						2200				2200		
							Totals			0		0	0	2200	0	0	0	2200		
14	13	***NW/NE 6th Avenue Corridor Improvements*** NW Norwood to NE Adams from: to: Access and multimodal upgrades	04	P	1.70		PE	1/1/2029						250				250		
							Totals			0		0	0	250	0	0	0	250		

Agency: City of Camas
Co. No.: 06 Co. Name: Clark Co.
City No.: 0145 MPO/RTPO: RTC

FROM: 2027 **TO:** 2032
Hearing Date: 6/1/2026 Adoption Date: 6/15/2026
Amend Date: Resolution No: 26-008

Functional Class	Priority Number	Project Identification A. Pin/Project No. B. STIP ID C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description G. Structure ID	Improvement Type(s)	Status	Total Length	Utility Codes	Project Costs in Thousands of Dollars Project Phase	Phase Start (yyyy)	Fund Source Information Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds	Expenditure Schedule (Local Agency) 1st	2nd	3rd	4th thru 6th	Federally Funded Projects Only Envir. Type	R/W Required
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
16	14	***NW Brady Road*** NW McIntosh Road to West City Limits from: to: Road, Bike & Pedestrian Improvements	04	P	.50		PE	1/1/2030						5				5		
							Totals			0		0	0	5	0	0	0	5		
17	15	***NW McIntosh Road*** NW Brady Rd. to NW 11th Ave. from: to: Widening, bike lanes, sidewalk	15	P	1.2		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
17	16	***NE 43rd Avenue*** from: SR-500 to: East City Limits Widen to 3 lanes with bike lanes, sidewalk	03	P	0.36		ALL	1/1/2031						6480				6480		
							Totals			0		0	0	6480	0	0	0	6480		
00	17	***Downtown Infrastructure*** NE 3rd to NE 7th, NE Adams to NE Garfield from: to: Pavement and sidewalk Rehab, ADA upgrades	06	P	0	SWPO	ALL	1/1/2030						1735				1735		
							Totals			0		0	0	1735	0	0	0	1735		
00	18	***North Dwyer Creek Master Plan Street "B"*** NW Friberg St./Strunk to NW Larkspur St. from: to: New construction	15	P	0.90		PE	1/1/2032						5				5		
							Totals			0		0	0	5	0	0	0	5		
19	19	***NW Payne Street*** NW Lake Rd. to NW Camas Meadows Dr. from: to: Widening, bike lanes, sidewalk	03	P	0.40		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
17	20	***NW 23rd Avenue*** NW Astor to NW Sierra from: to: Widening, sidewalk	04	P	0.23		ALL	1/1/2030						650				650		
							Totals			0		0	0	650	0	0	0	650		

Agency: City of Camas
Co. No.: 06 Co. Name: Clark Co.
City No.: 0145 MPO/RTPO: RTC

FROM: 2027 **TO:** 2032
Hearing Date: 6/1/2026 Adoption Date: 6/15/2026
Amend Date: Resolution No: 26-008

Funetional Class	Priority Number	Project Identification A. Pin/Project No. B. STIP ID C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description G. Structure ID	Improvement Type(s)	Status	Total Length	Utility Codes	Project Costs in Thousands of Dollars Project Phase	Phase Start (yyyy)	Fund Source Information Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds	Expenditure Schedule (Local Agency) 1st	2nd	3rd	4th thru 6th	Federally Funded Projects Only Envir. Type	R/W Required
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
00	21	***North Dwyer Creek Master Plan Street "A"*** NW Lake Rd. to NW Camas Meadows Dr. from: to: New construction	15	P	0.64		PE	1/1/2027						5	5					
							Totals			0		0	0	5	5	0	0	0		
17	22	***NW Leadbetter Drive*** NW Lake Rd. to NW Fremont St. from: to: Sidewalk / path	28	P	0.15		CN	1/1/2030						250				250		
							Totals			0		0	0	250	0	0	0	250		
17	23	***NE 28th Street & NE 232nd Avenue*** from: to: Intersection improvements	04	P	0.00		ALL	6/1/2030						600				600		
							Totals			0		0	0	600	0	0	0	600		
17	24	***NW Astor Street/NW 11th Avenue*** NW 16th Ave. to McIntosh Rd. from: to: Widening, bike lanes, sidewalk	03	P	0.62		PE	1/1/2030						5				5		
							Totals			0		0	0	5	0	0	0	5		
16	25	***NW 18th Avenue, et al*** NW Astor to NW 16th, include NW Hood from: to: Widen curb, sidewalk	03	P	0.51		PE	1/1/2029						5				5		
							Totals			0		0	0	5	0	0	0	5		
19	26	***NW 20th Ave Extension*** NW Sage St to NW 18th Ave from: to: New Construction with multimodal	01	P	0.18		PE	1/1/2030						5				5		
							Totals			0		0	0	5	0	0	0	5		
16	27	***NW 18th Avenue*** NW Tidland St. to NW Brady Rd. from: to: Sidewalk / path	01	P	0.26		PE	1/1/2029						5				5		
							Totals			0		0	0	5	0	0	0	5		

Agency: City of Camas
Co. No.: 06 Co. Name: Clark Co.
City No.: 0145 MPO/RTPO: RTC

FROM: 2027 **TO:** 2032
Hearing Date: 6/1/2026 Adoption Date: 6/15/2026
Amend Date: Resolution No: 26-008

Funetional Class	Priority Number	Project Identification A. Pin/Project No. B. STIP ID C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description G. Structure ID	Improvement Type(s)	Status	Total Length	Utility Codes	Project Costs in Thousands of Dollars								Expenditure Schedule *(Local Agency)*				Federally Funded Projects Only	
							Project Phase	Phase Start (yyyy)	Fund Source Information Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds	1st	2nd	3rd	4th thru 6th	Envir. Type	R/W Required
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
16	28	**NW 18th Avenue** NW 20th Extension to West City Limits from: to: Widening, bike lanes	03	P	0.50		PE	1/1/2030						5				5		
							Totals			0		0	0	5	0	0	0	5		
16	29	***NW 43rd/NW Astor - NW Sierra to NW 38th Impr.*** from: to: Widening, bike lanes, sidewalk	03	P	0.31		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
17	30	***NE 232nd Avenue*** NE 28th to NE North Shore Blvd. from: to: Widen to 3 lanes with bike lanes, sidewalk	15	P	0.97		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
00	31	***NE Woodburn Drive*** SE 283rd Ave. to SE 15th St. from: to: New construction Includes 23rd St. realignment	01	P	.70		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
07	32	***SE 15th Street/Nourse Road*** from: Camas High School to: NE 283rd Ave. Widen to 3 lanes with bike lanes, sidewalk	15	P	0.59		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
00	33	***NE 18th Street*** NE 192nd Ave. to NE Goodwin Rd. from: to: New construction (potential alternate alignment)	15	P	0.67		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
17	34	***NE 28th Street*** NE 232nd Ave. to NE 242nd Ave. from: to: Widen to 3 lanes with bike lanes	15	P	0.50		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		

Agency: City of Camas
Co. No.: 06 Co. Name: Clark Co.
City No.: 0145 MPO/RTPO: RTC

FROM: 2027 **TO:** 2032
Hearing Date: 6/1/2026 Adoption Date: 6/15/2026
Amend Date: Resolution No: 26-008

Funetional Class	Priority Number	Project Identification A. Pin/Project No. B. STIP ID C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description G. Structure ID	Improvement Type(s)	Status	Total Length	Utility Codes	Project Costs in Thousands of Dollars Project Phase	Phase Start (yyyy)	Fund Source Information Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds	Expenditure Schedule (Local Agency) 1st	2nd	3rd	4th thru 6th	Federally Funded Projects Only Envir. Type	R/W Required
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
16	35	***NW Camas Meadows Drive*** NE 13th St. to NE 18th St. from: to: New construction (potential alternate alignment)	15	P	0.20		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
00	36	***NE 242nd Avenue*** NE 28th St. to NE North Shore Blvd. from: to: Widen to 3 lanes with bike lanes, sidewalk	15	P	0.70		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
19	37	***NW Maryland Street*** NW 19th to NW 24th from: to: New construction	01	P	0.25		PE	6/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
16	38	***NW Pacific Rim @ Parker Street*** from: to: Traffic signal	15	P	00		PE	6/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
17	39	***NE Ingle Road-NE Goodwin to N City Limits*** Goodwin to N City Limits from: to: widen to 3 lanes with bike lanes, sidewalk	03	P	1.30		PE	6/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
09	40	***SE 8th St / 271st Ave*** from: SR-500 to: 15th St	01	P	0.80		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
16	41	***SR500 (Everett St) @ NE Everett Dr*** from: to: Roundabout	01	P	00		ALL	1/1/2027					5450	5450	5000	450				
							Totals			0		0	5450	5450	5000	450	0	0		

Agency: City of Camas
Co. No.: 06 Co. Name: Clark Co.
City No.: 0145 MPO/RTPO: RTC

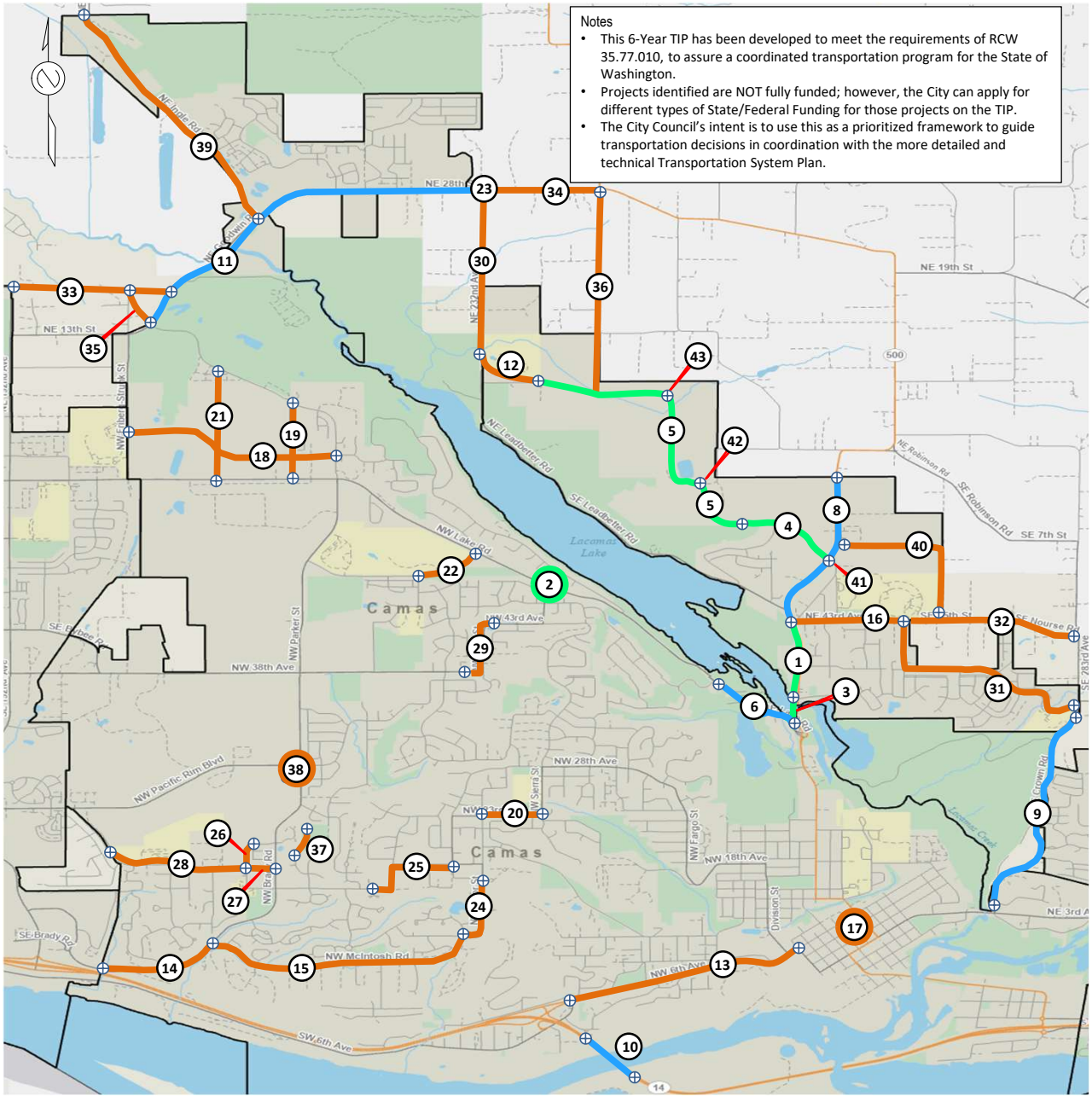
FROM: 2027 **TO:** 2032
Hearing Date: 6/1/2026 Adoption Date: 6/15/2026
Amend Date: Resolution No: 26-008

