AGENDA
CITY OF LAUREL
CITY COUNCIL WORKSHOP
TUESDAY, APRIL 16, 2024
6:30 PM
COUNCIL CHAMBERS

Public Input: *Citizens may address the Council regarding any item of City business that is not on tonight's agenda. The duration for an individual speaking under Public Input is limited to three minutes. While all comments are welcome, the Council will not take action on any item not on the agenda. Because of the Rules that govern public meetings, Council is not permitted to speak in response to any issue raised that is a non-Agenda item. The Mayor may provide factual information in response, with the intention that the matter may be addressed at a later meeting. In addition, City Council may request that a particular non-Agenda item be placed on an upcoming Agenda, for consideration. Citizens should not construe Council's "silence" on an issue as an opinion, one way or the other, regarding that non-Agenda matter. Council simply cannot debate an item that is not on the Agenda, and therefore, they must simply listen to the feedback given during public input. If a citizen would like to speak or comment regarding an item that is on tonight's agenda, we ask that you wait until the agenda item is presented to the Council by the Mayor and the public is asked to comment by the Mayor.*

Be advised, if a discussion item has an upcoming public hearing, we would request members of the public to reserve your comments until the public hearing. At the public hearing, the City Council will establish an official record that will include all of your comments, testimony, and written evidence.

General Items

1. Appointment of Kurt Markegard and Floodplain Administrator.

Executive Review

2. Resolution - A Resolution Of The City Council Approving The 2025-2027 Collective Bargaining Agreement Between The City Of Laurel And Local Union 303, American Federation Of State, County, And Municipal Employees, AFSCME.
3. Resolution - A Resolution Of The City Council Authorizing The City Of Laurel And The Laurel Urban Renewal Agency (LURA) To Submit A Request For Proposal For A Tif Consultant.
4. Resolution - A Resolution Of The City Council Authorizing The Mayor To Execute The Agreement For Provision Of Fire Services By And Between The City Of Laurel And Laurel Urban Fire Service Area (LUFSA).
5. Resolution - A Resolution Of The City Council Authorizing The Mayor To Execute The Agreement For Provision Of Fire Services By And Between The City Of Laurel And Yellowstone Boys And Girls Ranch.
6. Resolution - A Resolution Of The City Council Approving A Memorandum Of Understanding By And Between The City Of Laurel And Yellowstone County For The W. 12th Street Overlay Project.
7. Resolution - A Resolution Awarding The Bid And Authorizing The Mayor To Execute All Contract And Related Documents For 5th Avenue To 7th Avenue Sewer Line Replacement Project.
8. Resolution - Resolution Of Intent To Adopt Updated Growth Management Policy For The City Of Laurel-Yellowstone County Joint Planning Jurisdiction And Provide For A Thirty (30) Day Public Comment Period.
9. Resolution - Resolution Of Annexation Of Property Legally Described As The Amended Plat Of Lots 1 & 2 Of Nutting Brothers Subdivision, Second Filing, Lot 1a, Adjacent To The City

Of Laurel, As An Addition To The City Of Laurel, Yellowstone County, Montana, With Concurrent Approval Of Zoning Designation Upon Annexation Of The Property.

10. Ordinance - An Ordinance Amending Title 12 Of The Laurel Municipal Code Related To The Standards For Public Works.

Council Issues

Other Items

Attendance at Upcoming Council Meeting

Announcements

The City makes reasonable accommodations for any known disability that may interfere with a person's ability to participate in this meeting. Persons needing accommodation must notify the City Clerk's Office to make needed arrangements. To make your request known, please call 406-628-7431, Ext. 5100, or write to City Clerk, PO Box 10, Laurel, MT 59044, or present your request at City Hall, 115 West First Street, Laurel, Montana.

File Attachments for Item:

2. Resolution - A Resolution Of The City Council Approving The 2025-2027 Collective Bargaining Agreement Between The City Of Laurel And Local Union 303, American Federation Of State, County, And Municipal Employees, AFSCME.

RESOLUTION NO. R24-__

A RESOLUTION OF THE CITY COUNCIL APPROVING THE 2024-2027 (JULY 1, 2024 TO JUNE 30, 2027) COLLECTIVE BARGAINING AGREEMENT BETWEEN THE CITY OF LAUREL AND LOCAL UNION 303, AMERICAN FEDERATION OF STATE, COUNTY, AND MUNICIPAL EMPLOYEES, AFSCME.

WHEREAS, the City of Laurel and Local Union 303, American Federation of State, County, and Municipal Employees, AFSCME (hereinafter "the Union") have negotiated a Collective Bargaining Agreement for Years 2024-2027 (July 1, 2024 to June 30, 2027) (hereinafter "the CBA"), which is subject to approval by City Council and which has already been approved by the Union; and

WHEREAS, the Collective Bargaining Committee, made up of both City personnel and Union personnel, have agreed that the terms and conditions of the CBA are in the best interests of both parties.

NOW THEREFORE LET IT BE RESOLVED by the City Council of the City of Laurel, Montana,

Section 1: Approval. The 2024-2027 (July 1, 2024 to June 30, 2027) CBA between the Union and the City is hereby approved and effective upon the date written herein. The contract terms are hereby approved and ratified, subject to any negotiations that may occur, as to wages or other matters, and any agreed-upon revisions to the CBA between the Union and the City, for Years 2025, 2026, and 2027.

Section 2: Execution. The Mayor is hereby given authority to execute the CBA on behalf of the City.

Introduced at a regular meeting of the City Council on the ____ day of _____, 2024, by Council Member _____.

PASSED and APPROVED by the City Council of the City of Laurel the ___ day of _____, 2024.

APPROVED by the Mayor the ___ day of _____, 2024.

CITY OF LAUREL

_____

Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

APPROVED AS TO FORM:

_____
Michele L. Braukmann, Civil City Attorney

AGREEMENT

BETWEEN

THE CITY OF LAUREL

AND

LOCAL 303

AMERICAN FEDERATION OF STATE

COUNTY & MUNICIPAL EMPLOYEES

MONTANA STATE COUNCIL 9

AFL-CIO

REPRESENTING THE

EMPLOYEES OF THE

CITY OF LAUREL, MONTANA

JULY 1, ~~2021~~ 2024 – JUNE 30, ~~2024~~2027

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AGREEMENT

This Agreement is made and entered into by and between the City of Laurel, Yellowstone County, Montana, hereinafter referred to as "Employer", and Local 303, American Federation of State, County and Municipal Employees, AFL-CIO, Laurel, Montana, hereinafter referred to as "Union" and "Employee(s)".

WITNESS: In consideration of the mutual covenants herein set forth which have been mutually agreed to, the Employer and the Union agree to be bound as follows:

ARTICLE I – RECOGNITION

The Employer recognizes the Union as the sole and exclusive bargaining agent for all employees of the Laurel Police Department, as listed by classification in Addendum "A", attached and by this reference made a part of this Agreement as though fully set forth herein, excluding elected and appointed officials, supervisory employees, management officials, and members of any City Board or Commission.

ARTICLE II – UNION SECURITY

Section 1. Membership Information: The Union shall receive ample opportunity to provide membership information to Union-represented positions during the employee onboarding process. The City and the Union shall work together to ensure reasonable access during the onboarding process through either in-person presentations or other avenues.

The Union and the City agree that the City may not interfere with, restrain, or coerce employees in the exercise of rights guaranteed in 39-31-201, MCA. The parties further agree that the City shall direct all newly hired employees and current employees who have questions and concerns regarding Union membership to contact the Union-designated representatives.

Section 2. The Union shall indemnify and hold the Employer harmless, for any action that the Employer takes in response to any written request of the Union, by certified mail, to terminate an employee for reasons identified in Article II, Section 1.

ARTICLE III – DUES ASSIGNEMENT

Section 1. The Employer agrees to accept and honor voluntary written assignments of wages or salaries due employees covered by this Agreement for union dues, initiation fees, or agency shop fees.

Section 2. The amounts to be deducted shall be certified to the Employer by the Secretary of the Union, and the aggregate deductions of all employees shall be remitted, together with an itemized statement, to the Treasurer of the Union within five (5) working days after payroll warrants are issued.

Section 3. The Union agrees to hold harmless the Employer from any loss or damage arising from the operation of this Article due to unintentional errors.

ARTICLE IV – MANAGEMENT RIGHTS

Section 1. Rights of the Employer: The Union recognizes that the Employer has the responsibility and authority to manage and direct, on behalf of the public, all of the operations and activities of the Employer to the full extent authorized by law.

Section 2. Management Rights: Public employees and their Representatives shall recognize the prerogatives of the Employer to operate and manage its affairs in such areas, but not limited to: (MCA 39-31-303)

a. Direct employees;
b. Hire, promote, transfer, assign and retain employees;
c. Relieve employees from duties because of lack of work or funds or under conditions where continuation of such work would be ineffective or unproductive;
d. Maintain the efficiency of government operations;
e. Determine the methods, means, job classifications and personnel by which the government operations are to be conducted;
f. Take whatever actions may be necessary to carry out the mission of the Employer in situations of emergency;
g. Establish the methods and processes by which work is performed.

Section 3. Effective Laws, Rules and Regulations: The parties recognize the right, obligation, and duty of the Employer, and its duly designated officials, to promulgate rules, regulations, directives, and orders from time to time as deemed necessary in so far as such rules, regulations, directives, and orders are not in conflict with the terms of this Agreement. All terms of this Agreement are subject to the laws of the State of Montana, federal laws, and valid rules, regulations, and orders of the state and federal governmental agencies.

ARTICLE V – NONDISCRIMINATION

Section 1. It is agreed between the parties that each will fully comply with applicable laws and regulations regarding discrimination against any employee or applicant for employment, or any applicant for Union membership, because of a person's race, religion, color, national origin, age, marital status, sex or disability.

Section 2. It is further recognized that no employee shall be discharged or discriminated against by the Employer for such employee upholding Union principals or Union activities.

ARTICLE VI – STRIKES AND LOCKOUTS

Section 1. There shall not be any layoffs due to contracting out of bargaining unit work during the term of this Agreement.

Section 2. The Union and City agree to abide by state law (MCA 39-31-501 through MCA 39-31-505), regarding binding arbitration, for all positions under this contract as set out in Addendum "A".

Section 3. The Union recognizes that the Employer has statutory and other rights and obligations in contracting for matters relating to municipal operations. The right of contracting or subcontracting is vested in the Employer. The right to contract or subcontract shall not be used for the purpose or intention of undermining the Union, nor to discriminate against any of its members.

ARTICLE VII – SENIORITY

Section 1. Seniority means an employee's length of continuous service with the Employer since his/her last date of hire.

Section 2. Seniority with the Employer may be affected by:

a. To be absent from the job due to layoffs will be considered lost time for the purpose of seniority; however, previous service upon re-employment shall count towards seniority.

b. To be absent from the job due to a leave of absence without pay that exceeds fifteen (15) calendar days will be considered lost time for the purpose of seniority; however, previous service upon re-employment shall count towards seniority.

c. To be absent from the job due to active military leave will not affect seniority. Time spent in military service will count towards seniority. After completion of military service, the Employer shall re-hire such persons in accordance with applicable federal law.

d. An employee's continuous service for purposes of seniority shall be broken by voluntary resignation, discharge for just cause, and by retirement.

(1) Seniority shall stop accumulating, but not be forfeited, when an employee is transferred or promoted to a position not covered by this Agreement. Should a qualified employee of the Laurel Police Department not covered by this Agreement return to a covered open position, his/her seniority shall resume upon the assumption of the covered position.

(2) If the employee does not successfully complete the probationary period in the new position and is returned to an open covered position by the City, the employee's seniority continues without interruption. If an employee returns to an open covered position during the probationary period of his/her own will, his/her seniority resumes where it stopped accumulating.

e. Absences due to injury in the line of duty shall be considered time worked for the purposes of determining seniority and granting of any benefits, which are based upon seniority covered by this Agreement.

Section 3. The Employer shall recognize seniority and minimum qualifications in awarding promotions to employees when filling newly created or vacated positions, or when filling special duty assignments within the Police Department. If qualifications are equal, seniority shall prevail. It is the intention of the parties of this Agreement that the Employer shall grant preference to current employees.

Section 4. Layoffs caused by reduction in force shall be in order of seniority within the City; that is, the last employee hired shall be the first released. Full-time and part-time employees who are scheduled to be released shall be given at least ten (10) working days' notice. All recalls to employment shall likewise be in order of seniority within the City; that is, the last employee released as a result of reduction in force shall be the first rehired when the Employer needs additional employees. The Employer shall notify such employees to return to work on a certain date and furnish the Union Secretary a copy of such notification, and if the employee fails to notify the Employer within five (5) working days of his/her intentions to return to work, the employee shall be considered as having forfeited his/her right to re-employment. No regular established employee shall be laid off while there are still seasonal employees working for Employer.

Section 5. If Employer fails to provide ten (10) working days' notice to the employee, and employee is terminated without cause, under the layoff provisions herein, said employee shall be granted two (2) weeks' pay at his/her regular rate of pay.

Section 6. Employees may protest their seniority designation through the usual grievance procedures if they have cause to believe an error has been made.

Section 7. Application of Seniority to Overtime and Call-Outs: The Employer agrees there is one seniority list for the purpose of overtime and call-out within the Police Department. Employer shall consider the position involved and the purpose of the overtime and/or call-out.

Section 8. Seniority in a position will take priority when two employees hold the same position on a special duty assignment (detective, drug unit, school resource officer), and one position is eliminated.

ARTICLE VIII – HOURS OF WORK

Section 1. Workweek: A standard workweek shall consist of forty (40) hours, and shall begin at 6:00am Monday and shall terminate at 5:59am on the Monday following. This shall exclude the 6/3 rotation set out below.