Funetional Class	Priority Number	Project Identification A. Pin/Project No. B. STIP ID C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description G. Structure ID	Improvement Type(s)	Status	Total Length	Utility Codes	Project Costs in Thousands of Dollars Project Phase	Phase Start (yyyy)	Fund Source Information Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds	Expenditure Schedule (Local Agency) 1st	2nd	3rd	4th thru 6th	Federally Funded Projects Only Envir. Type	R/W Required
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
16	42	***North Shore Blvd @ 24800 BLK*** from: to: Roundabout	01	P	00		ALL	1/1/2028					3175	3175		2700	475			
							Totals			0		0	3175	3175	0	2700	475	0		
16	43	***North Shore Blvd @ NE 252nd Ave*** from: to: Roundabout	01	P	00		ALL	1/1/2028					3175	3175		3000	175			
							Totals			0		0	3175	3175	0	3000	175	0		
16	44	***NE 28th Street @ 242nd Avenue*** from: to: Intersection improvements	15	P	00		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
16	45	***SR-500*** @ NE 14th Ave. from: to: Controlled Access	04	P	00		PE	1/1/2031						5				5		
							Totals			0		0	0	5	0	0	0	5		
00	46	***Pavement Treatments (maintenance & preservation)*** from: Overlays, surface treatmer to:	47	P	00		CN	6/1/2027					9000	9000	1500	1500	1500	4500		
							Totals			0		0	9000	9000	1500	1500	1500	4500		
00	47	***Reconstructs*** from: Citywide to:	04	P	00		ALL	1/1/2027						1500	250	250	250	750		
							Totals			0		0	0	1500	250	250	250	750		
00	48	***Sidewalk Projects*** from: Sidewalk installations City to:	28	P	00		ALL	1/1/2027					300	300	50	50	50	150		
							Totals			0		0	300	300	50	50	50	150		

Agency: City of Camas
Co. No.: 06 Co. Name: Clark Co.
City No.: 0145 MPO/RTPO: RTC

FROM: 2027 **TO:** 2032
Hearing Date: 6/1/2026 Adoption Date: 6/15/2026
Amend Date: Resolution No: 26-008

Funetional Class	Priority Number	Project Identification A. Pin/Project No. B. STIP ID C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description G. Structure ID	Improvement Type(s)	Status	Total Length	Utility Codes	Project Costs in Thousands of Dollars Project Phase	Phase Start (yyyy)	Fund Source Information Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds	Expenditure Schedule (Local Agency) 1st	2nd	3rd	4th thru 6th	Federally Funded Projects Only Envir. Type	R/W Required
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
00	49	***Shared Path Improvements*** Citywide Includes NW Norwood Dr	28	P	00		ALL	1/1/2028						250		50	50	150		
							Totals			0		0	0	250	0	50	50	150		
00	50	***Safety Projects*** Future safety projects Includes traffic revisions, NW Lake Rd Safety Improvements	21	S	00		CN	4/1/2027	HSIP	930				930	930	20	20	60		
							Totals			930		0	0	930	930	20	20	60		



City of Camas
2027 – 2032
Six Year Street Priorities

1 SR 500 (Everett St)
2 Lake Rd. & NW Sierra St. Roundabout
3 SR 500 (Everett St)
4 North Shore Blvd.
5 North Shore Blvd.

6 NW Lake Rd
7 ADA Access Upgrades Citywide
8 SR 500 (Everett St/Rd)
9 SE Crown Rd
10 SR 14 – West Camas Slough Bridge
11 NE Goodwin Rd/28th St

12 North Shore Blvd.
13 NW/NE 6th Ave Corridor Imp
14 NW Brady Rd
15 NW McIntosh Rd
16 NE 43rd Ave
17 Downtown Infrastructure
18 Street "B" (North Dwyer Creek Area)
19 NW Payne St.
20 NW 23rd Ave
21 Street "A" (North Dwyer Creek Area)
22 NW Leadbetter Dr Path
23 NE 28th St & NE 232nd Ave Intersection Imp.
24 NW Astor St.
25 NW 16th Ave/Hood/18th Ave
26 NW 20th Ave. Extension
27 NW 18th Ave Pedestrian Path
28 NW 18th Ave/Payne Rd
29 NW Astor St. /43rd Ave
30 NE 232nd Ave
31 NE Woodburn Dr.
32 SE 15th St./Norse Rd
33 NE 18th St (192nd to Goodwin)
34 NE 28th St (232nd to 242nd)
35 NW Camas Meadows Dr (West)
36 NE 242nd Ave
37 NW Maryland St
38 NW Pacific Rim / Parker St. Signal
39 NE Ingle Rd to N City Limits
40 SE 8th St / 271st Ave
41 SR500 & Everett Dr Roundabout
42 North Shore Blvd & 24800 Blk Roundabout
43 North Shore Blvd & 252nd Roundabout

See List for Additional Priorities
Six Year Street Plan Map 2026-2031 (File 2027-2032 (STIP)

City of Camas WASHINGTON

CAMAS SCHOOL DISTRICT
CAPITAL FACILITIES PLAN
2022 – 2028



Board of Directors

District I	**Corey McEnry**
District II	**Erika Cox**
District III	**Connie Hennessey**
District IV	**Doug Quinn**
District V	**Tracey Malone**

Interim Superintendent
Doug Hood

Adopted by the Camas School District Board of Directors

May 23, 2022

TABLE OF CONTENTS

SECTION		Page
I.	EXECUTIVE SUMMARY	3
II.	DISTRICT EDUCATIONAL PROGRAMS AND STANDARDS OF SERVICE	6
III.	CAPITAL FACILITIES INVENTORY	8
IV.	STUDENT ENROLLMENT PROJECTIONS	10
V.	CAPITAL FACILITIES NEEDS	11
VI.	CAPITAL FACILITIES FINANCE PLAN	13
VII.	SCHOOL IMPACT FEES	14

Appendix A – School Impact Fee Calculations
Appendix B – Population and Enrollment Data

I. EXECUTIVE SUMMARY

The Washington State Growth Management Act (the "GMA") includes schools in the category of public facilities and services. The Camas School District ("District") is required by Clark County ("County") and the Cities of Camas, Washougal, and Vancouver ("Cities") to adopt a capital facilities plan to satisfy the requirements of the GMA and to identify school facilities necessary to meet the educational needs of current and projected enrollment growth for a six-year period. Due to the uncertainty of the impact of COVID-19 pandemic on student enrollment and public education and at the request of several school districts, including the District, Clark County suspended until 2022, their four-year update requirement.

The District has prepared a 2022 Capital Facilities Plan ("CFP") to provide the County and the Cities with a schedule and financing program for capital improvement needs over the next six years (2022-2028) to ensure that adequate facilities are available to serve new growth and development. The 2022 CFP includes the following elements:

- A description of standard of service and space requirements for educational programs (Section II)
- An inventory of existing capital facilities owned by the District (Section III)
- Future enrollment projections for each grade span (Section IV)
- A forecast of proposed capacities of expanded or new capital facilities over the next six years based on the inventory of existing facilities and the standard of service (Section V)
- A six-year plan for financing capital facilities within projected funding capacities, which identifies sources of public funds for such purposes. The financing plan separates projects and portions of projects which add capacity from those which do not, since the latter are generally not appropriate for impact fee funding (Section VI)
- A calculation of impact fees based on the formula in the County and City impact fee ordinances and supporting data substantiating such fees (Section VII)

In developing this CFP, the District used the following guidelines:

- The District will use information from recognized sources, such as professional demographers and planners, County and City adopted land use plans and County GIS data.
- The District will use data it generates from reasonable methodologies.
- The CFP and the methodology to calculate the impact fees will comply with the GMA and County and City codes.
- The six-year facility needs are based on an enrollment forecast that takes local development trends into account.
- The District plans to construct permanent/bricks and mortar facilities for its students and will develop a CFP to accomplish that objective. At the same time, the District expects there will be a time period when some of the students that the District serves will be housed in portables. Housing students in portables, temporarily, is necessary to qualify for state funds that are needed to build new schools.

Camas is a financially and academically sound school district. The 57 square mile Camas School District serves the majority of the Camas Urban Growth Area, a large section of the Washougal Urban Growth

Area, and a smaller portion of the Vancouver Urban Growth Area and rural Clark County. The District serves residents from the Cities of Camas, Washougal, Vancouver and unincorporated rural Clark County. It is bordered by Evergreen School District to the west, Hockinson School District to the north, Washougal School District to the east, and the Columbia River and the state line to the south.

The District served a population of 7,412 students in 2019 (October 1, 2019 enrollment). Due to the statewide closure of schools during the COVID-19 pandemic, and associated loss of public school enrollment, the District served a population of 7,055 students in 2020 (October 1, 2020 enrollment) and 7,045 students in 2021 (October 1, 2021 enrollment). The District expects no further enrollment loss and a recovery over 4-5 years to pre-pandemic enrollment.

For purposes of facility planning, the CFP considers grades K-5 as an elementary school, grades 6-8 as a middle school, and grades 9-12 as a high school. The District has six elementary schools; two standard middle schools and a third, smaller, application-based middle school; and a large comprehensive and two, smaller application-based high schools. In addition, the District serves Camas Connect Academy students in grades K-12 in an online platform, pre-school special needs students at the Heights Learning Center and Camas High School, and students aged 18-21 in the Transition Program.

In February 2016, voters approved a bond measure which included the funding for the projects noted below. Construction of the replacement Lacamas Lake Elementary School, the purchase of a 38.2 acre site and the associated remodel of a commercial building to house the new Odyssey Middle School, and the construction of the new Discovery High School on the same site have increased capacity to serve forecast growth.

School facility and student capacity needs are dictated by a complex matrix of regulatory mandates, educational program components, collective bargaining agreements, and community expectations, more fully described in Section II. The District's existing capital facilities are summarized in Section III. In addition, the District owns 32 portable classrooms located at school facilities – 24 of which currently house approximately 9.6%, or 680 students; and 8 additional portable classrooms that are available to accommodate enrollment growth.