Section 2. Work period: Work periods for the positions identified in Addendum "A" may include, but is not limited to, the following:

a. A 5/2 rotation, composed of any five (5) consecutive eight (8) hour workdays immediately followed by two (2) days off, consisting of forty (40) hours.

b. A 4/3 rotation, composed of four (4) consecutive ten (10) hour days with three consecutive days off, consisting of forty (40) hours.

c. A 6/3 rotation, composed of those positions that will provide the primary 24-hour coverage and consists of six consecutive workdays of 8½ hours each followed by three consecutive days off.

d. A 3.5/3.5 rotation, composed of three (3) consecutive twelve (12) hour days and a four (4) hour day followed by three and one-half (3.5) consecutive days off, consisting of forty (40) hours.

e. A 2/2/3 rotation, composed of two weeks of shifts, where the blocks of on and off days follow a 2-2-3 pattern. Officers are divided into two equal teams working rotating 12-hour shifts as follows. (Note: this schedule must begin on a Monday.) The parties agree this schedule does not constitute a 2/3/2 Individual Schedule.

    1. Team one will work 2 days on, 2 days off, 3 days on, 2 days off, 2 days on, and 3 days off.

    2. Team two will work 2 days off, 2 days on, 3 days off, 2 days on, 2 days off, and 3 days on.

    3. Personnel assigned to the 2-2-3 schedule will forfeit any and all shift differential payments. Forfeiture of differential payments will only be while the 2-2-3 schedule is in use and only those assigned to work the 2-2-3 schedule.

    4. When working a 2-2-3 schedule any employee that works more than 80 hours in a 14-day work period will receive overtime pay for any hours worked above the 80 hours.

f. "Cover Shift" position will work regular schedules, except when relieving a shift person who is off on approved leave, or in case of sick leave. In case of a short back situation, Employer may require "cover shift" position

to take an (8) hour break when transitioning back to his/her regular shift for purposes of safety.

"Cover shift" position will assume the days off and the work hours of the person he/she is relieving unless he/she is only filling in for less than a week.

g. The work period for part-time personnel shall be assigned as needed by the Employer's Chief of Police or designee.

h. The shift schedule and work period set out above may be changed by mutual agreement between the Union and Employer's Chief of Police or designee.

Section 3. Work Schedule:

a. All employees shall be scheduled to work on a regular work shift and each work shift shall have a regular starting and quitting time, except in cases of emergency when life or property are in imminent danger and for the employee in the "cover shift" position.

b. Dispatchers shall bid for shifts three times each year and shall begin on the first Monday of a new pay week in the months of January, June and September. Police Officers shall bid shifts three times each year and shall begin on the first Monday of a new pay week in the month of January. Shift bids for the months of May/June and August/September shall be on the first Monday of a new pay week to coincide with the beginning and ending of the school year (Shift bids will coincide with the vacation request. Each employee will have five (5) calendar days to complete their request at which time it will proceed to the next employee in order of seniority. Employees who fail to bid in the appropriate time frame will forfeit their opportunity to bid and will move to the bottom of the bidding list. The Chief of Police or designee will post the shift bid allowing enough time for all bidding employees to use their five (5) calendar days.) The schedule may be changed upon the mutual agreement of the Union and Employer's Chief of Police or designee. No overtime will be earned or straight time lost as a result of a shift change that is the result of shift bidding.

c. Employer's Chief of Police or designee may assign a probationary officer any shift deemed appropriate and the assignment will take precedence over shift bidding.

d. Employees may trade shifts voluntarily, subject to the following limitations:

1) The trade cannot affect overtime earnings for either employee;

2) No more than 3 consecutive days may be traded in any month;

3) The employee originally assigned a shift remains responsible that the shift is covered; and

4) A shift trade is an agreement between employees and in doing so the employees agree to hold Employer harmless.

e. After shift bid is completed, two employees may request to trade the remainder of the shift bidding if the circumstances support determination that a trade is necessary by the Employer's Chief of Police or designee and Union president.

f. Employer's Chief of Police or designee may assign a particular employee to a shift for one rotation for the betterment of the employee and Police Department.

g. Work schedules showing the employee's shifts, workdays and hours shall be posted. Except for emergency situations, work schedules shall not be changed except for the employee in the "cover shift" position on the 6/3 rotation.

h. All positions set out in Addendum "A" shall be considered shift workers unless specifically agreed and identified otherwise.

Section 4. Lunch and Rest Periods:

a. All employees shall be granted a paid lunch period of 30 minutes during each work shift consisting of more than four (4) hours. Employees are subject to call out during the break.

b. Two rest breaks of fifteen (15) minutes are provided, one in each half of the workday. The time and place of the rest period shall be determined by the supervisor.

ARTICLE IX – COMPENSATION

Section 1. Salaries, Wages and Longevity:

a. Employee classification and conditions relative to and governing wages, salaries, or extraordinary pay rates are contained in Addendum "B" to this Agreement, which is attached to and by this reference made a part hereof as though fully set forth herein.

b. Longevity pay benefits are contained in Addendum "C" to this Agreement, which is attached and by this reference made a part hereof as though fully set forth herein.

c. It is mutually agreed between the parties that compensation will be paid on or before 9:00 a.m. every other Friday following completion of the work period.

Section 2. Overtime:

a. Time worked outside the employee's regular shift schedule shall be compensated at time and one-half.

b. An employee that works more than sixteen (16) continuous hours or over sixteen total hours in a work day will be compensated at two (2) times their normal rate of pay for each hour after the 16th hour.

c. No employee shall work more than sixteen consecutive hours unless in case of emergency.

d. Scheduled overtime is defined as the filling of a shift and is subject to the scheduled overtime guidelines.

e. Situational overtime is defined as an incident requiring a specific employee or employee type.

f. An employee shall receive short back pay of 16 hours (double time) at their regular rate of pay if they are scheduled to work with less than 8 hours rest period between shifts in a 24-hour period to receive 40 hours within the workweek. Short back pay does not apply to an overtime situation or as a result of shift bidding.

g. No overtime shall be worked without the approval of his/her supervisor.

h. Employees shall not be required to suspend work during regular hours to absorb overtime.

i. Overtime shall be paid in half-hour (1/2) increments as follows:

0 – 30 minutes = ½ hour
31 - 60 minutes = 1 hour

j. When computing overtime, sick leave or vacation time taken during the workweek will be considered time worked.

k. The drug investigator shall not be required to be available for scheduled overtime. For scheduled overtime, the first person offered the overtime will be the most senior employee, and then continuing to the most junior employee scheduled off during the day the overtime is needed.

If none of the employees on their day off wish to work the scheduled overtime, the employees working on each side of the empty shift will split the shift evenly. An employee not wishing to split the shift may refuse the

overtime unless no replacement is available; then the employee must work the shift.

l. It is not the intention of the parties to have employees work overtime in positions for which they are not trained, licensed, or qualified except in a bona fide emergency and at the explicit direction of the Employer's Chief of Police or designee.

m. There shall be no compounding or pyramiding of overtime pay, holiday pay, or premium pay, and only the highest applicable rate will be paid.

n. The shift is considered to be overtime when there is no cover shift available to fill the shift, or part-time employee with less than forty (40) hours available to fill the shift.

Section 3. Compensatory Time: Employees under this Agreement may receive compensatory time in lieu of overtime payment in compliance with the provisions of the Fair Labor Standards Act, as amended.

a. The employee has the option to save and use as approved leave within the same calendar year, or receive a lump-sum payment on the first payday in December of each calendar year.

b. Employer shall pay each employee's lump-sum payment by separate check for accounting purposes.

Section 4. Call Outs: Each and every call-out will be for a minimum of two and one half (2½) hours of pay. All time worked will be compensated at one and one-half (1½) times the regular rate of pay. Time shall be calculated from the time of employee notification to time of completion of the duty assigned.

Section 5. Court Time: Employees required to appear for court hearings of trials shall be compensated at a rate of one and a half (1½) times the employee's normal rate of pay. Time shall be paid for a minimum of three (3) hours, or until the conclusion of court hearings or trials if greater than three (3) hours. If Employer fails to notify an employee regarding a cancellation or continuation of a scheduled court hearing or trial by 5:30 p.m. the day before the scheduled court hearing or trial, the employee must be compensated three (3) hours of pay at one and a half (1½) times the employee's normal rate of pay.

Section 6. Special Assignments:

a. Field Training Officer – Union members who are designated as a Field Training Officer for the purposes of training probationary officers shall receive one dollar ($1.00) per hour as incentive pay for these additional responsibilities. Field Training Officer pay will be paid for each hour worked as a Field Training Officer for probationary employee (officers and dispatch only), not for police reserves. Field Training Officer pay will be in addition to detective pay when the detective is assigned to conduct Field Training Officer duties.

b. Detectives – Union members who are assigned to the detective division will receive an additional one dollar ($1.00) per hour as incentive pay for these additional responsibilities.

c. Sergeant – Union members who are assigned to the Sergeant position will receive an additional one dollar and fifty cents ($1.50) per hour as incentive pay for these additional responsibilities.

d. Canine Officer – Union members who are assigned to the Canine position will receive a three hundred and fifty dollar ($350) monthly stipend as incentive pay for the additional responsibilities associated with having a dog.

e. Terminal Agency Coordinator (TAC) – Union members who are assigned to the Assistant TAC position will receive an additional one dollar ($1.00) per hour as incentive pay for these additional responsibilities. The Union member who is assigned to the TAC position will receive and additional one dollar and fifty cents ($1.50) per hour as incentive pay for these additional responsibilities. ~~(For fiscal year 21/22 Assistant TAC will receive incentive pay of fifty (.50) cents per hour and TAC will receive seventy-five (.75) cents per hour and for Fiscal year 22/23 Assistant TAC will receive an additional fifty (.50) cents per hour and TAC will receive an additional seventy-five (.75) cents per hour)~~

f. School Resource Officer (SRO): Union members who are assigned as an SRO will be scheduled Monday – Friday, 7:30am – 4:00pm. Any hours worked over 80 in a standard pay period will be compensated as overtime. During school contract period, this schedule will apply. When not under school contract revert to patrol schedule 2-2-3. Administration will negotiate schedule with school district if the schools adjust to a 4-day week.

ARTICLE X – HOLIDAYS

Section 1. Employees will receive straight time pay at their basic hourly wage for each of the following named holidays:

1.	New Year's Day	January 1
2.	Martin Luther King Day	3rd Monday in January
3.	Presidents' Day	3rd Monday in February
4.	Memorial Day	Last Monday in May
5.	Independence Day	July 4
6.	Labor Day	1st Monday in September
7.	Columbus Day	2nd Monday in October
8.	Veterans' Day	November 11
9.	Thanksgiving Day	4th Thursday in November
10.	Christmas Day	December 25
11.	State General Election Day	(when applicable)

Also legal holidays declared by the President of the United States and the Governor of Montana, with the concurrence of the Mayor of the City of Laurel. All accumulation of holiday pay shall be in accordance with the Montana Operations Manual (MOM).

Section 2. Part-time employees shall receive holiday pay on a pro-rated basis, based on their average hours worked.

Section 3. The holiday will be observed on the day/date stated in this Agreement (the actual holiday) for all employees subject to this Agreement.

Section 4. Work performed on the holiday will be paid at one and one-half (1½) times the regular rate of pay for hours worked in addition to holiday pay, unless the employee has elected to accumulate such holiday in accordance with Section 7. Holiday pay is for eight (8) hours. An employee who is scheduled for a day off on a legal holiday shall be compensated for either holiday pay at straight time, bank the holiday hours at straight time, or take an alternative day off in lieu of the holiday with permission of the Employer's Chief of Police or designee.

Section 5. If a holiday falls on an employee's annual vacation, or while an employee is on approved sick leave, the employee shall be compensated by either receiving eight (8) hours pay at their regular straight time rate of pay or by a one-day extension of their vacation leave, at the employee's option. Employer shall not charge the additional time as sick leave or vacation.

Section 6. Employees may elect to bank holiday time. In the event the holiday time is not used by the last work day in June, a lump sum for the remaining time will be paid out on the first pay period in July by a separate check.

ARTICLE XI – ANNUAL VACATION LEAVE

Section 1. Each full-time employee earns paid vacation as follows:

	Work day credit per year*
1 day through 10 years	15
10 years through 15 years	18
15 years through 20 years	21
20 years and over	24

*Based on an eight (8) hour day

An employee is not entitled to any vacation leave with pay until they have been continuously employed for a period of six (6) calendar months.

Section 2. A part-time employee is entitled to pro-rated vacation benefits after working the qualifying period of six (6) months.

Section 3. Vacation credits may be accrued to a total not to exceed two (2) times the maximum number of days earned annually at the end of any calendar year. Any accumulation of annual vacation leave in excess of this total at the end of the calendar year must be used in the first 90 days of the next calendar year or be forfeited.

Section 4. Vacations must be requested in writing and approved by the Employer's Chief of Police or designee. Vacation bids will coincide with the bidding of shifts. Each employee will have five (5) calendar days to complete their request at which time it will proceed to the next employee in order of seniority. Employees who fail to bid in the appropriate time frame will forfeit their opportunity to bid and will move to the bottom of the bidding list. The Chief of Police or designee will post the vacation bid with enough time for all bidding employees to use their five (5) calendar days. Vacation time may be split. Any conflict in schedules will be determined by seniority, Employer's best interests, and the best interests of the employee. All parties concerned have five (5) calendar days from the time the approved vacation list is posted to make corrections. Vacation requests after the beginning of the shift change shall be on a first come, first served basis. If vacation has been approved by the parties, seniority cannot affect or change the vacation schedule. The number of employees off in the Police Department may be limited based upon the workload and shall be determined at the discretion of Employer's Chief of Police or designee.