Between 2014 and 2019, enrollment growth within the District grew an average 3.1% per year, compared to the countywide rate of 2.0%. A total of 847 students were added to Camas School District during that time. The District expects to continue to see an increase in enrollment over time, although at a slower rate. Much of the land within the District and urban growth boundaries has yet to be developed, and there continues to be market interest in housing development in Camas and Washougal. Future K-12 enrollment is projected to increase by an average 1.3% per year, or 688 students over the next 7 years (see Section IV). Thanks to the 2016 Bond, which provided an increase in educational facility capacity of 192 students at the elementary level, 360 students in middle school, and 600 students in high school, many of the projected number of students by 2028 can be accommodated in the District's existing educational facilities and portable classrooms, except that there will be a need to increase capacity at the middle school level, and slightly at elementary school level.

The calculated maximum allowable impact fees for the District are $6,652.48 per single family residence and $29,713.38 per multi-family residence (**Appendix A**).

II. DISTRICT EDUCATIONAL PROGRAMS AND STANDARDS OF SERVICE

School facility and student capacity needs are dictated by the types and amounts of space required to accommodate the District's adopted educational program. Quality education plays a vital role in growing a strong local economy. To provide quality education, the District must have quality facilities to serve as the supporting space for developing the whole child within a community to prepare them for a competitive world. The educational program components which typically drive facility space needs include grade configuration, optimum facility size, class size, educational program offerings, classroom utilization and scheduling requirements.

Student enrollment is determined by population growth, birth rates, and housing and demographic characteristics of the District. Individual schools within the District may or may not follow the overall District pattern shared in this report. For example, the majority of the new housing in the past decade has been in the central and western portion of the District and the schools in these areas saw the most enrollment growth. As these areas have built out, future housing is proposed more in the outer ring of the District, predominantly to the north and east. This affects the balance of student enrollment and individual school facility capacity in ways that are not reflected in the overall summary.

In addition to student enrollment, other factors such as collective bargaining agreements, government mandates, and community expectations also affect classroom space requirements. Basic education programs are augmented by other programs such as special education, physical education, and art and music. These programs can have a significant impact on the available student capacity of school facilities.

The District's current programs and educational standards are summarized below. The program and educational standards may vary during the six-year CFP planning horizon. Absent significant changes in factors that are beyond the District's control, the District will provide the following programs and standards of service in 2022 through 2028. If significant changes occur that require new facilities or improvements beyond what is identified in this CFP, the District will prepare and submit an updated CFP.

A. Elementary Educational Standards

- Elementary school capacity is calculated utilizing classroom spaces containing a basic education teacher and his/her complement of students. All students are integrated at some time during the day in a basic education classroom and are included in the total enrollment count. All students are pulled out to attend additional programs (which may also be held in classrooms, if there is no designated space available). Building capacity calculations do not include pull-out program areas such as special education learning support centers, resource rooms, technology labs, music instruction spaces, and gymnasiums.
- Class sizes for grades K-5 are targeted not to exceed 24 students per class.
- When feasible K-3 class sizes are reduced to maximize enhanced funding from the State.

B. Middle School Program Standards
    - Middle school capacity is calculated utilizing the number of basic education teaching stations. It is not possible to achieve 100% utilization of all teaching stations throughout the day due to schedule conflicts, the need for specialized rooms for certain programs and the need for teachers to have work space during their planning period. A utilization factor of 83% is used to reflect the actual use of the building. Building capacity calculations do not include pull out program areas such as special education learning support centers, resource rooms, and technology labs.
    - Class sizes for grades 6-8 are targeted not to exceed 30 students per class.
C. High School Program Standards
    - High school capacity is calculated utilizing the number of basic education teaching stations. It is not possible to achieve 100% utilization of all teaching stations throughout the day due to schedule conflicts, the need for specialized rooms for certain programs and the need for teachers to have work space during their planning period. A utilization factor of 83% is used to reflect the actual use of the building. Building capacity calculations do not include pull out program areas such as special education learning support centers, resource rooms, and technology labs.
    - Class sizes for grades 9-12 are targeted not to exceed 31 students per class.

III. CAPITAL FACILITIES INVENTORY

The facilities inventory serves to establish a baseline for determining facilities needed to accommodate future demand at acceptable levels of service. This section provides an inventory of capital facilities owned and operated by the District including schools, portables, undeveloped land, and support facilities. School capacity is based on the space requirements for the District's educational programs as outlined in Section II.

A. Elementary Schools

Elementary School	Location	Year of Occupancy	Building SF	Capacity	Teaching Stations
Dorothy Fox (K-5)	2623 NW Sierra St Camas WA 98607	1982/2000/ 2011	62,237	552	23
Grass Valley (K-5)	3000 NW Grass Valley Dr Camas WA 98607	2009	70,023	624	26
Helen Baller (K-5)	1954 NE Garfield St Camas WA 98607	2009	64,417	576	24
Lacamas Lake (K-5)	4825 North Shore Blvd Camas WA 98607	2018	74,330	600	25
Prune Hill (K-5)	1602 NW Tidland St Camas WA 98607	2001	59,130	504	21
Woodburn (K-5)	2400 NE Woodburn Dr Camas WA 98607	2013	72,857	648	27
TOTALS:			**402,994**	**3,504**	**146**

B. Middle Schools

Middle School	Location	Year of Occupancy	Building SF	Capacity	Teaching Stations
Liberty (6-8)	1612 NE Garfield St Camas WA 98607	1937/1952/1969/ 1985/1995/2006	121,047	875	35
Odyssey (6-8)	5001 NW Nan Henriksen Way Camas WA 98607	2016 (built in 1996)	54,140	350	14
Skyridge (6-8)	5220 NW Parker St Camas WA 98607	1996	112,133	825	33
TOTALS:			**287,320**	**2,050**	**82**

C. High Schools

High School	Location	Year of Occupancy	Building SF	Capacity	Teaching Stations
Camas (9-12)	26900 SE 15th St Camas WA 98607	2003/2011	241,621	1,834	71
Discovery (9-12)	5125 NW Nan Henriksen Way Camas WA 98607	2018	92,000	600	24
Hayes Freedom (9-12)	1919 NE Ione St Camas WA 98607	2010	20,500	207	8
TOTALS:			**354,121**	**2,641**	**103**

D. Portables Inventory

Facility Type	Available Portable Classrooms	Capacity
Elementary Schools	14	336
Middle Schools	6	150
High Schools	12	310
TOTALS:	**32**	**796**

E. Support Facilities

Type	Location
Grounds Shop, Bus Maintenance and Warehouse (1963/2001)	1707 NE Ione St Camas WA 98607
Transportation Center (2001/2012)	1125 NE 22nd Ave Camas WA 98607
JD Zellerbach Administration Center (1967/1974/1985/1998/2010)	841 NE 22nd Ave Camas WA 98607
Doc Harris Stadium (2010)	1125 NE 22nd Ave Camas WA 98607
The Heights Learning Center (1963, 1984, 1998, 2008, 2018)	4600 NE Garfield Street Camas WA 98607
Jack, Will & Rob Family Resource Center (2002, 2017)	2033 NE Ione St Camas WA 98607
Transition House (remodeled 2009)	612 NE 2nd Ave Camas WA 98607

F. Land Inventory

The district owns the following under- and undeveloped sites:

- 57.6 acres located at 2815 NW Leadbetter Drive, Camas, WA 98607 – site includes a commercial office building
- 79.9 acres located at the northeast corner of NE 28th Street and NE 232nd Ave
- 19.6 acres located northwest of the intersection of NW Pacific Rim Blvd and NW Parker Street

IV. STUDENT ENROLLMENT PROJECTIONS

The District's six-year enrollment projection is based on a forecast prepared by Eric Hovee of E.D. Hovee & Company, LLC in February 6, 2020 and updated in December, 2021.

The approach used in making the updated enrollment forecast included the following:

- Kindergarten (K) enrollment is forecast based on the population of each school area (and expected population growth) together with birth rate data from five years previous using an age-cohort

methodology. Data required for the K-level forecast includes projections of population growth, women of childbearing age and age-specific fertility rates.

- Actual enrollment patterns from prior years are used as a basis for projecting future enrollment for grades 1-12. For example, the number of students in a particular grade as of October 1, 2019 are promoted into the next grade level for 2020 (adjusting for expected population growth together with gains or losses typically associated with a particular grade-to-grade change for each grade level at each individual school). The pattern for the District is for additional students to join as the grades increase, especially at the transition from elementary to middle and from middle to high school.
- The 2021/2022 school year enrollment is based on the October 1, 2021 enrollment data.
- Economic growth impacts, land use and zoning provisions, buildable lands inventory, and new residential developments are taken into account.
- The student generation rates by grade levels in the District for single family homes for the last six years is 0.237 Elementary School, 0.143 Middle School, and 0.202 High School students/new unit. Since there have been limited multi-family units constructed in the District over the last six years, the County code states that County wide averages should be used but the District is using a composite from larger districts with a significant amount of multi-family units. Accordingly, the District will apply a 6-year generation rate for the other larger school districts in Clark County (Battle Ground, Evergreen, and Vancouver). The composite weighted average for these three districts combined is a multi-family generation rate of 0.554 Elementary School, 0.344 Middle School, and 0.460 High School students/new unit.

A. Projected Enrollment 2022-2028 (Headcount)

Grade	Actual 2019	Actual 2020	Actual 2021	2022	2023	2024	2025	2026	2027	2028
K-5	3,117	2,852	2,866	2,954	2,904	3,071	3,041	3,183	3,231	3,308
6-8	1,863	1,737	1,735	1,721	1,758	1,721	1,790	1,766	1,862	1,877
9-12	2,432	2,389	2,444	2,428	2,484	2,453	2,457	2,515	2,494	2,549
TOTALS:	**7,412**	**6,978**	**7,045**	**7,103**	**7,146**	**7,245**	**7,288**	**7,464**	**7,587**	**7,734**

V. CAPITAL FACILITIES NEEDS

Facility needs for purposes of the Growth Management Act and impact fees are based on existing capacity and forecast enrollment. The 2028 Facility needs are shown in the table below and the amount of the facility need that is attributed to forecast growth is described under the table.

A. Forecast Facility Capacity Needs

- Elementary Schools: The enrollment forecast shows an increase of 442 students.
- Middle Schools: The enrollment forecast for middle school shows an increase of 142 students.
- High Schools: The enrollment forecast for high school shows an increase of 105 students.

- The projected number of students by 2028 indicate the need for an additional middle school and elementary school capacity. High school enrollment can be accommodated by the additions in our 2016 bond to our existing educational facilities.

Under the District's 2016 Bond Capital Program, the District purchased property that contained a commercial building in 2016, which was remodeled in 2017 to accommodate educational use and can serve 350 middle school students. In 2018, the District completed construction of a new high school that has a capacity to serve 600 students. In addition, the District completed construction of a replacement elementary school in 2018 to increase the capacity at the elementary level by 192 students. The District also added two double portable classrooms to the District inventory at the elementary level in 2019 and 2020 to address overcrowding at individual schools. The cost to purchase this land and build these schools and portables, which are now available to serve forecast growth are listed below as Facility Capacity Needs.

The District added capacity over the last 4-5 years that is available to serve forecast growth. New development, which places demands on schools will use the capacity that has been provided, and will contribute a small portion of the cost through the payment of school impact fees.

B. 6-Year Plan – Facility Capacity Needs

Project Description	Added Capacity	Estimated Cost	Cost for Added Capacity to Serve Growth
Woodburn Elementary Portable	48	$500,000	$500,000
Odyssey Middle School Addition	100	$15,000,000	$10,000,000
Property Acquisition		$7,000,000	0
Liberty Middle Portable	60	$500,000	$500,000
Middle School Construction	850	$100,000,000	$100,000,000
Leadbetter Campus Improvements for Educational Purpose	500	$87,000,000	0
TOTAL:	**2,158**	**$210,000,000**	**$111,000,000**

- Cost attributed to forecast growth is the proportionate share of the total cost to construct the improvement that is equal to forecast growth. Forecast growth at the elementary school level is 442 and the added capacity is 48. Because two middle schools will be at and over capacity during the 6-year period of this plan, the entire new middle school, addition, and portable are needed for growth. The estimated total cost includes all the costs to construct the improvement. Architect, engineer, professional services, furniture/fixtures/equipment, permit and owner contingency costs have been excluded from the cost allocated to serve forecast growth.
- Costs are estimates.

- The 2016 bond program also included replacement facilities and capital renewal projects that are not listed above. A detailed list of all bond improvements with project specific costs is on file with the District.
- To accommodate growth on a short term and immediate basis, the District may purchase and utilize portable classrooms, and this plan incorporates those facilities and the equipment and furniture necessary to equip these classrooms in the District's facility plan. Impact fee revenue can be available to fund portable facilities if these facilities are needed to serve growth.

VI. CAPITAL FACILITIES FINANCE PLAN

A. Six Year Financing Plan

Facility Capacity Need	Total	Estimated Impact Fees	State Construction Funds	Bonds
Secured	**$4,000,000**	$4,000,000	$0	$0
Unsecured	**$111,000,000**	$3,000,000	$13,000,000	$95,000,000

*Financing plan does not include all potential facility needs identified in table V. B. above.

The total cost for all 2016 bond projects, including facility improvements and property acquisition was $137.2 million dollars. Funding for planned improvements is typically secured from a number of sources including voter approved bonds, limited general obligation bonds, capital levies, state match funds and impact fees. The following information explains each of the funding sources in greater detail.

Capital Levies
In 2021, District voters approved a $11.5 million dollar Capital Levy to fund technology and necessary capital renewal projects; including roof replacements, HVAC replacements, fire protection upgrades, and other capital maintenance.

School Construction Assistance Program (SCAP)
The School Construction Assistance Program (SCAP) provides funding assistance to school districts that are undertaking a major new construction or modernization project. Funds primarily come from the Common School Construction Fund (the "Fund"). School districts may qualify for State construction funds for specific capital projects based on eligibility requirements and a state prioritization system. Based on the District's assessed valuation per student and the formula in the State regulations, the District is currently eligible for state construction funds for new schools at the 63.77% match level. The District received $13,065,000 for construction of the new high school.

Impact Fees
The collection of school impact fees generates partial funding for construction of public facilities needed to accommodate new development. School impact fees are collected by the cities and County on behalf of the District at the time plats are approved or building permits are issued. Impact fees are calculated based on a formula, which includes the portion of District construction resulting in increased capacity in schools.

Anticipated property acquisition and new construction is based on the enrollment forecast, capacity, the District's educational standards and the community's support of finance tools to fund improvements.

VII. SCHOOL IMPACT FEES

The Growth Management Act (GMA) authorizes jurisdictions to collect impact fees to supplement funding of additional public facilities needed to accommodate new development. Impact fees cannot be used for the operation, maintenance, repair, alteration, or replacement of existing capital facilities used to meet existing service demands.

Local jurisdictions in Clark County have adopted impact fee programs require school districts to prepare and adopt Capital Facilities Plans. Impact fees are calculated in accordance with the jurisdiction's formula, which is based on school facility costs to serve new growth. The formula allocates a portion of the cost for new facilities to a single family or multi-family residence that create the demand (or need) based on a student factor, or the average number of students that live in new single family or multi-family homes. The formula also provides a credit for SCAP funds the District receives and the projected future Bond Proceeds (or property taxes) that will be paid by the owner of the home.

The District's impact fees have been calculated utilizing the formula in the Clark County and the Cities of Camas, Washougal, and Vancouver Impact Fee Ordinances. Application of the formula is shown in Appendix A which follows on the next page.

In accordance with the school impact fee calculation in Appendix A, the District's maximum allowable school impact fees are:

$6,652.48 per single family residence
$29,713.38 per multi-family residence

The District Board of Directors, at its May 23, 2022 meeting, recommends collecting school impact fees in the following amounts:

$ 6,650.00 per single family residence
$ 6,650.00 per multi-family residence

Camas School District **APPENDIX A**

Single-Family			
Elementary	Middle School		Formula
$ 500,000.00	$ 110,500,000.00		Facility Cost
48	1010		Additional Capacity
$10,416.67	$ 109,405.94		Cost per Student (CS)
0.237	0.143		Student Factor (SF)
$2,468.75	$15,645.05		CS x SF
$246.83	$246.83		Boeck Index
90	117		OSPI Sq Ft
63.77%	63.77%		State Match Eligibility %
None available	$2,633.52		State Match Credit (SM)
$2,468.75	$13,011.53		CS x SF – SM
		$15,480.28	Cost per Single Family Residence
		LESS	Tax Credit
		0.0220	Average Interest Rate
		0.243108277	Tax Credit Numerator
		0.027348382	Tax Credit Denominator
		8.889311106	Tax Credit Multiplier (TCM)
		$543,752.00	Average Assessed Value (AAV)
		$4,833,580.69	TCM x AAV
		0.00158347	Tax Levy Rate (TLR)
		$7,653.83	TCM x AAV x TLR = (TC)
		$7,826.45	Cost per Single Family Residence - Tax Credit
		LESS	15% reduction (A)
		$6,652.48	Calculated Single Family Fee Amount
		$6,650.00	Recommended Fee Amount
Multi-Family			
Elementary	Middle School		Formula
500,000.00	$ 110,500,000.00		Facility Cost
48.00	1010		Additional Capacity
$10,416.67	$ 109,405.94		Cost per Student (CS)
0.554	0.344		Student Factor (SF)
$5,770.83	$37,635.64		CS x SF
$246.83	$246.83		Boeck Index
90	117		OSPI Sq Ft
63.77%	63.77%		State Match Eligibility %
None available	$6,335.18		State Match Credit (SM)
$5,770.83	$31,300.47		CS x SF – SM
		$37,071.30	Cost per Multi-Family Unit
		LESS	Tax Credit
		0.0220	Average Interest Rate
		0.243108277	Tax Credit Numerator
		0.027348382	Tax Credit Denominator
		8.889311106	Tax Credit Multiplier (TCM)

		$150,212.00	Average Assessed Value (AAV)
		$1,335,281.20	TCM x AAV
		0.00158347	Tax Levy Rate (TLR)
		$2,114.38	TCM x AAV x TLR = (TC)
		$34,956.92	Cost per Multi-Family Unit - Tax Credit
		LESS	15% reduction (A)
		$29,713.38	Calculated Multi-Family Unit Fee Amount
		$6,650.00	Recommended Fee Amount

STATE OF WASHINGTON
DEPARTMENT OF COMMERCE
1500 Jefferson Street SE • PO Box 42525 • Olympia, Washington 98501• (360) 725-4000
www.commerce.wa.gov

October 8, 2026

The Honorable Steve Hogan
c/o Alan Peters, Community Development Director
City of Camas
616 NE 4th Ave
Camas, WA 98607

Sent Via Electronic Mail: apeters@cityofcamas.us

Re: 2026-S-15224 60-day Notice of Intent to Adopt - Periodic Update to the Camas Comprehensive Plan and Development Regulations.

Dear Mayor Hogan:

Thank you for the opportunity to review and comment on the Camas draft comprehensive plan and development regulations. We appreciate the ongoing coordination with our agency as you work to achieve the community's vision consistent with the goals and requirements of the Growth Management Act (GMA). Growth Management Services received the proposed amendment on August 14, 2026, and processed it with material identification number 2026-S-15224.

Your submission represents a great deal of work towards the 2025 periodic update of your comprehensive plan and implementing development regulations, which were due December 31, 2025.

We have reviewed your submittal using Commerce's Periodic Update Checklist and Expanded Housing Checklist. We encourage you and your community to consider the following as you finalize your drafts prior to adoption:

Comprehensive Plan

Land Use Element

1. In our review, we did not find identification of lands useful for public purposes such as utility corridors, transportation corridors, landfills, sewage treatment facilities, storm water management facilities, recreation, schools and other public uses. We did find a policy associated with this, but not specific identification of lands useful for these purposes. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.150 and WAC 365-196-340

2. During our review, we did not find identification of open space corridors and green spaces within and between urban growth areas including lands useful for recreation, wildlife habitat, trails and connections of critical areas, and urban and community forests within the UGA. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.070(1) amended in 2023, RCW 36.70A.160 and WAC 365-196-335.

3. Based on our review, we did not find special consideration to achieving environmental justice in goals and policies, including efforts to avoid creating or worsening environmental health disparities. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.070(1).

4. Upon review, we did not find where the land use element reduces and mitigates the risk to lives and property posed by wildfires by using land use planning tools and through wildfire preparedness and fire adaption measures. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.070(1). See also: International Wildland-Urban Interface Code and WAC 51-55.

Capital Facilities Element

5. In our review, we did not find a forecast of future need. Sometimes this information is located in a capital facilities plan, but that plan was not submitted and could not be found on the city's website. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.070(3)(b) and WAC 365-196-415(1)(b). Please note that the forecast should be based on projected population, housing units, and adopted levels of service (LOS) over the planning period.

6. During our review, we did not find proposed locations and capacities of expanded or new capital facilities. Sometimes this information is located in a capital facilities plan, but that plan was not submitted and could not be found on the city's website. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.070(3)(c) and WAC 365-196-415 (1)(c) and (3)(c). Please note, infrastructure investments should consider equity and plan for any potential displacement impacts.

7. Based on our review, we did not find a policy or procedure to reassess the land use element if probable funding falls short of meeting existing needs. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.070(3)(e), WAC 365-196-415(2)(d).

Housing Element

8. Upon review, we were unable to identify which set of actions the city intends to implement to meet requirements of RCW 36.70A.070(2)(d). To better align with this requirement, we recommend adding to the housing element a list of barriers to affordable housing needs and actions needed to remove those barriers to align with statute. Guidance on completing this requirement can be found in chapter 4 of Guidance for Updating Your Housing Element (pg. 52-68).

   Based on recent Growth Management Hearings Board cases, we also recommend identifying gaps in local funding needed to achieve affordable housing needs, documenting which available local funding tools or incentives are already being used, and which tools can be implemented to help close the funding gap. Guidance on this can be found in chapter 4 of Guidance for Updating Your Housing Element (pg. 60-62) and Appendix B: Adequate provisions checklist.

9. In our review, we were unable to find discussion of how the city's housing policies were evaluated for racially disparate impacts, displacement, and exclusion in housing, as required by RCW 36.70A.070(e). We recommend including this evaluation in the city's housing element or

as an appendix in the comprehensive plan. For guidance on completing this requirement, please see Guidance to Address Racially Disparate Impacts.