Section 5. Leave requests and responses. Employee must submit leave requests for more than four (4) consecutive days at least seven (7) days prior to the requested leave. Employer shall respond no later than five (5) working days prior to the leave requested. Employee must submit leave requests for less than four (4) days at least two (2) days prior to the requested leave. Employer shall respond no later than one (1) working day prior to the leave requested.

Section 6. Vacation and sick leave shall not accrue during a leave of absence without pay.

Section 7. Leaves of absence without pay may be used to extend regular vacation with prior approval of the Employer's Chief of Police or designee.

Section 8. An employee who terminates his/her employment is entitled, upon the date of such termination, to cash compensation for any unused vacation leave, assuming that the employee has worked the qualifying period set forth in Section 1.

In the event, however, an employee transfers between departments of the Employer, there shall be no cash compensation paid for the unused vacation leave. In such a transfer, the receiving department assumes the liability for the accrued vacation credits transferred with the employee.

Section 9. In the event of the death of an employee, unused earned vacation time shall be paid to the employee's heirs at his/her regular rate of pay providing the proper forms provided by the City Clerk-Treasurer's office have been signed and are in the employee's file.

Section 10. Vacation charges and credits shall be charged to the nearest full hour.

Section 11. Employer shall not terminate or separate an employee from employment in an attempt to circumvent the provisions of this Article. Should a dispute arise under this Article, it shall be resolved pursuant to the grievance procedures.

ARTICLE XII – SICK LEAVE

Section 1. Sick leave means a leave of absence with pay for sickness suffered by an employee or his/her immediate family. Sick leave is the necessary absence from duty caused when an employee has suffered illness, injury, pregnancy, or pregnancy-related illness, exposure to contagious disease that requires quarantine, or the necessary absence from duty to receive medical or dental examination or treatment.

Section 2. Each full-time employee is entitled to and shall earn sick leave credits from the first full pay period of employment. For calculating sick leave credits, one (1) day per month up to twelve (12) working days per year sick leave at regular pay. Proportionate sick leave credits shall be earned at the rate of twelve (12) working days for each year of service without restriction as to the number of working days he/she may accumulate.

Section 3. An employee may not accrue sick leave credits during a continuous leave of absence without pay which exceeds fifteen (15) working days. Employees are not entitled to be paid for sick leave under the provisions of this Article until they have been continuously employed for ninety (90) days. Upon completion of the qualifying period, the employee is entitled to all sick leave credits he/she has earned.

Part-time employees receive pro-rated sick leave credit. Temporary and seasonal employees are entitled to sick leave benefits provided they have worked the qualifying period.

Section 4. An employee who terminates his/her employment is entitled to a lump-sum payment equal to one-fourth (1/4) of the pay attributed to the accumulated sick leave. The pay attributed to the accumulated sick leave shall be computed on the basis of the employee's salary or wage at the time the employee terminates their employment.

However, when an employee transfers between departments, the employee shall not be entitled to a lump-sum payment. The department receiving the transferred employee shall assume responsibility for the accrued sick leave.

An employee who receives a lump-sum payment pursuant to this Article and who is reemployed by the Employer shall not be credited with any previous sick leave.

Sick leave charges in excess of earned sick leave credits may be charged to earned and available leave or leave without pay at the employee's option with the Employer's Chief of Police or designee's approval.

Section 5. Sick leave is for the benefit of the employee or his/her immediate family members who are sick and is not intended to be additional time off with pay. Abuse of sick leave or the falsification of illness, injury, or other authorized claim misrepresenting the actual reason for charging an absence to sick leave, or the use of sick leave for any unauthorized purposes constitute cause for termination. Employer must substantiate charges of sick leave abuse resulting in the employee's termination.

Section 6. Disabilities caused or contributed to by pregnancy, miscarriage, abortion, childbirth and recovery are, for all job-related purposes, temporary disabilities and should be treated as such under any health or temporary disability insurance or sick leave plan available in connection with employment.

Any holidays that fall during a period that an employee is on sick leave will be charged as a holiday and not taken off the total accumulate sick leave.

An employee on sick leave shall inform his/her immediate supervisor, or Employer's Chief of Police or designee, of the fact as soon as possible.

After the third consecutive day of sick leave, a medical certification may be required by the Employer. If the Employer requires a medical certificate, the Employer will pay the cost of such certificate.

Section 7. Sick leave pertaining to shift personnel:

a. Cover shift or part-time personnel must work for an employee who is on sick leave unless it is an overtime situation; then the Employer shall follow the overtime procedure.

b. Employees working during another employee's illness, if an overtime situation, will submit extra time to their supervisor on the daily time report, which will be paid at one and one-half (1½) times his/her hourly rate.

Section 8. Sick leave charges and credits shall be charged to the nearest full hour.

Section 9. Employees covered by the Workers' Compensation Act are entitled to benefits administered under the provisions of the Act when they suffer injury or illness as a result of their employment. An employee may elect to use their accrued sick leave credits to supplement their Workers' Compensation payments, but not to exceed their normal expected pay, in accordance with the applicable laws and regulations of the State of Montana.

Section 10. In the event that an employee becomes incapable of performing the duties of his/her regular position through occupational illness or injury, the Employer may transfer the employee without loss of pay to a position for which he/she is qualified, provided the change can be accomplished without displacing another employee.

Section 11. Emergency Sick Leave:

a. Emergency sick leave is defined as a necessary absence due to (1) the illness of a member of the employee's immediate family; or (2) the death of a member of the employee's immediate family.

b. An employee's immediate family includes: spouse, children, parents, grandparents, grandchildren, brothers, sisters, in-laws, step relatives, household dependents, and similar relation of the employee's spouse.

c. Emergency sick leave charged against an employee's sick leave credits shall not exceed a total of five (5) working days per illness in the immediate family. In addition, emergency sick leave charged against an employee's sick leave credits shall not exceed a total of five (5) workdays for each death in the immediate family.

d. Employees may be granted three (3) additional days leave with pay for a death in the family (not to be charged to sick leave), as provided in Article XIII, Section 3.

ARTICLE XIII – LEAVE WITH OR WITHOUT PAY

Section 1. Military Leave: Upon formal request, either oral or written, for military leave, a regular or temporary full-time employee, who is a member of the organized state militia or the reserve military forces of the United States, and who has satisfactorily completed six (6) months of employment, is eligible to receive up to fifteen working (15) days, with pay, per calendar year of military leave. Any part-time employee meeting the above requirements is eligible to receive pro-rated military leave. The employee will submit a copy of their military orders, upon receipt, to the Employer to substantiate such leave request.

An employee who has not completed six (6) months employment is not eligible to receive military leave with pay; however, he/she will be given leave without pay to attend cruises, encampments, or other similar training upon a formal request either oral or written, for such leave. The employee will submit a copy of their military orders, upon receipt, to the Employer to substantiate such leave request.

Section 2. Family and Medical Leave: The Employer may grant Family and Medical Leave after completion of fifty-two (52) weeks of employment, and a minimum of 1250 hours worked in the year preceding the leave, unpaid leave, not to exceed twelve (12) workweeks in a twelve-month period for reasons of bona fide serious health condition, child or family care, or other allowable care. All leaves must be requested in writing and shall state the reason for the leave and the date desired. A doctor's certification may be required for any medical or family leave. All leaves shall be granted only in writing by the Mayor or his designee. Upon the expiration of the leave or upon notification of intent to return, the employee will be returned to their original position, or one equivalent in the employee's classification. Notwithstanding the provisions of the Family and Medical Leave Act (FMLA), the reinstatement of an employee returning from FMLA leave shall not displace another employee, or limit another employee's hours of work, who was a member of the bargaining unit upon commencement of such leave, except as may be mutually agreed to by the Union and the Employer.

While on a family medical leave of absence, any employee benefits will be continued in the same manner that would have been provided had the employee not taken any leave. If the employee fails to return from such a leave, the employee may be required to repay such extended benefits.

Section 3. Bereavement Leave: Upon the death of a member of the employee's immediate family, an employee may be granted up to three (3) working days off with pay for the employee's work period, not to exceed 24 hours for each death. In addition, up to five (5) additional days bereavement leave may be charged to sick leave by requesting the time off from Employer's Chief of Police or designee who must obtain approval of the Mayor or Chief Administrative Officer. Employees shall be granted leave not to exceed four (4) hours to attend the funeral of employees.

Section 4. Jury Duty: Each employee who is under proper summons as a juror shall collect all fees and allowances payable as a result of the service and forward all the fees to the Employer. Juror fees shall be applied against the amount due the employee from the Employer. However, if an employee elects to charge his/her juror time off against annual leave, he/she shall not be required to remit to the Employer any juror fee, expense, or mileage allowance paid by the Court.

An employee subpoenaed to serve as a witness shall collect all fees and allowances payable as a result of the service and forward the fees to the Employer. Witness fees shall be applied against the amount due the employee from the Employer. However, if an employee elects to charge his/her witness time off against his/her annual leave, he/she shall not be required to remit witness fees to the Employer. In no instance is an employee required to remit to the Employer any expense or mileage allowances paid him/her by the Court.

The Employer may request the Court to excuse the employee from jury duty if they are needed for the proper operation of the department.

Section 5. If an employee is required to testify at any legal hearing or trial due to an event that occurred while the employee was on duty or acting within the scope of his/her authority, the employee may elect to have the Employer pay for all travel and expenses for the employee. To receive this benefit, the employee will sign over to the Employer any compensation received for the testimony and the employee will receive his/her normal rate of pay. However, if an employee elects to charge the time off against annual leave, the employee shall not be required to remit to the Employer any fee, expense, or mileage allowance paid by the court.

Section 5. Other Leaves With or Without Pay:

a. After satisfactory completion of the probationary period, leaves of absence may be granted for good and sufficient reason with prior approval of the Employer. Leaves may be used for personal business requiring the employee's attention and other reason mutually agreed upon. Employees may take a leave of absence without pay without loss or charge against other leave and if the work schedule allows. Requests for a leave of absence without pay shall be submitted in writing by the employee to the Employer's Chief of Police or designee. The request shall state the reason for the leave and the approximate length of time off the employee desires.

b. Employer may grant reasonable leaves of absence to employees whenever required in the performance of duties as "duly authorized representatives of the Union". "Duly authorized representatives" means members of regularly constituted committees and/or officers of the Union, pursuant to a list supplied to the Employer.

c. Any employee subject to this Agreement, elected or appointed to public office, shall be entitled to a leave of absence not to exceed one hundred eighty (180) days per year while such employee is performing public service. Any employee granted such leave shall make arrangements to return to work within ten (10) days following the completion of the service

for which the leave was granted unless such employee is unable to do so because of illness or disability certified to by a licensed physician.

d. Leave, with or without pay, may be granted by the Employer for attendance at a college, university or business school for the purpose of training in subjects related to the work of the employee that will benefit the employee and the Employer.

Section 6. Personal Leave: Each employee is entitled to thirty (30) hours of personal leave per contract (fiscal) year. Part-time employees will receive a pro-rated amount of personal leave. Employees must utilize personal leave prior to utilizing their comp or vacation leave. Employer shall not compensate or pay-out employees for unused personal leave. If an employee fails to utilize his/her personal leave during the year, he/she shall forfeit all unused personal leave. Employees shall coordinate the use of personal leave with the Employer's Chief of Police or designee, who must approve leave requests.

ARTICLE XIV – WORKING CONDITIONS

Section 1. Separations: Employees who terminate their service will be furnished, upon request, a letter stating their classification, length of service and reason for leaving.

Section 2. Union Bulletin Boards: Employer will allow the Union to place Union-owned bulletin boards in convenient places in any work area to be used for Union business.

Section 3. Off-Duty Meetings: Employees shall be compensated at the rate of time and one-half (1½) their regular rate of pay if required to attend a meeting on their own time. If an employee is called out for a meeting, such employee shall be paid for a call-out.

Section 4. Education Conference: The Employer agrees that time off with pay may be granted to an employee to attend an educational conference, seminar, or convention with the mutual consent of the Employer's Chief of Police or designee and the employee. In the event an employee needs to earn educational credits to maintain a license or certification, which belongs to the employee, the employee will furnish the Employer in writing the number of credits earned and to which license or certification the educational credits are to be credited.

Section 5. Training: A training committee shall be established comprised of the Captain, one employee assigned to the patrol division, and one employee assigned to dispatch. The training committee shall determine and schedule all training as available, pending available funding.

Section 6. Past Practices: Employer agrees to recognize that wages will not be reduced because of this Agreement. Employer further agrees that working conditions and benefits enjoyed by employees will continue by the adoption of this Agreement, subject to budgetary limitations and analysis of departmental requirements.

Section 7. Visits by Union Representatives: Employer agrees that accredited representatives of the American Federation of State, County and Municipal Employees, AFL-CIO shall have full and free access to the premises of the Employer at any time during working hours to conduct union business, provided the representative shall notify the Employer's Chief of Police or designee of their presence.

Section 8. Supervisor's Performance of Bargaining Unit Work: No supervisory or management employee shall perform duties of a bargaining unit employee, except infrequent work of short duration due to severe emergencies to avoid accident or injury, or to maintain the health and safety of the Employer and/or the City of Laurel.