10. Results of the land capacity analysis are included in the housing element on pg. 44-50. To better align with requirements of RCW 36.70A.070(2)(c), we suggest disaggregating housing needs and capacity below 80% AMI (Table 4) to reflect the differing affordability levels that allowed housing types may reach. For example, capacity for ADUs in all zones is counted toward needs for all income levels below 80% AMI (Table 5), although ADUs typically do not reach the lowest levels of affordability (0-30% AMI).

Transportation Element

11. During our review, we did not find identification of specific actions to bring transportation facilities and services to established multimodal LOS. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.070(6)(a)(iii)(D) amended in 2023, WAC 365-196-430.

12. Based on our review, we did not find an analysis of future funding capability to judge needs against probable funding resources. We recommend updating the proposed policies and regulations to be consistent with RCW 36.70A.070(6)(a)(iv)(A), WAC 365.196-430(2)(k)(iv).

Climate Element

13. The climate element includes a thoughtful write up about overburdened communities and vulnerable populations and adds additional areas that are most vulnerable to climate hazards. This section references the Camas 2045 Equity Framework in the introduction section, but we did not see this section in the comprehensive plan. We suggest adding this section if it was left out or revising the reference to point to a specific page number if it is in the comprehensive plan already.

14. Although there is a section about overburdened communities and vulnerable populations in the climate element, it is not clear how the climate policies that benefit overburdened communities and vulnerable populations were prioritized. Policies CL-6.5, CL-4.1, CC-3.1, LU-1.4 are a good start. To strengthen these policies, we suggest including a brief explanation of how they prioritize overburdened communities and vulnerable populations and how they will be implemented.

15. Some climate policies describe aspirations for climate resiliency and mitigation but are ultimately vague such as CL-1.1 “Support residents’ efforts to improve energy efficiency and resiliency in existing and new residences” or Policy PFS-4.23 “Protect natural stream courses for water quality.” Refining policies to include how they will be implemented could strengthen the policies and more clearly meet the intention of RCW 36.70A.070(9).

Development Regulations

STEP Housing

16. Based on our review of the city’s current zoning regulations, we could not find definitions for emergency housing or emergency shelters. We recommend including these definitions in the city’s development regulations consistent with language found in RCW 36.70A.030.

17. In our review, we could not find a definition for religious organization. We recommend including this definition in the city’s development regulations consistent with language found in RCW 36.01.290.

18. During our review, we were unable to find where emergency housing and shelter are allowed in the city. For consistency with RCW 35A.21.430 and RCW 36.70A.070(2)(c), we recommend updating your code to reflect that these housing types are allowed in all areas that allow hotels.

Co-Living

19. In our review of the city's current zoning regulations, we did not see where the city allows co-living as a permitted use on any lot located within an urban growth area that allows at least six multifamily residential units, including lots zoned for mixed-use development. We recommend updating proposed regulations to be consistent with RCW 36.70A.535.

Residential Parking

20. In our review of the parking standards in the Camas code, we did not find amendments to residential parking regulations that are consistent with RCW 36.70A.622. For consistency with statute, we recommend incorporating the provisions outlined in RCW 36.70A.622.

Construction Flexibility

21. In our review, we found that the height and setback standards outlined in the Camas code did not include provisions that would allow for the following flexibility:
    - Allow for new construction or retrofits of existing buildings for residential housing to project into required setbacks and exceed height limits by up to eight inches to accommodate the addition of necessary insulation.
    - Allow for buildings that meet passive house requirements to project into required setbacks and exceed height limits by up to eight inches to accommodate the addition of necessary insulation.
    - Measure gross floor area from the interior face of the exterior wall.
    - Allow a building to exceed maximum roof heigh limits by at least 48 inches to accommodate a roof-mounted solar energy system.

    For consistency with RCW 36.70A.810, .812, and .813, we recommend incorporating the ability to exceed height and setback standards in the above cases.

Finally, as a friendly reminder, copies of adopted plans and development regulations must be submitted to Commerce within ten days after final adoption (RCW 36.70A.106(2)).

Again, we appreciate the work your proposed amendments represent, and we wish you success in meeting the goals of the Growth Management Act. We are available for technical assistance. If you wish to discuss these comments, you may reach me at ted.vanegas@commerce.wa.gov or 360-280-0320.

Sincerely,

Ted Vanegas

Ted Vanegas
Senior Planner
Growth Management Services

cc: David Andersen, AICP, Managing Director, Growth Management Services
Ben Serr, AICP, Eastern Regional Manager, Growth Management Services
Carol Holman, MUP, Western Regional Manager, Growth Management Services
Anne Fritzel, AICP, Housing Section Manager, Growth Management Services
Laura Hodgson, Housing Planning and Data Manager, Growth Management Services



CITY COUNCIL REGULAR MEETING
OCTOBER 19, 2026

Agenda

- **Staff Presentation**
  - Background
  - Draft Our Camas 2045 Comprehensive Plan
  - Draft Our Downtown Camas 2045 Subarea Plan
    - Draft Downtown Design Manual
  - Development Code Updates
- **Planning Commission Recommendation**
- **Public Hearing**

our 2045 Camas

Growth Management Act

Washington adopted the **Growth Management Act (GMA)** in 1990. GMA directs cities and counties to:

- Concentrate urban development within Urban Growth Areas
- Accommodate projected population, housing, and employment growth
- Coordinate land use with transportation, utilities, public facilities, and services
- Protect critical areas and natural-resource lands

Periodic updates provide an opportunity to:

- Plan for the next 20 years
- Incorporate changes in state law
- Respond to community priorities



UGA	April 1, 2023 Population Estimate	2023 to 2045 VBLM Population Allocation	2045 Population Estimate
Battle Ground	24,444	12,774	37,217
Camas	29,352	7,729	37,080
LaCenter	4,462	3,884	8,346
Ridgefield	16,574	10,656	27,230
Vancouver (City)	199,600	66,855	266,455
Vancouver (UGA)	163,752	72,010	235,762
Washougal	18,026	6,848	24,874
Woodland	145	185	330
Yacolt	1,762	276	2,039
Total	**458,116**	**181,216**	**639,332**

Source: Clark County, Geographic information System and Community Planning, OFM
Note: Based on 95/5 urban/rural planning assumption; City of Vancouver adjusted to reflect 2023 OFM Estimate

our2045 Camas

What Is Shaping *Our Camas 2045*?

Growth

- 2045 population of **37,080**
- Allocation of **11,615** new jobs

Housing needs

- Camas must plan for **4,226** additional housing units
- Expand housing choices for all income levels and lifestyles

Community character

- Preserve Camas's small-town identity, historic downtown, established neighborhoods, tree canopy, and connection to the natural environment

New Legislation

HB 1110 the "middle housing" bill

HB 1337 requires Camas to allow up to two ADUs per lot

HB 1220 plan for and accommodate housing affordable to all income levels

HB 1181 develop and adopt a climate element

our2045 Camas

Visioning and Community Outreach

The planning process began by asking the community what Camas should be like in 2045 and what qualities should be preserved as the city grows.

Engagement occurred throughout the process through:

- Community conversations and surveys
- Community summits and event pop-ups
- Engage Camas updates and comment opportunities
- Planning Commission and City Council workshops
- Advisory committees

Three advisory groups provided focused guidance:

- **Community Advisory Committee**
  Citywide vision, priorities, and policies
- **Downtown Advisory Committee**
  Downtown vision, land use, mobility, design, and redevelopment
- **Climate Policy Advisory Team**
  Climate resilience and greenhouse-gas reduction strategies.





our 2045 Camas

Vision

Our Community

Camas is an inclusive community where residents experience a sense of belonging and connection. Community-wide events foster civic pride, strong bonds among neighbors and a welcoming atmosphere for new residents. Community amenities and recreation facilities throughout Camas promote active lifestyles and social interaction. Camas is recognized for excellent schools and its commitment to lifelong learning. The City promotes a strong culture of public safety, transparent communication, and good governance, allowing residents to thrive in their neighborhoods and engage in decision-making that shapes their community.

Our Environment

Camas embraces its connection to nature and enjoys a wealth of outdoor recreational opportunities. Access to forests, clean water, parks, and trails is foundational to Camas' quality of life. The community shares a deep reverence for Camas' beauty, scenery, and tranquility, and is committed to preserving and enhancing its natural resources and tree canopy. Through proactive planning, the City mitigates the effects of changing climate conditions and natural hazards, ensuring a resilient community for generations to come.

Our Neighborhoods

Camas embraces its small-town feel while responsibly managing growth, ensuring a prosperous and livable future for all. Camas provides a variety of housing options that meet the needs of all residents, while ensuring the town's charm and livability are sustained. Camas is home to a thriving economy and diverse businesses, affording residents ample employment opportunities and access to high wage jobs. Neighborhood commercial hubs connect residents to daily services and amenities through a network of sidewalks and bike lanes, improving access and connectivity.

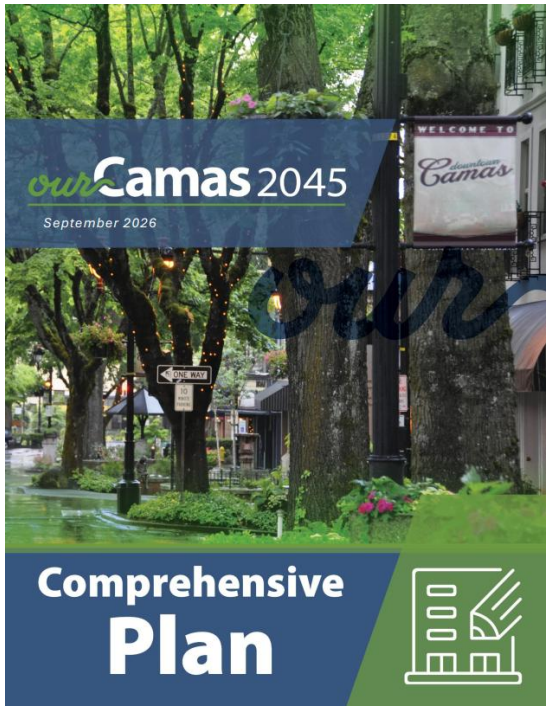
Our Downtown

Charming, vibrant, and walkable, Downtown Camas is the city's living room. Downtown's history is complemented by new businesses and inclusive housing options. Expansion, resiliency and a dynamic economic landscape are critical to its success. Downtown Camas anchors the community while fostering a culture of pride, support, and connection.

Final Draft Comprehensive Plan

The Our Camas 2045 Comprehensive Plan includes eight elements that establish the Our Camas 2045 vision and policy framework for growth and development over a 20-year planning horizon:

- Community Character
- Land Use
- Housing
- Natural Environment
- Climate Change and Resiliency
- Transportation
- Public Facilities and Services
- Economic Development



our 2045 Camas

Community Character

- New Comprehensive Plan Element
- Emphasis on codifying "small-town feel" in land use policy
- Focus on community engagement, identity, art and history







our 2045 Camas

Land Use

The Land Use element consolidates 12 designations into nine:

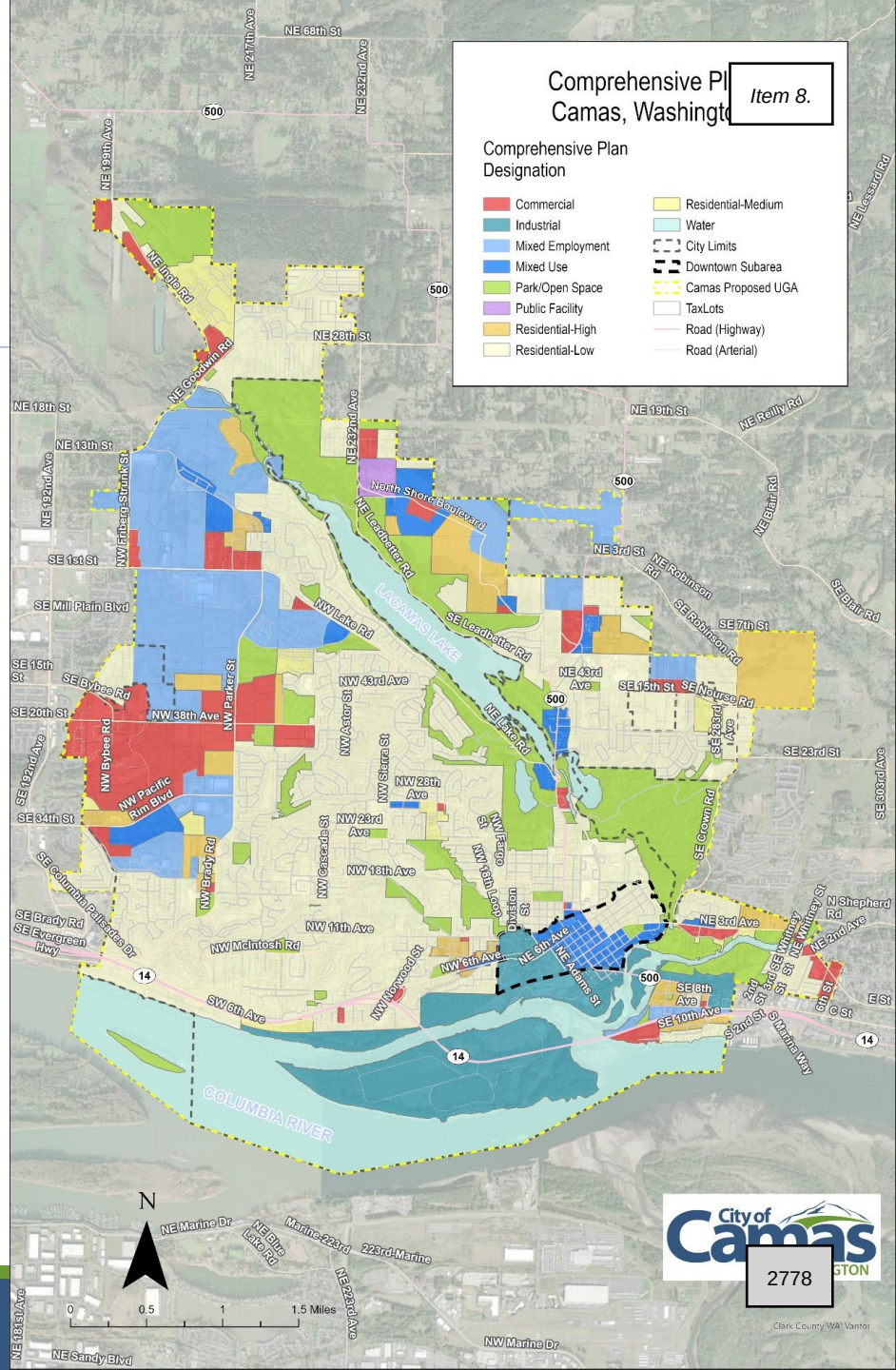
- Residential – Low, Residential – Medium, Residential – High
- Mixed Use
- Commercial, Mixed Employment, Industrial
- Parks and Open Space, and Public Facility

Key changes to goals and policies

- Emphasize sustainable development and integration of environmental considerations
- Promote equitable access to parks, food, and essential services citywide
- Encourage redevelopment and infill of underutilized land with better design standards
- Introduce new zones, consistent with the preferred alternative map

Urban Growth Area Expansions

- Grove Field
- Nevin Property



Housing

- Set out strategies to accommodate existing and **projected housing needs** for all segments of the community over the next 20 years
- **Enhance neighborhoods**, support the maintenance and improvement of existing housing stock, and guide the development of new housing stock to support a range of income levels, ages, and abilities
- Identify **goals and policies** providing a framework for meeting short- and long-term housing needs, preferences, and help the city meet GMA requirements



4,226 new homes will be needed over the next 20 years in the City of Camas

In addition, there will also need to be:
172 Emergency housing beds (temporary housing)

our 2045 Camas

Natural Environment

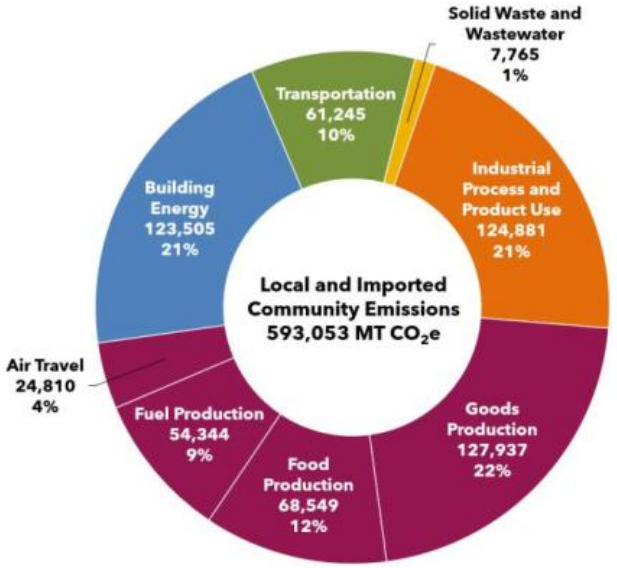


Key changes to goals and policies

- Added detailed policies on climate resilience, ecosystem services, and environmental justice
- Strengthen protection of soil, hydrology, and native species
- Encourage adaptive management strategies for climate change impacts
- Support restoration of natural areas and removal of invasive species
- Promote urban forestry and native landscaping to increase tree canopy and reduce heat islands

Climate Change & Resiliency

- New Comprehensive Plan Element
- Assess current greenhouse gas emissions and climate resiliency
- Assess vulnerable communities and assets
- Goals and policies focus:
  - Potential for energy, land use and transportation impacts on climate change
  - Emphasis on partnerships and coordination for emergency preparedness
  - Resource preservation



21.8
MT CO_2e
Per Capita

our 2045 Camas

Transportation

Key changes to goals and policies

- Expand focus on Complete Streets and multi-modal networks (biking, walking, transit)
- Promote retrofitting street networks to improve connectivity and eliminate dead-ends
- Encourage equity in transportation planning and impact fee allocation
- Support better access to employment centers, schools, and natural areas
- Improve signage and wayfinding to enhance pedestrian and visitor experience



Public Facilities & Services

Key changes to goals and policies

- Integrate sustainability and climate resilience into utility and infrastructure planning
- Expand planning for decentralized public safety facilities and annex stations
- Encourage reclaimed water use and green infrastructure
- Highlight the need for proactive planning in annexation areas and future growth corridors
- Promote inclusive access to recreational services and development of new park amenities



our2045 Camas

Economic Development

Key changes to goals and policies

- Link economic development more closely with land use, housing, and transit planning
- Support innovation hubs, start-ups, and high-tech job growth
- Encourage local employment opportunities in all neighborhoods
- Invest in mixed-use centers and commercial corridors for business vitality
- Align economic goals with environmental sustainability and community identity

Final Draft Downtown Subarea Plan

The Downtown Subarea Plan provides a more detailed policy and investment framework for downtown within the citywide comprehensive plan.

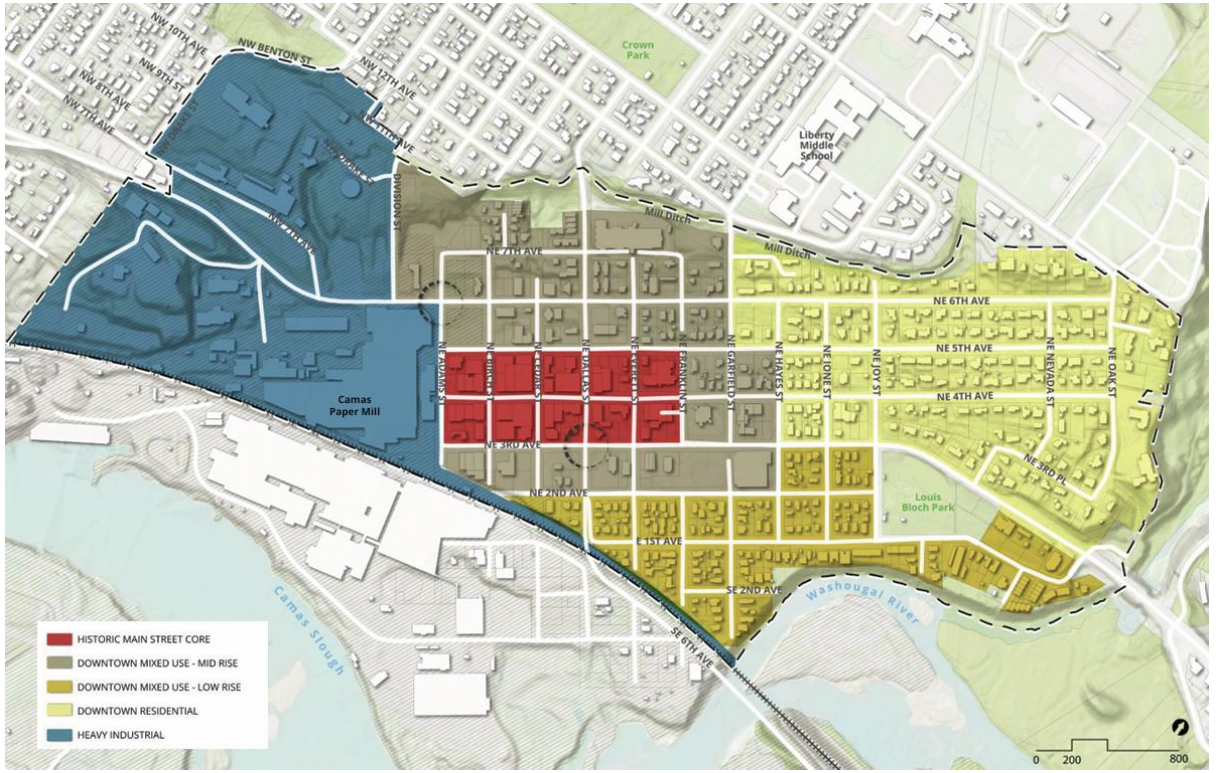
- Strategy to balance history with future transformations
- Emphasis on preserving a distinct identity through design
- Goals and policies address:
  - Architecture and design
  - Downtown housing
  - Urban amenities
  - Economic development
  - Civic life
  - Multimodal connectivity
- Implementation plan with specific actions for the City and key stakeholders