Section 9. Uniform Allowance: The Employer shall establish a Police Department Uniform Account:

a. Purpose: The purpose of the account shall be to provide assistance to Police Officers to maintain their uniforms.

b. Maximum limits per fiscal year:

New Hire Police Officer (first year only)	$1,000.00
Police Officer	$ 800.00
Animal Control/Parking Attendant	$ 400.00

c. All uniform allowance payments shall be due and payable at the beginning of each fiscal year. It shall be the employee(s) responsibility to purchase their required uniforms and accessories.

d. Modification: If there is any significant uniform change mandated by the Employer, related costs shall be absorbed by the Employer.

e. New Hire: Newly-hired employees shall receive the same uniform allowance as other employees within the first five (5) days of employment. If an employee voluntarily terminates his/her employment within one year from date of employment, the employee will have deducted from the final check the amount of the clothing allowance *he/she* received.

g. A standard list of required uniform items and accessories will be developed by the Employer's Chief of Police or designee and approved by the City Council and posted by the Employer.

Section 10. Labor/Management Coordinating Committee: The parties agree to meet and establish a Labor/Management Coordinating Committee whose membership, meeting schedule, policies, procedures, rules and regulation shall be established by and between the Committee members.

ARTICLE XV – HEALTH, SAFETY AND WELFARE

Section 1. Workers' Compensation Insurance: Employer shall maintain Workers' Compensation Insurance on all employees. Each employee must, within twenty-four (24) hours, verbally if physically possible, or seventy-two (72) hours of the accident, report in writing to the

Employer any personal injuries received in the course of employment. Each employee must give notification to their immediate supervisor during the work shift, except in cases of emergency and if the supervisor is not accessible when the injury occurs. Failure to do so may result in the loss of benefits.

Section 2. Health Insurance Plan:

The Employer shall maintain an insurance program for the employee and their dependents, substantially equivalent to the existing program and available through the selected insurance company as previously approved by the Insurance Committee and Management, with the following contribution limitations, unless increased by the City:

Employee Only	~~$ 823.87/month~~TBD
Employee/child(ren)	$1100.00/month ~~$ 823.87/month~~
Employee/spouse	$1100.00/month
Employee/family	$1100.00/month

~~The~~ The Employer shall adjust the Employee only ~~and Employee/Child(ren)~~ contribution yearly as the premium increases up to the $1,100/month maximum~~. TheEmployeeonlyand Employee/Child(ren) contributions shall remain the same as an Employee only contribution,~~ which includes health, dental and vision coverage. ~~The Employee/Child(ren) rate may be used in any combination of health/dental/vision or only health insurance if employee desires.~~

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The parties agree that an insurance committee shall be created, with fair and equitable representation for all employees of the city who are entitled to receive insurance benefits. The Insurance Committee shall review all matters of the insurance program and make recommendations to the Employer. If the Employer does not adopt the recommendations of the Insurance Committee, the matter will be returned to the Insurance Committee, with recommendations and explanations, for further review until the Employer and the Insurance Committee reaches mutual agreement.

Section 3. First Aid Kits: The Employer shall provide and maintain first aid kits in convenient places in each work area. “Work Area” shall be determined by the Employer’s Chief of Police or designee.

Section 4. Safety: Safety is everyone’s business. Employer shall provide and maintain all safety gear (i.e. hard hats, crash helmets, rain gear, rubber boots, rubber gloves, and goggles) and all other equipment required by MOSHA. Each employee is to wear and/or use safety equipment furnished, or required by the Employer, including the use of seat belts, orange safety vests, hard hats, hand, eye, and body protection gear as appropriate. Employer shall issue specific guidelines in the use of safety equipment and safety practices. Failure to use safety equipment furnished and follow safety guidelines may lead to disciplinary action.

The Union, Employer, and employees shall cooperate in complying with the general safety standards and special standards as required by the State Department of Labor and Industry, MOSHA, OSHA, and the Employer’s Safety Standards. MOSHA inspections – the representative from the work area being inspected may accompany the state representative on any such inspections.

No employee shall be required to perform unreasonable services that may seriously endanger his/her physical safety. Refusal by the employee, with valid and substantiated reason, will not warrant or justify suspension, dismissal, or other disciplinary action.

Section 5. Safety Committee: A union member will be included in the Safety Committee when formed.

Section 6. Unemployment Insurance: Employer shall provide all employees covered by this Agreement with Unemployment Insurance.

Section 7. Drug and Alcohol-Free Workplace: Employees are prohibited from the use, consumption, distribution, or unauthorized possession of controlled substances (illegal drugs) or alcoholic beverages while on duty; to unlawfully manufacture, distribute, dispense, possess, or use a controlled substance (illegal drugs) at the work site or in any Employer-owned vehicle, at any time in any Employer-owned vehicle; or reporting to work under the influence of illegal drugs and/or alcohol.

As a condition of employment, each employee must abide by the terms of this policy and notify the Mayor of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction. In the event the employee is operating in a department funded in whole or part by a federal grant, the sponsoring agency will be notified of such conviction within ten calendar days after receiving notice of the conviction.

Discipline for any violation will be in accordance with the disciplinary procedures that may include suspension and/or termination. As an alternative to termination, the employee may be referred to available drug and alcohol abuse assistance or rehabilitation programs.

Section 8. Gym Membership: The City agrees to pay the annual gym or fitness center membership for each employee at the Locomotion Fitness Center to encourage employee health and wellness. If an employee elects to utilize a different fitness facility, the City agrees to reimburse the employee up to $300.00 per year for his/her membership. Reimbursement will only be made after the employee provides the City a gym membership receipt showing he/she has in fact paid for the membership.

Section 9. Changing Area: The Employer shall provide a designated area to be available as a changing room. Employer shall endeavor to make a shower operational if possible.

Section 10. Healthy Work Environment: A healthy work environment shall be provided to all employees. The Union must notify the Employer's Chief of Police or designee of any unhealthy work environment. The unhealthy work environment must be corrected by the Employer's Chief of Police or designee.

ARTICLE XVI – JOB POSTING

Section 1. When a new position is created or a vacancy occurs in any existing position listed under Addendum "A", Employee Classification Program, the Employer shall prepare and furnish to the union secretary and post in places to be agreed upon by the Employer and the Union stating, among other things: location and title of position to be filled, a listing of the

essential job functions, principal duties, minimum qualifications, hours of work, assigned days of rest, salary range of the position, whether the position is a regular established position or temporary (if temporary, how long it is probable that the position will continue), the starting date of the assignment; last day when applications will be received and accepted, and to whom the applications shall be filed.

a. When a vacancy or newly created position is posted when an employee is on vacation, sick leave, or any approved leave, the employee has two (2) working days to bid for such position after he/she returns to work.

b. If a position is vacant due to an employee bidding another position in the Employer, the position vacated will be bid as temporary or left vacant until the previous employee has completed his/her probationary period or posted as vacant.

c. Employer shall post such vacancies in all departments for a period of no less than five (5) working days.

d. An employee who bids into a new position may not bid into another position until he/she completes his/her probationary period, unless agreed by the Union and the Employer that such action is in the best interest of the Employer.

(1) Exception: If no employee bids a position, the employee who is serving the probationary period may bid for the position within three (3) working days after the closing date of the bid;

(2) Exception: If an employee is disqualified by the Employer from his/her position during his/her probationary period and reverts back to the originally-held position, such employee may then bid other jobs; and

(3) If more than one employee bids, the procedure for awarding will be the same as for bidding a position.

e. If no qualified employee bids on a posted position, Employer may search outside its current employees for an applicant to fill such position.

f. Employer shall not bid a vacated position where an employee will be first assigned as temporary and then regular full-time position unless the Employer is prepared to fill the fully-funded position within two (2) weeks of the closing date of the final bid. No employee shall be awarded such a position and be held in his/her old position for a period that exceeds two (2) working weeks.

Section 2. The filling of any vacancy through promotion shall be done so in accordance with Article captioned “Seniority” of this Agreement. Any salary adjustments shall be made in accordance with Addendum “B”.

Section 3. When a senior employee, who has applied for a bulletin position, is not assigned the position, he/she shall upon request, be entitled to be advised in writing the reason he/she did not receive the assignment. If not satisfied with the reason stated, he/she may invoke the grievance procedure as outlined in this Agreement.

Section 4. During the employee's probation period, the employee has the right to revert back his/her previously held position within the first 30 days of the 12-month probationary period.

Section 5. Prior to opening any city employment position to the public, members of Local 303 will be allowed to bid the position. The applying member must meet the "minimum requirements" as stated by the city. The employee must understand that "overtime" may be required for the position.

ARTICLE XVII – DISCIPLINE

Section 1. Penalties for violations of Policy are outlined in Addendum "D" to this Agreement.

Section 2. If the Employer determines at any time during an employee's initial twelve (12) month employment probationary period that the service of the probationary employee is unsatisfactory, the employee may be discharged upon written notice from the Employer without recourse through the grievance procedures.

ARTICLE XVIII – GRIEVANCE PROCEDURE

Section 1. Definitions:

"Grievance" is defined as an employee's alleged violation of a specific term of this Agreement or an employee's dispute regarding an interpretation of the Agreement.

"Grievant" shall mean a bargaining unit employee ("Employee"), Union Member, member or Employer.

"Union" shall mean the Local 303, American Federation of State, County and Municipal Employees, AFL-CIO.

Section 2. Agreement and Purposes. Employer and the Union agree that there shall be no reprisals of any kind against any party in interest for reasons of participation in the grievance procedure.

It is the desire of the Employer and the Union to address grievances informally; both parties commit themselves to make every effort to resolve problems when they arise. Direct communications and discussion should result in a full disclosure of acts and a fair and speedy resolution to most complaints arising out of day-to-day operations. If the grievance is not resolved informally, the following procedure will apply.

Each grievance will be submitted separately except when the Employer and Union mutually agree to have more than one grievance handled in one procedure.

Grievances by the Employer, should they occur as a result of official Union activities or actions, shall be presented directly by the City's Chief Administrative Officer or Mayor to the Union President within fifteen (15) calendar days of the date upon which he/she became aware of the situation prompting the grievance. The Union President shall provide a written answer within fifteen (15) days. If the grievance is not resolved, the following procedures will apply.

Section 3. Procedures. The following procedures shall be used by a Grievant when seeking relief of his/her Grievance under this Agreement.

A Grievance not filed or advanced by the Grievant within the time limits provided in this section shall be deemed permanently withdrawn as having been settled on the basis of the decision most recently received. Failure on the part of either party to answer within the time limits set forth in this grievance procedure entitles the grievant to advance the grievance to the next step.

Step 1. Chief of Police

A Grievant who believes he/she has a grievance shall file a written grievance within a period of fifteen (15) calendar days after the occurrence giving rise to the grievance or after the failure to informally resolve the grievance. The grievance shall be reduced to writing in the form of a petition indicating the specific term(s) of this Agreement violated or misinterpreted, facts supportive of the grievance, and the specific relief sought. The written grievance shall be filed with the Chief of Police. The Chief of Police shall meet with the Grievant and issue a written decision and disposition of the grievance within fifteen (15) calendar days of the meeting.

Step 2. Union Member Grievance Presentation to the Union

If the Grievant is not satisfied with the decision and disposition through Step 1, the Grievant shall submit the grievance petition to the Union within five (5) calendar days' receipt of the Chief of Police's written decision and disposition of the grievance issued pursuant to Step 1. The Union shall have fifteen (15) calendar days to provide a response to the Union Member. If the Union determines no basis for the grievance exists, no further action on the part of the Union is necessary since the grievance shall be considered null and void. If the Union determines, by a majority vote of the members present at a posted meeting, that a valid grievance exists, the grievance shall proceed to Step 3.

Step 3. Appeal to the City's Chief Administrative Officer and Mayor

If the grievance remains unresolved and the Union determines a valid grievance exists pursuant to Step 2, the Union shall have fifteen (15) calendar days after the Union's decision in Step 2, for an appeal of the Chief of Police's decision to the CAO and/or Mayor. The CAO and/or

Mayor shall issue a written decision on the grievance within fifteen (15) calendar days.

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Step 4. Appeal to the Grievance Committee

a. The Union and Employer shall utilize a Grievance Committee as provided herein for Appeals of decisions rendered pursuant to Step 3. The Grievance Committee shall constitute three members. The Members must include a duly appointed and serving member of the City's Police Commission, a Union Member, and an Employer representative. The Grievance Committee for each grievance shall be formed and selected by random name draw. The Union and Employer shall provide each other the names of at least three representatives who are willing to serve on the Grievance Committee by January 1 of each year. The Grievance Committee shall include only those members who have not had any active participation in the current grievance before the Grievance Committee.

b. The Union President and City's Chief Administrative Officer shall meet and form the Grievance Committee by random draw five working days after Step 4 is initiated. The Grievance Committee shall convene within ten (10) days and shall conduct a hearing where the Union and Employer may present their arguments and any documentary evidence as part of the record. The Grievance Committee shall render a decision within fifteen (15) days after the hearing. The Grievance Committee decision is final unless the Union or Employer elects to proceed to Step 5.

Step 5. Arbitration

a. The Union and the Employer agree to submit to arbitration any grievance which has not been resolved through the above-enumerated grievance steps and procedures, provided it is submitted within ten (10) calendar days following the decision of the Grievance Committee. The Union or the Employer shall notify the other party in writing that the matter is to be submitted for Arbitration.

b. The arbitrator shall be selected by mutual agreement. If a selection is not possible, the Union and Employer shall jointly request a list of five (5) names from the Montana Board of Personnel Appeals. The parties shall, within ten (10) business days of the receipt of the list, select the arbitrator by the method of alternately striking names with the parties flipping a coin to determine who strikes the first name. The final name left on the list shall be the selected arbitrator. The arbitrator selected will be contacted immediately and asked to start proceedings at the earliest possible date.

c. If requested by a party or ordered by the arbitrator, a hearing shall be scheduled by the arbitrator in consultation with the Employer and the Union. The arbitrator shall issue a decision within 30 calendar day after

the conclusion of the proceedings, including filing of briefs, if any. The arbitrator's decision shall be final and binding on both parties, but the arbitrator shall have no authority to extend, alter or modify this Agreement or its terms, nor imply any restriction or burden against either party that has not been assumed in the Agreement.

d. It is mutually agreed that representatives of the Employer and the Union are the only proper parties to the arbitration proceedings, and the proceedings shall not be open to the public unless required to be an open meeting pursuant to law.

e. The Employer and the Union shall each bear their own fees and expenses incurred through the arbitration, and the two parties shall share equally the cost of the arbitrator.

f. The time limits, as specified, may be extended by mutual written consent of the parties.

g. The Union agrees, in consideration to the arbitration process outlined herein and in accordance with §39-31-501 MCA, that upon consummation and during the term of this Agreement, no police officer shall strike or recognize a picket line of any labor organization while in the performance of his/her official duties.

ARTICLE XIX – SAVINGS CLAUSE

Should any article, section, or portion thereof, of this Agreement be held unlawful or invalid by any court or board of competent jurisdiction, such decision shall apply only to the specific article, section, or portion thereof, directly specified in the decision. Upon issuance of such a decision, the parties agree to immediately negotiate a substitute for the invalidated article, section, or portion thereof. Any city ordinance passed subsequent to the adoption of this Agreement that would contravene the terms of this Agreement shall not apply during the life of this Agreement.

ARTICLE XX – TERMS, AMENDMENTS, AND MODIFICATIONS OF THE AGREEMENT

Section 1. The provisions of this Agreement shall be effective July 1, ~~2021~~ 2024 and will remain in full force and effect until June 30, ~~2024~~2027. Wages and fringe benefits for year two and year three of this contract may be opened in Spring of 2025 by written notice of either party before April 1, 2025. The negotiating parties have the option whether to negotiate a one or two-year wage agreement at that time. This Agreement shall automatically renew from year to year thereafter unless either party gives written notice to the other, not later than sixty (60) days prior to its termination date, that it desires to make changes. In the event changes are desired, the parties shall seek forthwith to arrange a meeting for the purpose of negotiating changes and shall remain in full force and effect until negotiations are concluded.

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Negotiations shall begin no later than thirty (30) days prior to the anniversary date of this Agreement.

Section 2. Neither party to the Agreement shall make unilateral changes in the terms of the basic Agreement, pending the settlement of the outstanding differences through mutually agreeable procedures.

In Witness Whereby: The parties, acting by and through their respective and duly authorized officers and representatives, have set their hands and seals on this ____ day of _____, ~~2021~~2024.

For the City of Laurel:	For the American Federation of State, County and Municipal Employees, AFL- CIO
_____ Mayor	_____ President, Local #303
_____ City Clerk-Treasurer	_____ Local #303 Negotiation Committee
_____ Chief Administrative Officer	_____ Local #303 Negotiation Committee
_____ City Negotiation Committee	_____ Local #303 Negotiation Committee
_____ City Negotiation Committee	_____ Local #303 Negotiation Committee
_____ City Negotiation Committee	_____ Field Representative Montana Council #9, AFSCME, AFL-CIO

CLASSIFICATION APPEAL

A classification appeal system shall be developed for the purpose of permitting employees covered by this Agreement, within the same classification to appeal for an upgrade of the entire classification due to additional work duties, responsibilities, or changing work conditions within that classification.

A committee shall be established comprising three members of the City Council, three bargaining unit members, and the City Clerk-Treasurer. This committee will meet to discuss such an appeal no later than thirty (30) days after such appeal is filed with the Mayor.

The committee shall hear testimony, examine documents and other pertinent materials and make their decision and recommendation to the City Council within forty-five (45) days of the Mayor's receipt of the appeal.

The City Council's decision shall be reported to the Committee at the next regular Council meeting.

All documentation, recommendations, and decisions shall be in writing.

ADDENDUM "A"
CLASSIFICATION

GRADE	CLASSIFICATION
1	
2	Animal Control/Parking Attendant (Vacant – Grade and salary to be negotiated when filled through future negotiation)
3	Communications Officer I
4	Communications Officer II
5	Communications Officer III
6	Police Officer, Patrolman
7	Police Officer, Senior Patrolman
8	Police Officer, Master Patrolman
9	

ADDENDUM "B"
WAGES

1. Effective July 1, ~~2021~~ 2024 each bargaining unit employee shall receive ~~a two percent (2%) increase~~ the following increase to their current base rate: police officers - ~~2%~~$3.00, dispatchers - ~~2%~~$1.50, animal control - $1.50.

~~2. Effective July 1, 2022 each bargaining unit employee shall receive a two percent (2%) increase to their current base rate: police officers - 2%, dispatchers - 2%~~

~~3. Effective July 1, 2023 each bargaining unit employee shall receive a three percent (3%) increase to their current base rate: police officers - 3%, dispatchers - 3%~~

~~4. This contract will remain in effect until June 30, 2024 at which time it will be renegotiated under the terms of this Agreement~~

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~~5~~2. The Employer shall compensate a newly hired employee one-dollar ($1.00) per hour below that of the base rate for his/her classification grade for the first twelve (12) months of employment. After employee's successful completion of his/her twelve (12) month probation period, the Employer shall compensate employee in accordance with the position's pay schedule.

~~6~~3. Employees will receive differential pay of seventy-five cents ($.75) per hour for the afternoon shift and one dollar ($1.00) per hour for the night shift in addition to any other compensation. Personnel assigned as SROs are excluded from shift differential.

Afternoon shift shall be hours between 3 p.m. and 11 p.m. Night shift shall be hours between 11 p.m. and 7 a.m.

~~7~~4. When an employee is temporarily assigned to a higher grade, the employee shall receive the wage rate of the step of the higher grade corresponding to his/her current step for each hour worked in the higher grade, provided however, that if such employee works four (4) hours or more in the higher grade in the same shift. The employee shall receive the higher rate of pay for the full shift.

ADDENDUM "B" (continued)

sition	Effective 07/01/24 To 06/30/25	Effective 07/01/25 To 06/30/26	Effective 07/01/26 To 06/30/27
/Parking ant	$21.07/hr.		
nications	$24.41/hr.		
unications II	$25.54/hr.		
unications III	$26.90/hr.		
Officer, nan	$28.83/hr.		
Officer, nan	$29.97/hr,		
Officer, nan	$31.69/hr.		

~~Position~~	~~7/01/21~~	~~7/01/22~~	~~7/01/23~~
	~~To~~ ~~6/30/22~~	~~To~~ ~~6/30/23~~	~~To~~ ~~6/ 0/24~~
~~ndant~~ ~~Animal Control/Parki~~ ~~g Assistant – Grade and salary to be negotiated when fil~~			

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		~~ed through future negotiations)~~			
		~~cations Officer I~~ ~~Commun~~	~~$21.80/hr~~	~~$22.24/hr~~	~~$22~~ ~~91/hr~~
		~~Communications Officer II~~	~~$22.88/hr~~	~~$23.34/hr~~	~~$24.04/hr~~
		~~Communications Officer III~~	~~$24.18/hr~~	~~$24.66/hr~~	~~$25.40/hr~~
		~~Police Officer, Patrolman~~	~~$24.59/hr~~	~~$25.08/hr~~	~~$25.83/hr~~
		~~Police Officer, Senior Patrolman~~	~~$25.67/hr~~	~~$26.18/hr~~	~~$26.97/hr~~
		~~Police Officer, Master Patrolman~~	~~$27.30/hr~~	~~$27.85/hr~~	~~$28.69/hr~~

	Position	Effective 07/01/24 To 06/30/25	Effective 07/01/25 To 06/30/26	Effective 07/01/26 To 06/30/27
	Animal Control/Parking Attendant	$21.07/hr.		
	~~Communications Officer I~~	$24.41/hr.		
	Communications Officer II	$25.54/hr.		
	Communications Officer III	$26.90/hr.		
	Police Officer, Patrolman	$28.83/hr.		
	Police Officer, Senior Patrolman	$29.97/hr,		

	Police Officer, Master Patrolman	$31.69/hr.		

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~~A. Senior Patrolman is $1.00 per hour over Patrolman's base wage. Master Patrolman is $2.50 per hour over Patrolman's base wage.~~

~~B. Communication Officer II is $1.00 per hour over Communication Officer I base wage. Communication Officer III is $2.20 per hour over Communication Officers I base wage.~~

ADDENDUM "C"
LONGEVITY

1. Longevity Defined: Longevity means an employee's length of continuous loyal and faithful service with the Employer, irrespective of classification and/or assignment.

The number of years of longevity shall be computed from the date the employee started continuous employment with the City of Laurel. This date shall be called "date of hire". Longevity raises shall be computed from the first day of the monthly pay period following the employee's date of hire. In the event an employee has a break in service greater than 90 calendar days, and returns to employment with the City of Laurel, said employee will be given a new "date of hire" for longevity purposes.

Longevity pay will be computed as follows:

$7.75 per month for each year of service.

ADDENDUM "D" DISCIPLINARY ACTIONS

Maximum Penalties Noted for 1st, 2nd & 3rd Offense

		1st	2nd	3rd	
2.1	Bringing or using unauthorized alcohol or illegal drugs on City property or work place during working hours	Dismissal			
2.2	Reporting to work intoxicated from alcohol or other drugs	Referral for diagnosis and treatment		Suspension or Dismissal	
2.3	False statement on application	Dismissal			
2.4	Stealing from fellow employees or the City	Dismissal			
2.5	Refusal to do work assigned	Dismissal			
2.6	Punching another employee's time card	Dismissal			
2.7	Intentionally reporting incorrect production or falsifying records	Dismissal			
2.8	Abusive or threatening language to any supervisor or to any employee	Written reprimand		3-day suspension	Dismissal
2.9	Willful destruction or defacing City property	Dismissal			
2.10	Fighting on City property	3-day suspension		Dismissal	
2.11	Failure to report to your supervisor any accident you have while at work within current working shift	Written reprimand		3-day suspension	Dismissal
2.12	Horseplay	Written reprimand		3-day suspension	Dismissal
2.13	Unauthorized use of equipment or property	Written reprimand		3-day suspension	Dismissal
2.14	Leaving the work assignment during working hours without permission	Written reprimand		3-day suspension	Dismissal
2.15	Disregarding starting and quitting time for shifts and rest periods	Written reprimand		3-day suspension	Dismissal
2.16	Unexcused absence or persistent absenteeism	Written reprimand		3-day suspension	Dismissal
2.17	Abuse of sick leave policy	Written reprimand		3-day suspension	Dismissal
2.18	Absent for 3 days without notice	Dismissal			
2.19	Substandard quality of work	Written reprimand		3-day suspension	Dismissal
2.20	Disobeying safety regulations	Written reprimand		3-day suspension	Dismissal
2.21	Failing to notify your supervisor that you will be absent from work that day	Written reprimand		3-day suspension	Dismissal
2.22	Sleeping on duty	Written reprimand		Dismissal	
2.23	Failure to drive City vehicles in a safe manner	Written reprimand		3-day suspension	Dismissal
2.24	Discourteous or degrading service to citizens of the City	Written reprimand		3-day suspension	Dismissal
2.25	Insubordination	Dismissal			
2.26	Unauthorized distribution of written printed material of any description	Written reprimand		3-day suspension	Dismissal
2.27	Unauthorized solicitation or sales on premises	Written reprimand		3-day suspension	Dismissal
2.28	Willful violation of written rules, regulations policies or directives	Written reprimand		3-day suspension	Dismissal
2.29	Conviction of a felony	Dismissal			

2.30	Receiving 3 reprimand letters in 9 months	Dismissal		
2.31	Receiving 3 suspensions within 9 months	Dismissal		
2.32	Willful violation of any federal, state or local laws, excluding traffic	Dismissal		
2.33	Any employee required to have a valid driver's license or CDL – conviction of DUI and failure to obtain a work permit	Dismissal		
2.34	Any employee required to have a valid driver's license or CDL and they fail to maintain insurability	Dismissal		
2.35	Failure to follow 49CFR Part 382 of Omnibus Transportation Employee Testing Act of 1991 and the DOT policies for CDL drivers	See specific Act for discipline required		
2.36	Sexual harassment or other unwelcome behavior of another employee or other person	Suspension or dismissal	Dismissal	
2.37	Unauthorized possession of firearms on City property	Dismissal		
2.38	Failure to report off-duty misconduct. All Employees shall report off-duty conduct that results in charges being filed against him/her. At a minimum, an Employee must report the name of the Agency involved, the date of the incident, and the reason the Agency responded. An Employee is deemed to have failed to report and violated this section if he/she fails to report the incident to his/her supervisor within two working days after he/she returns to work.	Dismissal		

1. Employees are encouraged to report off-duty conduct that results in official contact or interaction with a law enforcement agency.

2. Employees, after completing their initial twelve (12) month probationary period, shall not be discharged except for just cause.

3. In all cases of suspension or discharge, the employee must be presented with a dated written statement outlining the reason for such action.

4. As noted, the preceding are maximum penalties, and circumstances will be considered in actual determination of penalties.

The foregoing enumeration of rules covering discipline and dismissal is primarily presented here by way of illustration and shall not exclude the Employer's right to discipline or dismiss employees for other just causes.

ADDENDUM "E"
POLICE OFFICER STEP SYSTEM
COMMUNICATIONS OFFICER STEP SYSTEM

For purposes of pay, Laurel Police Officers and Laurel Communications Officers must possess the below listed education and experience in order to receive pay in accordance with the STEP System. All STEP requirements shall be in accordance with the Montana Law Enforcement Academy (MLEA) certification standards.