our 2045 Camas

Downtown Districts

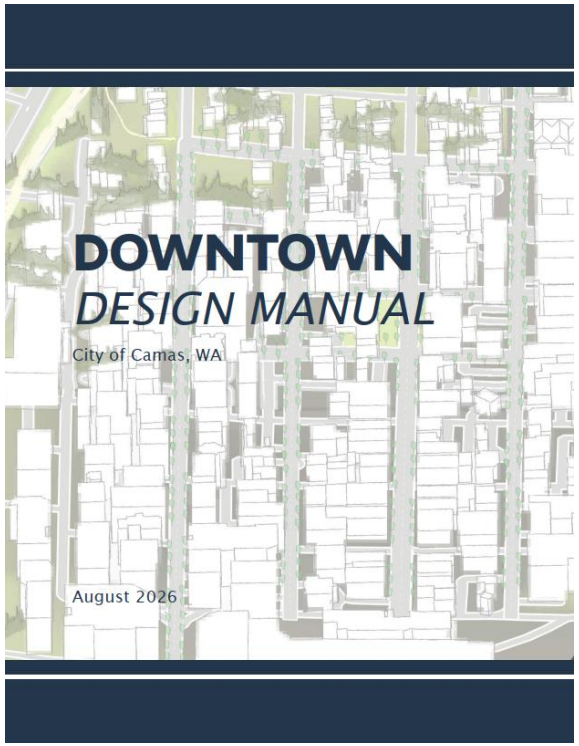
- **Historic Main Street Core**
  - Active retail storefronts
  - Maintains historic character
- **Downtown Mixed-Use Mid-Rise**
  - Mid-rise apartments with active ground floor
  - Live/work units
  - Higher density middle housing allowed
- **Downtown Mixed-Use Low-Rise**
  - Mix of low-rise apartments with active ground floor
  - Live/work units
  - Duplexes, Townhomes, Triplexes
- **Downtown Residential**
  - Single-family homes, Duplexes, ADUs
- **Heavy Industrial**
  - Camas Paper Mill
  - Industrial, Commercial, Recreational and Educational uses
  - Residential development



our 2045 Camas

Downtown Design Manual

- Principal tool for achieving the Downtown Subarea Plan's vision with new development
  - Architectural design requirements
  - Framework for development standards
    - District
    - Street
    - Frontage
- Zoning sections and design standards supported by clear illustrations and visual aids, enabling applicants to interpret and apply requirements with confidence
- Zoning components include the regulating plan, base zoning districts, detailed provisions for land use and parking, and street types to guide future growth



our 2045 Camas

Development Code Updates

- As part of Our Camas 2045, various updates to Titles 17 and 18 are proposed to ensure that development regulations are aligned with the updated plan's goals, policies, growth objectives and changes to state law.

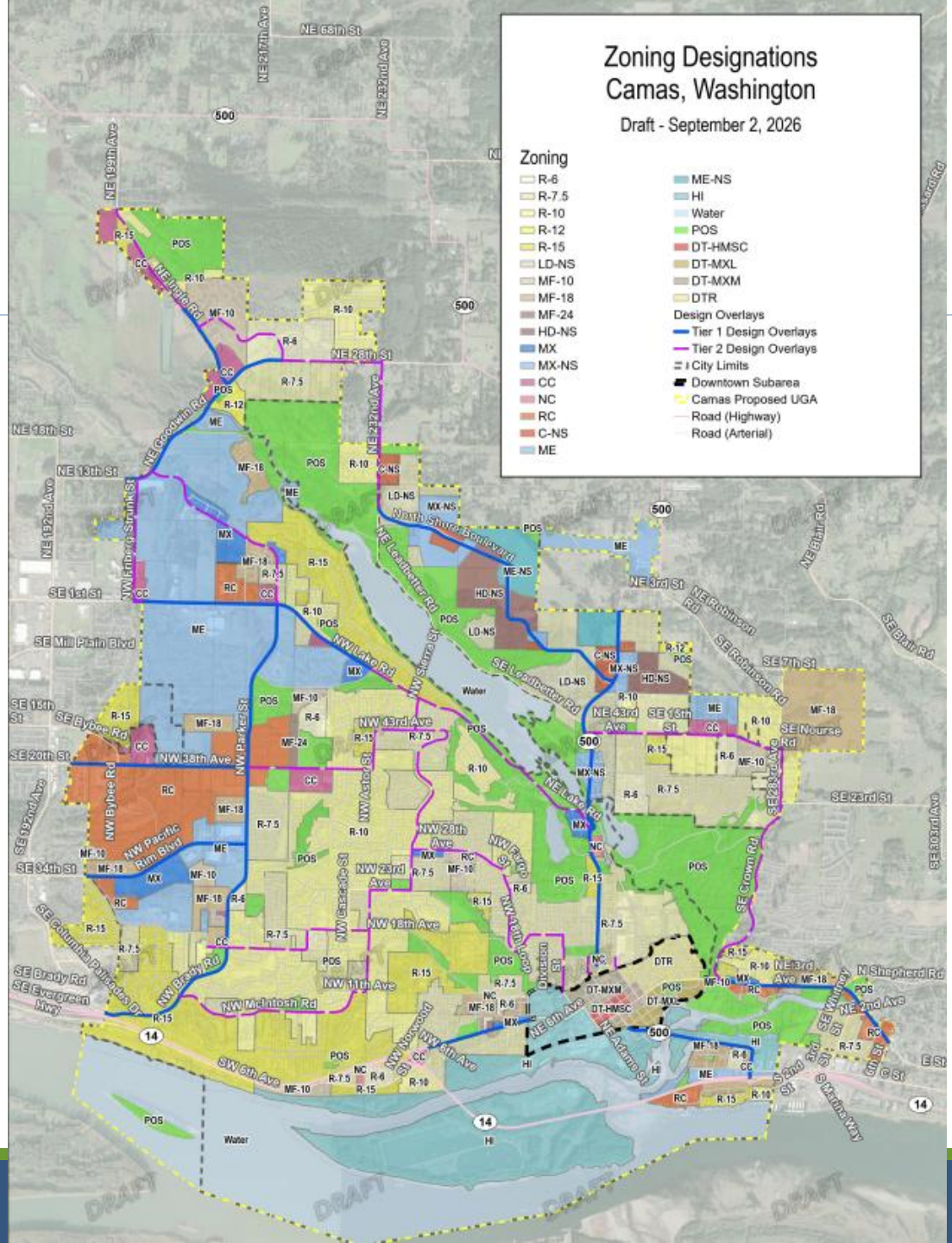
- Chapter 17.09 – Short Subdivisions
- Chapter 18.03 – Definitions
- **Chapter 18.05 – Zoning Map and Districts**
- **Chapter 18.07 – Use Authorization**
- Chapter 18.09 – Density and Dimensions
- **Chapter 18.11 – Parking**
- **Chapter 18.13 – Landscaping**
- Chapter 18.15 – Signs
- Chapter 18.18 – Site Plan Review
- Chapter 18.19 – Design Review
- Chapter 18.20 – Design Overlays
- **Chapter 18.22 – Mixed Employment**
- Chapter 18.23 – Planned Residential Development (PRD)
- **Chapter 18.24 – Mixed Use**
- Chapter 18.26 – Flexible Development
- Chapter 18.32 – Park and Open Space Zoning
- Chapter 18.43 – Conditional Use Permits
- Chapter 18.45 – Variances
- **Chapter 18.51 – Comprehensive Plan and Zoning Amendments**

our2045 Camas

Chapter 18.05 Zoning Map and Districts

- Chapter 18.05 establishes the City's zoning districts and describes the purpose and intended character of each district.
- The proposed plan would consolidate plan designations from 14 to 8 and the total number of zoning designations will be reduced from 26 to 25.
  - The Light Industrial, Business Park, and Light Industrial/Business Park zones will be consolidated into a new Mixed Employment zone.
  - Four park zones will be consolidated into a new Parks and Open Space zone.
  - New zones will include a Multifamily Residential – 24 zone and four new downtown zones – Downtown Residential, Downtown Mixed Use – Low Rise, Downtown Mixed Use – Mid Rise, and Downtown Historic Main Street Core.

COMPREHENSIVE PLAN DESIGNATIONS							
Residential – Low	Residential – Medium	Residential – High	Mixed Use	Commercial	Mixed Employment	Industrial	Parks and Open Space
Residential-6	Multifamily 10	Multifamily 18	Mixed Use	Neighborhood Commercial	Mixed Employment	Heavy Industrial	Parks and Open Space
Residential-7.5		Multifamily 24	North Shore Mixed Use	Community Commercial	North Shore Mixed Employment		
Residential-10		North Shore Higher Density Residential	Downtown Mixed Use – Low Rise	Regional Commercial			
Residential-12			Downtown Mixed Use – Mid Rise	North Shore Commercial			
Residential-15			Downtown Historic Main Street Core				
North Shore Lower Density Residential							
Downtown Residential							



our2045 Camas

Chapter 18.07
Use Authorization

- Chapter 18.07 identifies the land uses that are permitted, conditionally permitted, temporarily permitted, or prohibited within all zoning districts. The chapter is organized into tables for commercial and industrial zones, residential zones, the parks zone, and a new table for downtown zones.
- Table 1 - Commercial and industrial land uses would be reorganized to correspond with the revised zoning districts established in Chapter 18.05.
  - The Downtown Commercial, Business Park, Light Industrial/Business Park, and Light Industrial columns would be removed.
  - A new Mixed Employment column would be added, and downtown uses would be moved into a separate downtown use table.

18.07.030 Table 1—Commercial and industrial land uses.

KEY: P = Permitted Use
C = Conditional Use
X = Prohibited Use
T = Temporary Use

Zoning Districts	NC	~~BC~~	CC	RC	MX	ME	~~BP~~	~~LI/BP~~	~~LI~~	HI	C-NS	MX-NS	ME-NS
Commercial Uses													
Animal kennel, commercial boarding[4]	X	~~X~~	X	~~P~~[1]	X	P[1]	~~P~~	~~X~~	~~P~~	~~P~~[1]	X	X	P[1]
Animal shelter[4]	X	~~X~~	X	C	X	C	~~C~~	~~X~~	~~C~~	P	X	X	C
Antique shop[4]	P	~~P~~	P	P	P	P	~~C~~	~~X~~	~~X~~	P	P	P	P
Appliance sales and service[4]	X	~~P~~	P	P	P	P	~~P~~	~~X~~	~~C~~	P	P	P	P
Automobile repair (garage)[4]	X	~~P~~	C	P	X	P	~~P~~	~~X~~	~~P~~	P	C	X/P[7]	P
Automobile sales, new or used[4]	X	~~P~~	X	P	X	P	~~P~~	~~X~~	~~P~~	P	X	X	P
Automobile service station[4]	X	~~P~~	C	P	X	P	~~P~~	~~X~~	~~P~~	P	C	X	P
Automobile wrecking[4]	X	~~X~~	X	X	X	X	~~X~~	~~X~~	~~X~~	C	X	X	X
Bakery (wholesale)[4]	X	~~X~~	X	P	X	P	~~P~~	~~P~~[5]	~~P~~	P	C	C	P
Bakery (retail)[4]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Banks, savings and loan	X	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Barber and beauty shops[4]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Boat building[4]	X	~~X~~	X	C	X	C	~~C~~	~~X~~	~~C~~	P	X	X	C
Boat repair and sales[4]	X	~~P~~	X	P	X	P	~~P~~	~~X~~	~~P~~	P	X	X	P
Book store[4]	C	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Bowling alley/billiards[4]	X	~~P~~	X	P	P	P	~~P~~	~~X~~	~~P~~	P	X	P	P
Building, hardware and garden supply store[4]	X	~~P~~	C	P	P	P	~~P~~	~~X~~	~~P~~	P	C	P	P
Bus station[4]	X	~~C~~	C	P	C	P	~~P~~	~~X~~	~~P~~	P	P	P	P
Cabinet and carpentry shop[4]	X	~~P~~	C	P	C	P	~~P~~	~~P~~[5]	~~P~~	P	C	C	P
Candy; confectionery store[4]	P	~~P~~	P	P	P	P	~~P~~	~~P~~[5]	~~P~~	P	P	P	P
Cemetery[4]	X	~~X~~	X	C	X	C	~~X~~	~~X~~	~~C~~	P	X	X	C
Clothing store[4]	C	~~P~~	P	P	P	P	~~P~~	~~X~~	~~P~~	P	P	P	P

our 2045 Camas

Mill Redevelopment - Residential

- The Camas Mill cleanup process is being conducted under an agreed order between the Department of Ecology and Georgia-Pacific. The current process involves contamination and evaluating cleanup options, after which Ecology will establish a cleanup level.
- The City has stated its desire for an unrestricted cleanup level and has explained why the site should be cleaned at this level under WAC 173-340-740.
- The Heavy Industrial zone already allows a range of commercial, public, and recreational uses that extend beyond industrial activity. Also allowing for residential use further demonstrates that the property is not intended to be permanently limited to industrial use and strengthens the basis for an unrestricted cleanup.
- Proposed Footnote #8 establishes a new conditional-use pathway for residential development in the Heavy Industrial district west of Lacamas Creek and the Washougal River, occupied by the Camas Mill.