Implementation of the MLEA standards

Officers and Communications Officers shall not be reduced in STEP if they do not currently possess the necessary requirements for their current STEP. Officers and Communications Officers shall remain in their current STEP until such a time they obtain the necessary requirements for advancement.

Patrol Officer: A Patrol Officer must possess a Basic MLEA Certificate.

Senior Patrol Officer: A Senior Patrol Officer must possess a MLEA Intermediate Certificate.

Master Patrol Officer: A Master Patrol Officer must possess a MLEA Advanced Certificate.

Communications Officer I: Must possess a MLEA Basic Certificate

Communications Officer II: Must possess a MLEA Intermediate Certificate

Communications Officer III: Must possess a MLEA Advanced Certificate

Employer agrees to reasonably provide educational opportunities for its police officers and communications officers to obtain the educational hours necessary to help them achieve the requisite educational hours for Senior Patrol and Master Patrol Officers, and Communications Officer II and Communications Officer III.

ADDENDUM "F"
POLICE/DISPATCH RETENTION SYSTEM

Years of Service = $.05/hour Increase beginning 2nd year of employment
$.10/hour increase beginning year 11-15 and then returns to $.05/hour.

Years	Increase/Hour	Yearly Increase
1	$ .00	$ .00
2	$ .05	$ 104.00
3	$ .10	$ 208.00
4	$ .15	$ 312.00
5	$ .20	$ 416.00
6	$ .25	$ 520.00
7	$ .30	$ 624.00
8	$ .35	$ 728.00
9	$ .40	$ 832.00
10	$ .45	$ 936.00
11	$ .55	$1,144.00
12	$ .65	$1,352.00
13	$ .75	$1,560.00
14	$ .85	$1,768.00
15	$ .95	$1,976.00
16	$ 1.00	$2,080.00
17	$ 1.05	$2,184.00
18	$ 1.10	$2,288.00
19	$ 1.15	$2,392.00
20	$ 1.20	$2,496.00
21	$ 1.25	$2,600.00
22	$ 1.30	$2,704.00
23	$ 1.35	$2,808.00
24	$ 1.40	$2,912.00
25	$ 1.45	$3,016.00

Amounts will not compound. This is for all 303 Members. This amount is based on work year of 2080 hours/year. Yearly amount will depend on regular hours worked. This no cap on years of service.

File Attachments for Item:

3. Resolution - A Resolution Of The City Council Authorizing The City Of Laurel And The Laurel Urban Renewal Agency (LURA) To Submit A Request For Proposal For A Tif Consultant.

RESOLUTION NO. R24-_____

A RESOLUTION OF THE CITY COUNCIL AUTHORIZING THE CITY OF LAUREL AND THE LAUREL URBAN RENEWAL AGENCY (LURA) TO SUBMIT A REQUEST FOR PROPOSAL FOR A TIF CONSULTANT.

WHEREAS, the Laurel Urban Renewal Agency (hereinafter "LURA") has requested that the City of Laurel and LURA seek a Request for Proposal for a Consultant to be responsible for administering the Tax Increment Finance (hereinafter "TIF") District in accordance with Montana State law to ensure compliance, as well as to manage projects related to the expenditures of TIF funds in the District;

WHEREAS, the terms of the Request for Proposal are attached hereto and incorporated herein by reference; and

WHEREAS, the City believes that it is in the best interests of the City and LURA to submit a Request for Proposal consistent with the terms of the attached, in order to retain a Consultant responsible for administering the TIF District.

NOW THEREFORE BE IT RESOLVED by the City Council that the City of Laurel and the Laurel Urban Renewal Agency are authorized to submit a Request for Proposal for a Consultant to administer the Tax Increment Finance District in accordance with Montana state law; and

NOW THEREFORE BE IT FURTHER RESOLVED that the Request for Proposal shall be consistent with the terms of the attached, in order to retain a Consultant responsible for administering the TIF District.

Introduced at a regular meeting of the City Council on the _____ day of April, 2024, by Council Member _____.

PASSED and APPROVED by the City Council of the City of Laurel the _____ day of April, 2024.

APPROVED by the Mayor the _____ day of April, 2024.

CITY OF LAUREL

_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

APPROVED AS TO FORM:

_____
Michele L. Braukmann, Civil City Attorney

CITY OF LAUREL
REQUEST FOR PROPOSALS FOR Laurel TIF District Coordinator
(Estimated 20 hours/week position)

A. Requirements for Submission of City Proposal:

1. Time for Filing: Not later than July 5, 2024 at 5:00 p.m., addressed to the City of Laurel, City Clerk Treasurer, P.O. Box 10, Laurel, Montana 59044; or hand delivered to the City Clerk at City Hall, 115 W. 1st Street, Laurel Montana.
2. Sealed Envelope: Outer envelope containing proposal should be marked: "PROPOSAL FOR TIF DISTRICT COORDINATOR". If contained in a mailed envelope, the mailing envelope should be marked to indicate it is the outer, sealed envelope.
3. Three copies of the proposal are required.
4. The City will open proposals after above deadline expires.

B. Scope of Services (under the direction of the City of Laurel Staff and LURA Board):

1. Advise and assist the corporate authorities in the coordination of TIF programs, policies and activities;
2. Serve as the primary liaison between the LURA Board and the Laurel City Council;
3. Provide staff assistance to LURA;
4. Provide assistance to parties interested in utilizing TIF funding to develop or improve commercial property within the TIF District;
5. Assist in the negotiation of TIF agreements on behalf of LURA;
6. Monitor the implementation of TIF projects and agreements;
7. Prepare the annual budget of the TIF Special Allocation Fund;
8. Prepare the annual report of the TIF District as required by statute;
9. Provide advice as needed to the corporate authorities on related financial matters, including but not limited to property tax levies, bonded indebtedness, utility rates, investment of funds, and budgeting.
10. Other general duties as assigned by the LURA Board.

C. Minimum information required for the Proposal:

A Letter of Interest that must address the following:

a. Experience with Tax Increment Financing Districts
b. Past work history.
c. Existence of conflicts of interest.
d. Past or present work for the City of Laurel.

D. Length of Contract

The contract term shall be negotiated; however, a 3-year contract is desired. The contract is renewable at the discretion of the City. Items contained in the contract may be renegotiated as necessary to meet the needs of the City. The City will provide the written contract for services.

The City reserves the right to reject any and all proposals, to waive irregularities, and to request additional information from the individual submitting the proposal.

File Attachments for Item:

4. Resolution - A Resolution Of The City Council Authorizing The Mayor To Execute The Agreement For Provision Of Fire Services By And Between The City Of Laurel And Laurel Urban Fire Service Area (LUFSA).

RESOLUTION NO. R23-39

A RESOLUTION OF THE CITY COUNCIL AUTHORIZING THE MAYOR TO EXECUTE THE AGREEMENT FOR PROVISION OF FIRE SERVICES BY AND BETWEEN THE CITY OF LAUREL AND LAUREL URBAN FIRE SERVICE AREA (LUFSA).

BE IT RESOLVED by the City Council of the City of Laurel, Montana,

Section 1: Approval. The Agreement for Provision of Fire Services for the Laurel Airport Authority, by and between the City of Laurel and the Laurel Urban Fire Service Area (LUFSA)(hereinafter "the Agreement for Provision of Fire Services"), a copy attached hereto and incorporated herein, is hereby approved.

Section 2: Execution. The Mayor is hereby given authority to execute the Agreement for Provision of Fire Services for the Laurel Urban Fire Service Area (LUFSA)on behalf of the City.

Introduced at a regular meeting of the City Council on the __ day of ____, 2024, by Council Member _____.

PASSED and APPROVED by the City Council of the City of Laurel the __ day of ____, 2024.

APPROVED by the Mayor the __ day of ___, 2024.

CITY OF LAUREL

_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

APPROVED AS TO FORM:

_____

Michele L. Braukmann, Civil City Attorney

LAUREL FIRE
215 WEST 1ST STREET • LAUREL MT • 59044
OFFICE 406.628.4911 • FAX 406.628.2185

March 25, 2024

Fire District: Laurel Urban Fire Service Area (LUFSA)

Dear Fire District LUFSA Chairperson,

The Laurel Volunteer Fire Department and the City of Laurel have discussed the upcoming Fire District contracts and other services for the Rural Fire Districts and Fire Service Areas.

We would like to continue to offer you a contract with a 10% increase from last year. This increase is a result of the rising costs of expenses associated with the Fire Service. These include fire apparatus - both new equipment and the maintenance and repair of existing apparatus, personal protective equipment, fuel costs and equipment purchase to maintain and provide highly effective fire services for our districts.

The proposed increase would be as follows:

Contract Year	Last Contract		% +/-	Increase/ Decrease		Last Contract		Annual Payment
2024-2025	$102,733.26	x	0.10	$10,273.33	+	$102,733.26	=	$113.006.59

Enclosed, you will find the contract for the next year of service. If your Board of Directors accepts this contract amount, please sign and return to the following by April 30, 2024:

Brittney Harakal
Council Administrative Assistant,
P O Box 10
Laurel, MT 59044

The City of Laurel and the Laurel Fire Department are requesting that the new contracts be finalized and ready, to be presented to the City of Laurel Council before the end of the fiscal year. If you feel that the new rate is unjust and would like to meet with myself or the City of Laurel Mayor, please contact me and arrange a date and time at your convenience to meet.

Thank you for your support. If there is anything we can do to help support the Laurel Urban Fire Service Area, please don't hesitate to call us. Feel free to contact me with any questions or concerns.

J W Hopper
Fire Chief, Laurel Fire Department
jwhopper@laurel.mt.gov
406-628-4911

AGREEMENT FOR PROVISION OF FIRE SERVICES
FOR
THE LAUREL URBAN FIRE SERVICE AREA (LUFSA)

THIS AGREEMENT is made and entered into this 1st day of July, 2024, by and between the City of Laurel, Montana, a municipal corporation (hereinafter "the City") and the Laurel Urban Fire Service Area (hereinafter "the LUFSA").

W I T N E S S E T H

WHEREAS, the City maintains the Laurel Volunteer Fire Department (hereinafter "the LVFD") and is willing to provide fire protection, prevention, and investigation services to properties within the LUFSA at the same level as such services are provided to properties within the limits of the City, upon the terms and conditions hereinafter provided;

WHEREAS, attached hereto and by this reference made a part hereof, is the LUFSA boundary description and map;

WHEREAS, the LUFSA desires to obtain the said fire services from the City by entering into a contract with the City for such services.

NOW, THEREFORE, it is agreed by and between the parties hereto as follows:

1. SERVICES

The City will furnish the following services to properties and residents within the LUFSA at the same level as such services are provided to properties and residents within the limits of the Fire Districts served by the City:

a. fire protection and suppression;
b. fire prevention; and
c. fire investigations.

The City further agrees to provide grassland, rangeland, and timberland fire protection services to properties located within the Fire District, at the same level as such services are provided to properties and residents within the limits of the Fire Districts served by the City.

It is mutually covenanted, agreed, and understood that the amount of equipment, the type of equipment, the number of personnel dispatched, the manner of fighting the fire or explosion, etc., shall be in the sole discretion of the City and its personnel.

It is further mutually covenanted, agreed, and understood that, in the event fire, explosion, or emergency calls shall occur simultaneously in the LUFSA and within the City's municipal boundaries, the City shall have priority in using its equipment and manpower to protect the City property first, and that protection of City inhabitants and property shall have preference and priority over any call or demand of the Fire District.

It is further mutually covenanted, agreed, and understood that the Chief of the LVFD shall conduct the investigation of all fires and/or explosions within the organized LUFSA and be independently responsible for determining the cause, origin, and circumstances of the same.

The LUFSA agrees to cooperate with the City and the LVFD in the inspection of the property to be protected and to cooperate in reducing fire risks as may be suggested from time to time by LVFD personnel and/or the City and/or State Fire Inspector.

2. SERVICE AREA

Fire services will be provided to all properties located within the boundaries of the LUFSA as specified in the Agreement, and as amended from time to time by agreement of the parties. Any enlargement of the LUFSA will not receive fire service unless approved in writing by the City. The hydrants and water system used for fire suppression by the City will be the sole responsibility for maintenance, care, and upkeep of the Fire District.

3. EFFECTIVE

This Agreement shall be effective on July 1, 2024, and shall terminate on June 30, 2025, subject to the provisions of Section 4.

4. RENEWAL AND EXTENSION

This Agreement may be renewed, with the terms and conditions of the renewal Agreement to be as mutually agreed upon by the parties or, prior to expiration, this agreement may be extended for one or more thirty-day period(s) to provide the parties the opportunity to negotiate a new agreement. The parties may extend the agreement in writing, accepted, and signed by both the City's Mayor and an authorized official/agent of the Fire District.

5. CHARGES AND PAYMENTS

The fees for providing services for this Agreement shall be:

July 1, 2024 - June 30, 2025: $113,006.59.
One-half of the said fees shall be paid on or before December 31, 2024. The remaining one-half shall be paid on or before June 30, 2025.

6. ANNUAL REPORT

The City will furnish an annual written report to the Fire District, which will include the number and type of incidents responded to within the LUFSA by City personnel.

7. MODIFICATION

This Agreement cannot be modified or amended except in writing executed by the parties.

8. TERMINATION

Termination of this Agreement occurs either 1) upon mutual agreement of the parties or 2) upon the termination date contemplated herein. If either party wishes to terminate this Agreement before the termination date, such party shall give written notice to the other party to respond, with the other party's consent or objection, no less than thirty (30) days before the proposed termination.

IN WITNESS WHEREOF, the parties have executed this Agreement the day and year first above written.

CITY OF LAUREL

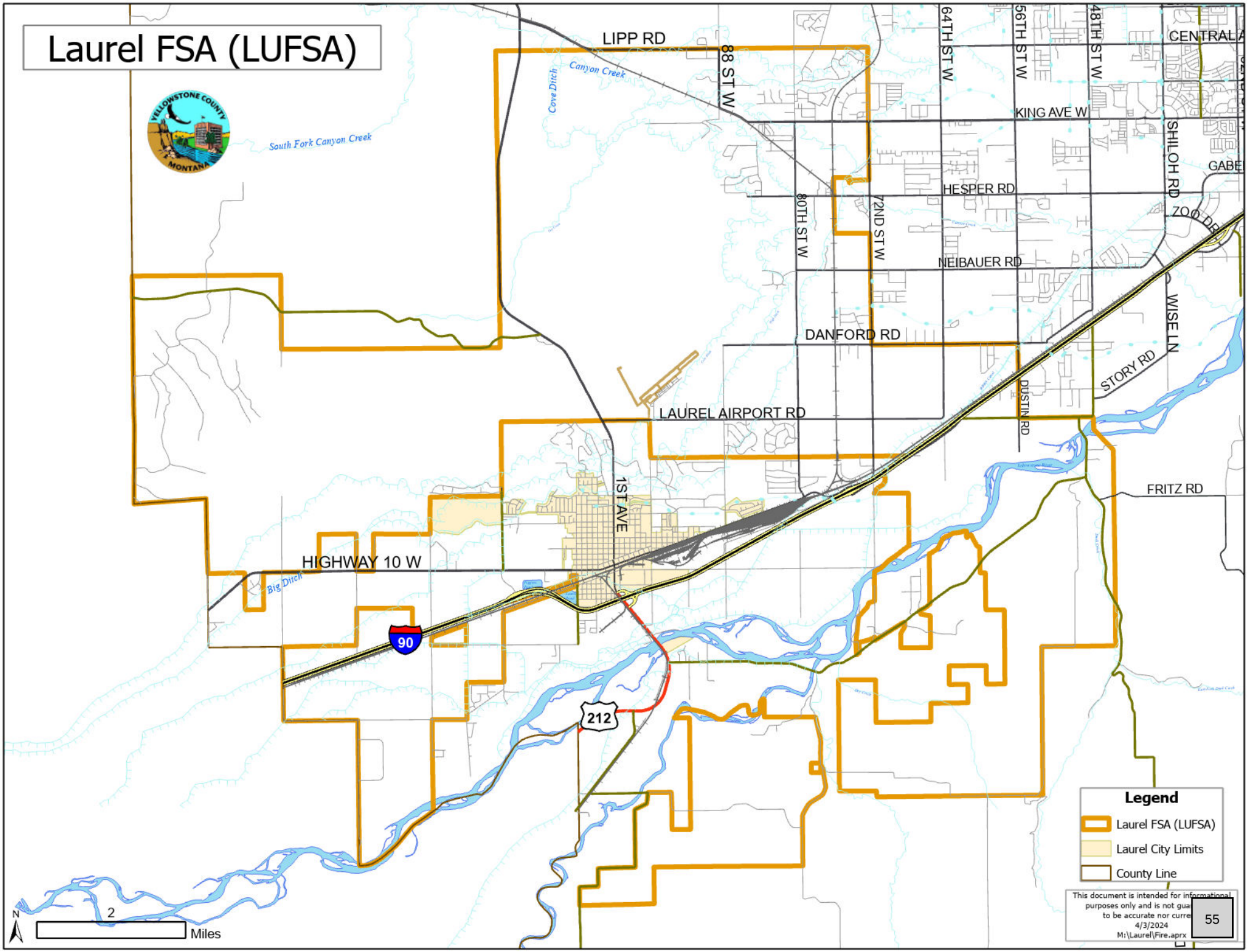
_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

FIRE DISTRICT

By_____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DUSTIN RD
LAUREL AIRPORT RD
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212
Cove Ditch
Canyon Creek
South Fork Canyon Creek
Big Ditch
YELLOWSTONE COUNTY MONTANA
Legend
Laurel FSA (LUFSA)
Laurel City Limits
County Line
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File Attachments for Item:

5. Resolution - A Resolution Of The City Council Authorizing The Mayor To Execute The Agreement For Provision Of Fire Services By And Between The City Of Laurel And Yellowstone Boys And Girls Ranch.

RESOLUTION NO. R4-__

A RESOLUTION OF THE CITY COUNCIL AUTHORIZING THE MAYOR TO EXECUTE THE AGREEMENT FOR PROVISION OF FIRE SERVICES BY AND BETWEEN THE CITY OF LAUREL AND YELLOWSTONE BOYS AND GIRLS RANCH.

BE IT RESOLVED by the City Council of the City of Laurel, Montana,

Section 1: Approval. The Agreement for Provision of Fire Services for the Yellowstone Boys and Girls Ranch, by and between the City of Laurel and the Yellowstone Boys and Girls Ranch (hereinafter "the Agreement for Provision of Fire Services"), a copy attached hereto and incorporated herein, is hereby approved.

Section 2: Execution. The Mayor is hereby given authority to execute the Agreement for Provision of Fire Services for the Yellowstone Boys and Girls Ranch on behalf of the City.

Introduced at a regular meeting of the City Council on the __ day of ____, 2024, by Council Member _____.

PASSED and APPROVED by the City Council of the City of Laurel the __ day of ____, 2024.

APPROVED by the Mayor the __ day of ___, 2024.

CITY OF LAUREL

_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

APPROVED AS TO FORM:

_____

Michele L. Braukmann, Civil City Attorney

LAUREL FIRE
215 WEST 1ST STREET • LAUREL MT • 59044
OFFICE 406.628.4911 • FAX 406.628.2185

March 25, 2024

Fire District: Yellowstone Boys & Girls Ranch

Dear Yellowstone Boys & Girls Ranch Chairperson,

The Laurel Volunteer Fire Department and the City of Laurel have discussed the upcoming Fire District contracts and other services for the Rural Fire Districts and Fire Service Areas.

We would like to continue to offer you a contract for 2024-25. There was a 25% increase in the contract amount last year (2023-24). This year, however, we are pleased to maintain and provide our highly effective fire services to you at 0% increase, thereby maintaining the annual payment at the current level.

The proposed payment would be as follows:

Contract Year	Last Contract		% +/-	Increase/ Decrease		Last Contract		Annual Payment
2024-2025	$13,640.94	x	0	$0.00	+	$13,640.94	=	$13,640.94

Enclosed, you will find the contract for the next year of service. If your Board of Directors accepts this contract amount, please sign and return to the following by April 30, 2024:

Brittney Harakal
Council Administrative Assistant,
P O Box 10
Laurel, MT 59044

The City of Laurel and the Laurel Fire Department are requesting that the new contracts be finalized and ready, to be presented to the City of Laurel Council before the end of the fiscal year. If you feel that the new rate is unjust and would like to meet with myself or the City of Laurel Mayor, please contact me and arrange a date and time at your convenience to meet.

Thank you for your support. If there is anything we can do to help support the Fire District of the Yellowstone Boys & Girls Ranch, please don't hesitate to call us. Feel free to contact me with any questions or concerns.

J W Hopper
Fire Chief, Laurel Fire Department
jwhopper@laurel.mt.gov
406-628-4911

AGREEMENT FOR PROVISION OF FIRE SERVICES
FOR
THE YELLOWSTONE BOYS AND GIRLS RANCH

THIS AGREEMENT is made and entered into this 1st day of July, 2024, by and between the City of Laurel, Montana, a municipal corporation (hereinafter "the City") and the Yellowstone Boys and Girls Ranch (hereinafter "YBGR").

W I T N E S S E T H

WHEREAS, the City maintains the Laurel Volunteer Fire Department (hereinafter "the LVFD") and is willing to provide fire protection, prevention, and investigation services to properties within YBGR at the same level as such services are provided to properties within the limits of the City, upon the terms and conditions hereinafter provided;

WHEREAS, attached hereto and by this reference made a part hereof, is YBGR's boundary description and map;

WHEREAS, YBGR desires to obtain the said fire services from the City by entering into a contract with the City for such services.

NOW, THEREFORE, it is agreed by and between the parties hereto as follows:

1. SERVICES

The City will furnish the following services to properties and residents within YBGR at the same level as such services are provided to properties and residents within the limits of the Fire Districts served by the City:

a. fire protection and suppression;
b. fire prevention; and
c. fire investigations.

The City further agrees to provide grassland, rangeland, and timberland fire protection services to properties located within YBGR, at the same level as such services are provided to properties and residents within the limits of the Fire Districts served by the City.

It is mutually covenanted, agreed, and understood that the amount of equipment, the type of equipment, the number of personnel dispatched, the manner of fighting the fire or explosion, etc., shall be in the sole discretion of the City and its personnel.

It is further mutually covenanted, agreed, and understood that, in the event fire, explosion, or emergency calls shall occur simultaneously in YBGR and within the City's municipal boundaries, the City shall have priority in using its equipment and manpower to protect the City property first, and that protection of City inhabitants and property shall have preference and priority over any call or demand of YBGR.

It is further mutually covenanted, agreed, and understood that the Chief of the LVFD shall conduct the investigation of all fires and/or explosions within the organized fire district and be independently responsible for determining the cause, origin, and circumstances of the same.

YBGR agrees to cooperate with the City and the LVFD in the inspection of the property to be protected and to cooperate in reducing fire risks as may be suggested from time to time by LVFD personnel and/or the City and/or State Fire Inspector.

2. SERVICE AREA

Fire services will be provided to all properties located within the boundaries of YBGR as specified in the Agreement, and as amended from time to time by agreement of the parties. Any enlargement of YBGR will not receive fire service unless approved in writing by the City. The hydrants and water system used for fire suppression by the City will be the sole responsibility for maintenance, care, and upkeep of YBGR.

3. EFFECTIVE

This Agreement shall be effective on July 1, 2024, and shall terminate on June 30, 2025, subject to the provisions of Section 4.

4. RENEWAL AND EXTENSION

This Agreement may be renewed, with the terms and conditions of the renewal Agreement to be as mutually agreed upon by the parties or, prior to expiration, this agreement may be extended for one or more thirty-day period(s) to provide the parties the opportunity to negotiate a new agreement. The parties may extend the agreement in writing, accepted and signed by both the City's Mayor and an authorized official/agent of YBGR.

5. CHARGES AND PAYMENTS

The fees for providing services for this Agreement shall be:

July 1, 2024 - June 30, 2025: $13,640.94
One-half of the said fees shall be paid on or before December 31, 2024. The remaining one-half shall be paid on or before June 30, 2025.

6. ANNUAL REPORT

The City will furnish an annual written report to YBGR, which will include the number and type of incidents responded to within YBGR by City personnel.

7. MODIFICATION

This Agreement cannot be modified or amended except in writing executed by the parties.

8. TERMINATION

Termination of this Agreement occurs either 1) upon mutual agreement of the parties or 2) upon the termination date contemplated herein. If either party wishes to terminate this Agreement before the termination date, such party shall give written notice to the other party to respond, with the other party's consent or objection, no less than thirty (30) days before the proposed termination.

IN WITNESS WHEREOF, the parties have executed this Agreement the day and year first above written.

CITY OF LAUREL

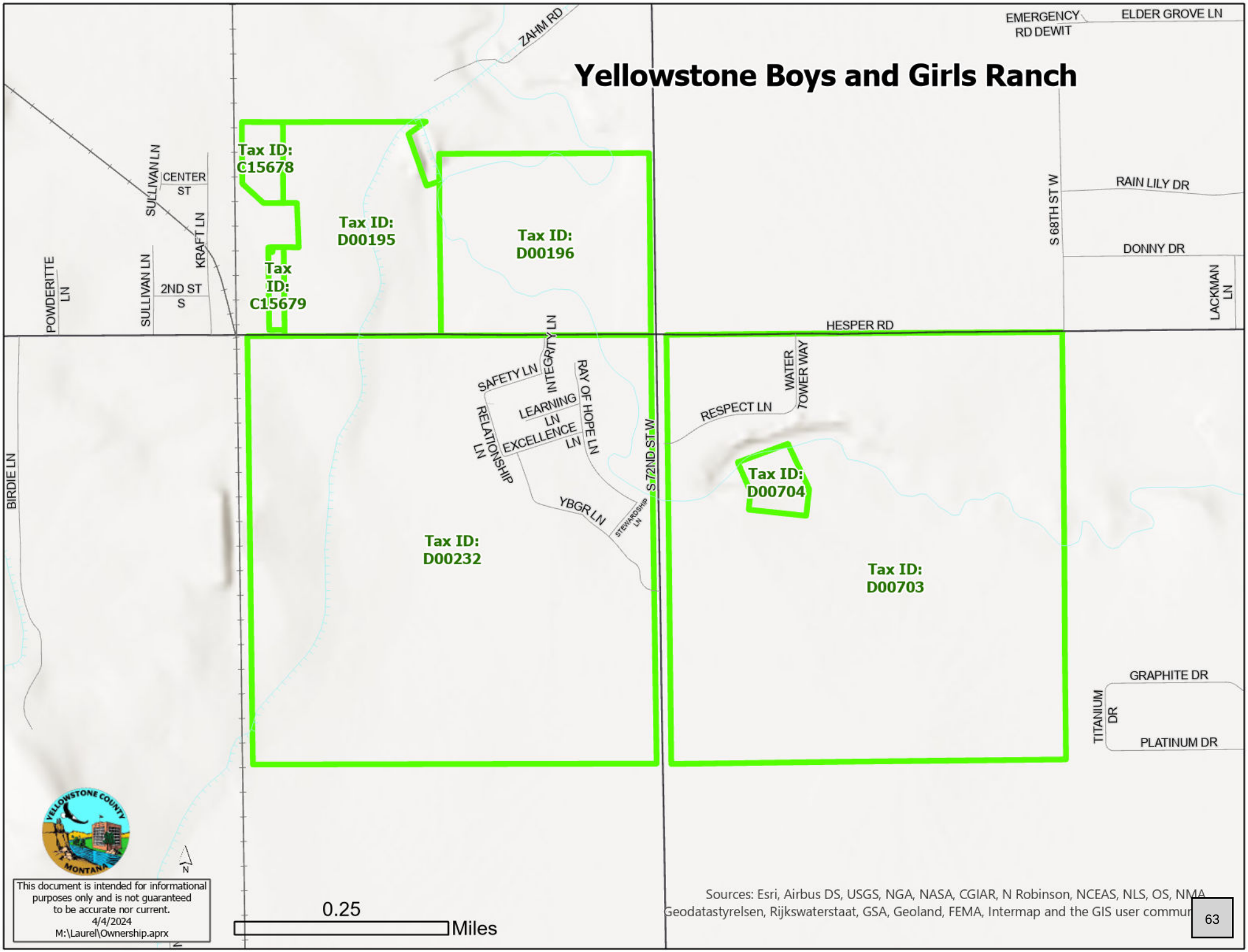
_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