8. West of Lacamas Creek/Washougal River, residential uses may be allowed as a conditional use only when part of a mixed-use development project. Heavy industrial uses must have ceased on the portion of the site proposed for residential development and the applicant must demonstrate that the proposed residential development will not interfere with any continuing industrial operations on adjoining properties in a manner that cannot be reasonably mitigated through conditions of approval.

our 2045 Camas

Chapter 18.11 — Parking

- Chapter 18.11 would be substantially reorganized and updated to provide more flexible parking standards, establish clearer procedures for parking reductions, and reflect changes in state law.

- **SB 5184 (2025)** sets the following limits on local government development regulations regarding parking:
  - No more than 0.5 off-street stalls per multifamily unit.
  - No more than 1 stall per single-family unit.
  - No more than 2 stalls per 1,000 square feet of commercial space.
  - No parking may be required for residences under 1,200 square feet, commercial spaces under 3,000 square feet, affordable housing, senior housing, childcare centers, ground level non-residential space in mixed-use buildings, or for buildings changing use.
- The bill applies to cities with a population of 30,000 or more.

- **HB 1183 (2025)** eliminated parking requirements for certain types of residential projects. Cities and counties planning under the GMA may not require off-street parking as a condition for permitting:
  - affordable housing
  - new construction or the retrofit of existing buildings meeting passive house requirements
  - modular construction
  - mass timber construction

Alternative Minimum Parking Standards

- A new Section 18.11.120 would establish an administrative process through which an applicant could request that the reduced parking requirements of SB 5184 be applied to their project. The alternative standards would allow parking requirements to be reduced to:
  - One-half space per multifamily dwelling unit.
  - One space per single-family dwelling.
  - Two spaces per 1,000 square feet of commercial space.
- No minimum parking would be required under the alternative standards for:
  - Residences smaller than 1,200 square feet.
  - Commercial spaces smaller than 3,000 square feet.
  - Affordable housing.
  - Senior housing.
  - Child care centers.
  - Ground-floor nonresidential space in mixed-use buildings. Certain residential or commercial changes of use.
- The applicant would be required to submit a parking assessment explaining the requested reduction, anticipated parking needs, available on-site and on-street parking, transportation options, and relevant site constraints.
  - Multifamily projects containing more than 20 units would be required to submit a full parking study instead of an assessment.

Parking Study

- Section 18.11.110 establishes that a parking study would be required when:
  - Parking is proposed below the alternative minimum standards.
  - A multifamily project containing more than 20 dwelling units seeks to use the alternative standards.
  - No reasonably comparable parking standard exists for a proposed use.
  - The Community Development Director determines that the scale, mix, phasing, or operating characteristics of a project warrant additional analysis.
- The study would evaluate anticipated parking demand, project phasing, shared and off-site parking, on-street parking, transit access, transportation demand management, accessible parking, and other relevant site and operational conditions. The Director could impose conditions such as parking agreements, monitoring, management measures, or additional review if the use changes materially.
- A parking study could allow for fewer parking spaces than the parking standards or alternative minimum standards.

Chapter 18.13 – Landscaping

- Section 18.13.051 establishes the minimum tree density requirements for development.
  - When first established, the required minimum tree density was set at 20 tree units per acre.
  - In 2023, when adopting North Shore zoning, the City established a standard of 30 tree units per acre in the North Shore subarea. Additionally, the 2023 changes required that at least 50 percent of the tree density be achieved with existing trees in most cases and that replacement trees be native or coniferous.
- The proposed amendments to this section increase the citywide tree standards by increasing the minimum tree density from 20 to 30 tree units per net acre and eliminating the separate North Shore tree density standard.

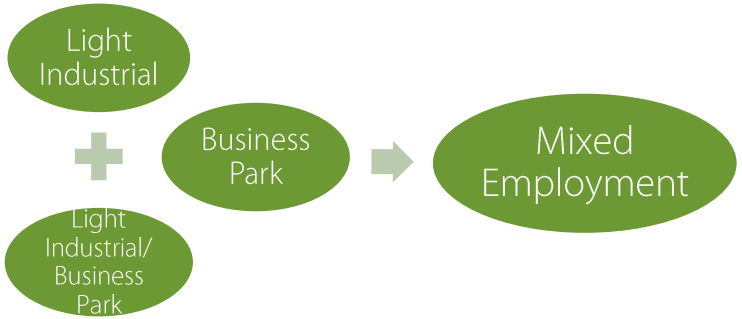


our 2045 Camas

Chapter 18.22 - Mixed Employment

- A mixed employment zone is a flexible, jobs-focused zone that is not purely industrial, office, or retail. The draft Our Camas 2045 plan supports expansion of mixed employment areas in Camas.
  - **Goal ED-4 Mixed Employment and Industrial Areas.** [Provide] a mix of traditional industrial and non-industrial land uses to maximize opportunities and partnerships and facilitate employers to remain, expand, or locate in Camas.
  - **Policy ED-4.5.** Ensure zoning and development regulations support both large - scale employers and small businesses, including start -ups and maker spaces.

- The proposed new Mixed Employment zone would emerge from the consolidation of three light industrial/business park zones.





our 2045 Camas

Chapter 18.24 - Mixed Use

- The draft Our Camas 2045 plan supports expansion of mixed-use areas throughout Camas.
- **Goal LU-1 Citywide Land Use.** Maintain a land use pattern that respects the natural environment and existing uses while **accommodating a mix of housing and employment opportunities** to meet the City's growth projections in coordination with the capital improvement plan.
- **Goal LU-5 Mixed-Use Areas.** Foster economically and socially diverse **mixed-use neighborhoods** that meet the multi-modal transportation, housing, employment, education, recreation, and health needs of the community.
  - Create a mixed-use zone that requires developments to include **a minimum percentage of commercial space** in both vertical and horizontal mixed-use settings.
- The proposed revisions to the Mixed Use zone establishes a requirement for a mix of uses that can be achieved through vertical or horizontal projects, but does allow for some flexibility on smaller lots and to help facilitate commercial development on a quicker timeframe.



our 2045 Camas

Chapter 18.24 - Mixed Use

- Vertical mixed-use
  - Residential uses may be located above ground-floor commercial or other nonresidential uses.
  - A building with ground-floor commercial or nonresidential uses and residential uses above would be considered consistent with the mixed-use intent of the chapter.
- Horizontal mixed-use
  - The draft requires the development to consist of a maximum of 50 percent residential uses and a minimum of 50 percent commercial or nonresidential uses.
  - The required use mix may be measured by either site acreage or gross floor area.
- Residential Flexibility
  - On lots smaller than 20,000 square feet, a development proposal may be allowed to be 100 percent residential.
  - For larger sites, the approval authority may allow residential uses to exceed 50 percent of the site acreage, up to a maximum of 70 percent residential acreage, when the applicant demonstrates that the proposal will provide a superior mixed-use outcome by ensuring timely delivery of the commercial or nonresidential component.
  - The proposal also includes an incentive for affordable housing projects, allowing affordable housing to count towards the commercial component of a project when calculating the use mix.

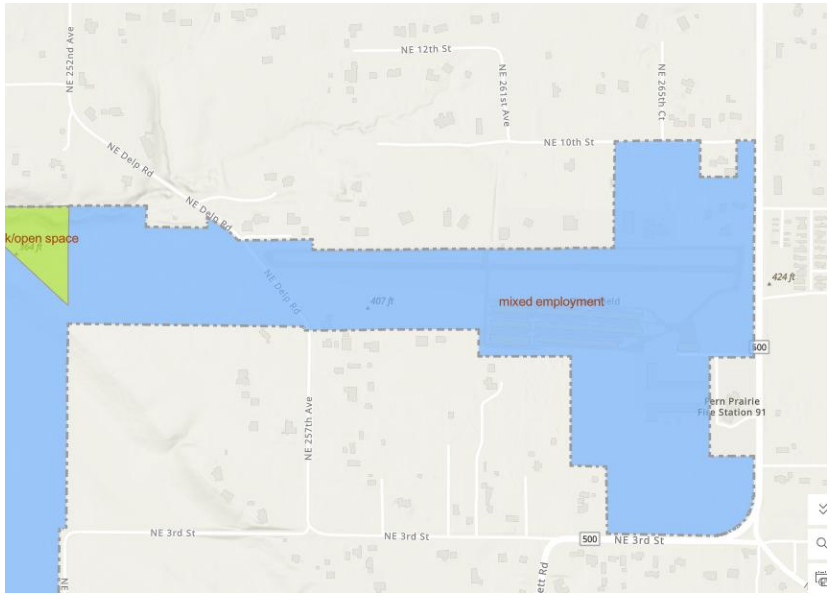
Chapter 18.51 – Comprehensive Plan and Zoning Amendments

- Chapter provides for comprehensive plan and zoning map/text amendments which can be requested by any party.
- Updates include adding application requirements for requests for zoning text changes and provide for concomitant rezones.
  - A concomitant rezone is a zoning map change that is approved together with specific and binding conditions for how the property must be developed.
  - This is a useful tool that would allow the City to impose site-specific conditions when approving a zone change request such as use limitations, density requirements, design standards, phasing, and public improvements.

Clark County Comprehensive Plan

The County Council approved the Clark County Comprehensive Plan on October 13, 2026.

The County's plan includes the 80-acre Grove Field urban growth area expansion.



Planning Commission Recommendation

The Planning Commission recommends adoption of the Our Camas 2045 Comprehensive Plan Periodic Update, Our Downtown Camas 2045 Subarea Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code with the following additional recommendations:

- For the Downtown Plan, the City should consider additional details and plans for the following historic areas: the historic [city] steps, the Mill Ditch Green Space Connector, and the Cedar Street right-of-way.
- Adjust the border of the new multifamily zone east of Elm Street to retain the existing zoning.
- Recommend that the City Council look closely at the infrastructure needed to support demand for water under the new plan, and recommend a demand analysis, and transport study to understand the extent and movement of the [PFAS] contamination and consider mandatory conservation measures.

our 2045 Camas

Recommendation

Staff recommends Council hold the public hearing, take public testimony, and direct the City Attorney to draft an ordinance adopting Our Camas 2045 Comprehensive Plan Periodic Update, Our Downtown Camas 2045 Subarea Plan, Downtown Design Manual, and associated amendments to Titles 17 and 18 of the Camas Municipal Code.