YELLOWSTONE BOYS AND GIRLS RANCH

By_____


Yellowstone Boys and Girls Ranch
Tax ID: C15678
Tax ID: D00195
Tax ID: D00196
Tax ID: C15679
Tax ID: D00232
Tax ID: D00704
Tax ID: D00703
ZAHM RD
EMERGENCY RD DEWIT
ELDER GROVE LN
RAIN LILY DR
DONNY DR
LACKMAN LN
S 68TH ST W
HESPER RD
SULLIVAN LN
CENTER ST
KRAFT LN
POWDERITTE LN
2ND ST S
INTEGRITY LN
SAFETY LN
LEARNING LN
EXCELLENCE LN
RELATIONSHIP LN
RAY OF HOPE LN
YBGR LN
STEWARDSHIP LN
S 72ND ST W
WATER TOWER WAY
RESPECT LN
BIRDIE LN
GRAPHITE DR
TITANIUM DR
PLATINUM DR
YELLOWSTONE COUNTY MONTANA
N
This document is intended for informational purposes only and is not guaranteed to be accurate nor current.
4/4/2024
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Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user commun

File Attachments for Item:

6. Resolution - A Resolution Of The City Council Approving A Memorandum Of Understanding By And Between The City Of Laurel And Yellowstone County For The W. 12th Street Overlay Project.

RESOLUTION NO. R24-19

A RESOLUTION OF THE CITY COUNCIL APPROVING A MEMORANDUM OF UNDERSTANDING BY AND BETWEEN THE CITY OF LAUREL AND YELLOWSTONE COUNTY FOR THE W. 12th STREET OVERLAY PROJECT.

BE IT RESOLVED by the City Council of the City of Laurel, Montana,

Section 1: Approval. The Memorandum of Understanding by and between the City of Laurel and Yellowstone County for the W. 12th Street Overlay Project (hereinafter "the MOU for the W. 12th Street Overlay Project"), a copy attached hereto and incorporated herein, is hereby approved.

Section 2: Execution. The Mayor is hereby given authority to execute the MOU for the W. 12th Street Overlay Project on behalf of the City.

Introduced at a regular meeting of the City Council on the ___ day of _____, 2024, by Council Member _____.

PASSED and APPROVED by the City Council of the City of Laurel the ___ day of ____, 2024.

APPROVED by the Mayor the ___ day of ____, 2024.

CITY OF LAUREL

_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

APPROVED AS TO FORM:

_____
Michele L. Braukmann, Civil City Attorney

2024

W. 12TH STREET OVERLAY PROJECT

MEMORANDUM OF UNDERSTANDING (MOU)

Between the City of Laurel and Yellowstone County

SECTION I: PARTIES

This Memorandum of Understanding (MOU), has been made and entered into by Yellowstone County, (County), and the City of Laurel, (City).

SECTION II: PURPOSE

The City is asphalt overlaying a portion of W. 12th Street, a portion of W. 12th Street is outside the City limits. The County would like to have their portion of W. 12th Street overlayed as well. The City has received a quote for the paving project. The project will include the County's portion and the City's portion of W. 12th Street. The County has agreed to pay the City for the portion of W. 12th Street that is outside the City.

A general map of the project is shown as Exhibit A. The City and the County agree via this MOU to pay their proportionate share of this Project.

SECTION III: RESPONSIBILITIES

City Responsibilities:

The City shall solicit quotes, award the project to the lowest responsible contractor, enter into a contract with the contractor for the project. Once the project is completed the City will pay the contractor for the entire project.

Developer Responsibilities:

Upon successful completion of the Project, the County shall reimburse the City for the cost of their portion of the project.

SECTION IV: INDEMNIFICATION

The City agrees to hold harmless and indemnify the County from and against all claims, losses damages, or liability, resulting from the negligence of the City or its employees and agents in the performance of this MOU.

The County agrees to hold harmless and indemnify the City from and against all claims, losses

damages, or liability, resulting from the negligence of the Developer or its employees and agents in the performance of this MOU.

SECTION V: MISCELLANEOUS

Any claims or disputes arising out of this MOU, its performance that is not disposed of by agreement of the parties, shall be submitted to mediation for resolution of the disagreement. If mediation fails the dispute shall be submitted to arbitration before a single arbitrator according to the rules and practices of the American Arbitration Association and the findings of the arbitrator shall be binding on all parties to this MOU. Any costs associated with medication and arbitration shall be born equally by both parties.

SECTION VI: TERMINATION AND DURATION

Both parties are bound by the terms of this MOU until the Project is completed and the Project has been closed out. The Project will end when the Project has been closed out.

Dave Waggoner	John Ostland
Mayor	Chairmen
City of Laurel	Yellowstone Board of County Commissioner
Date	Date

File Attachments for Item:

7. Resolution - A Resolution Awarding The Bid And Authorizing The Mayor To Execute All Contract And Related Documents For 5th Avenue To 7th Avenue Sewer Line Replacement Project.

RESOLUTION NO. R24-__

A RESOLUTION AWARDING THE BID AND AUTHORIZING THE MAYOR TO EXECUTE ALL CONTRACT AND RELATED DOCUMENTS FOR 5TH AVENUE TO 7TH AVENUE SEWER LINE REPLACEMENT PROJECT.

WHEREAS, the City of Laurel (hereinafter "the City") is in need of sewer line replacement from 5th Avenue to 7th Avenue (hereinafter "the Project");

WHEREAS, the City has complied with its procurement policy and Montana law by utilizing a competitive bid process to ensure the Project cost and firm selected is in the best interests of the City in both quality and price;

WHEREAS, the City sought bids from qualified firms to complete the Project by publicly advertising the project pursuant to Montana law;

WHEREAS, the City received a responsive bid from Western Municipal Construction. (hereinafter "Western Municipal") for the Project;

WHEREAS, Western Municipal's bid to complete the project is for the total cost of Four Hundred One Thousand One-Hundred One Dollars and no Cents ($401,111.00);

WHEREAS, Western Municipal was the lowest qualified bidder, and such bid is attached hereto and incorporated by reference herein; and

WHEREAS, the City currently possesses adequate funds to complete the Project, and it is in the City's best interests to proceed with the Project.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Laurel, Montana, that the City Council accepts the bid with Western Municipal and the Mayor is authorized to execute all contract and related documents with Western Municipal for the Project, pursuant to the terms and conditions contained in the attached bid for the total cost of Four Hundred One Thousand One-Hundred One Dollars and no Cents ($401,111.00).

Introduced at a regular meeting of the City Council on the __ day of, 2024, by Council Member____.

PASSED and APPROVED by the City Council of the City of Laurel the __ day of ____, 2024.

APPROVED by the Mayor the __ day of ___, 2024.

CITY OF LAUREL

_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

APPROVED AS TO FORM:

_____
Michele L. Braukmann, Civil City Attorney

2611 Gabel Road
Billings, MT 59102-7329
406 245 5499
KLJENG.COM

April 3, 2024

Matt Wheeler
City of Laurel
115 W. 1st Street
Laurel, MT 59044

Re: 5th Ave. to 7th Ave. Sewer Line Replacement – Recommendation of Award

Dear Matt:

Bids for the 5th Ave to 7th Ave Sewer Line Replacement project were received on March 28th, 2024. Five bids were opened and read aloud, with bid amounts being $401,111.00, $422,161.00, $444,295.00, $549,940.00, and $568,265.00. The bid for $444,295.00 from 4050 Development was considered an unresponsive bidder as they did not include their Contractor's License. The bids were checked for mathematical accuracy and none of the bids had any discrepancies.

The lowest responsive bidder for the project is Western Municipal Construction at $401,111.00. The second lowest bidder is JR Civil of Montana with a bid amount of $422,161.00. Enclosed is a Certified Bid Tabulation. Please have the City determine whether to award the project and to who and for what amount; upon notice, we will pull together the notice of award (NOA), route to City for signature, and ultimately work with the chosen Contractor to finalize Contracts for the City's approval.

If you have any questions or concerns, please contact me at (406) 247-2933.

Sincerely,

KLJ

Ryan E. Welsh, PE
Project Engineer

Enclosure(s): Certified Bid Tabulation

Project #: 2304-01231
cc: file

TABULATION OF BIDS
5TH AVE TO 7TH AVE SEWER LINE REPLACEMENT
City of Laurel, MT
March 28, 2024

Base Bid				Enginner's Opinion of Cost		Western Municipal Construction		4050 Development		Askin Construction		JR Civil LLC		Cop Construction	
ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
101	Mobilization	LS	1	$35,000.00	$35,000.00	18,700.00	18,700.00	15,500.00	15,500.00	50,000.00	50,000.00	41,600.00	41,600.00	77,650.00	77,650.00
102	Taxes, Insurance and Bonds	LS	1	$12,000.00	$12,000.00	25,300.00	25,300.00	26,000.00	26,000.00	20,000.00	20,000.00	26,400.00	26,400.00	15,000.00	15,000.00
103	Traffic Control	LS	1	$6,000.00	$6,000.00	8,500.00	8,500.00	9,700.00	9,700.00	11,800.00	11,800.00	14,552.00	14,552.00	25,000.00	25,000.00
104	Stormwater Management and Erosion Control	LS	1	$6,000.00	$6,000.00	2,400.00	2,400.00	13,000.00	13,000.00	4,500.00	4,500.00	5,390.00	5,390.00	5,000.00	5,000.00
105	Sewer Byass Pumping	LS	1	$10,000.00	$10,000.00	9,000.00	9,000.00	28,000.00	28,000.00	25,000.00	25,000.00	4,880.00	4,880.00	9,400.00	9,400.00
106	Unclassified Excavation	CY	435	$27.00	$11,745.00	9.00	3,915.00	42.00	18,270.00	50.00	21,750.00	28.00	12,180.00	49.00	21,315.00
107	Connect to Ex. Sanitary Sewer Main	EA	5	$1,500.00	$7,500.00	990.00	4,950.00	850.00	4,250.00	1,500.00	7,500.00	1,170.00	5,850.00	260.00	1,300.00
108	Connect to Ex. Manhole	EA	1	$1,400.00	$1,400.00	1,400.00	1,400.00	1,800.00	1,800.00	4,000.00	4,000.00	2,561.00	2,561.00	1,600.00	1,600.00
109	Geogrid	SY	500	$6.00	$3,000.00	6.00	3,000.00	5.25	2,625.00	7.00	3,500.00	6.50	3,250.00	4.00	2,000.00
110	Non-Woven Geotextile Fabric	SY	1010	$2.95	$2,979.50	4.70	4,747.00	2.50	2,525.00	5.00	5,050.00	4.10	4,141.00	3.00	3,030.00
111	3" Minus Sub-base Course	CY	335	$90.00	$30,150.00	48.00	16,080.00	21.00	7,035.00	50.00	16,750.00	46.00	15,410.00	98.00	32,830.00
112	1-1/2" Crushed Base Course	CY	290	$62.00	$17,980.00	57.00	16,530.00	21.50	6,235.00	55.00	15,950.00	42.80	12,412.00	97.00	28,130.00
113	Asphalt Concrete Pavement Patch (Match Ex or 4")	SY	120	$38.00	$4,560.00	59.00	7,080.00	60.00	7,200.00	55.00	6,600.00	146.00	17,520.00	62.00	7,440.00
114	Asphalt Concrete Pavement Patch (3")	SY	600	$34.00	$20,400.00	33.00	19,800.00	55.00	33,000.00	30.00	18,000.00	35.50	21,300.00	34.00	20,400.00
115	Concrete Drive Approach	SF	180	$24.00	$4,320.00	240.00	43,200.00	54.00	9,720.00	125.00	22,500.00	275.00	49,500.00	145.00	26,100.00
116	Concrete Curb & Gutter	LF	130	$35.00	$4,550.00	92.00	11,960.00	54.00	7,020.00	50.00	6,500.00	52.80	6,864.00	69.00	8,970.00
117	Remove Concrete Curb & Gutter	LF	130	$10.00	$1,300.00	11.00	1,430.00	10.00	1,300.00	3.00	390.00	8.60	1,118.00	14.00	1,820.00
118	Gravel Alley Surface Repair	SY	260	$23.00	$5,980.00	18.00	4,680.00	12.00	3,120.00	15.00	3,900.00	12.90	3,354.00	17.00	4,420.00
119	Concrete Flatwork Removal	SY	70	$31.00	$2,170.00	9.10	637.00	19.00	1,330.00	10.00	700.00	10.10	707.00	19.00	1,330.00
120	Remove Ex. Sanitary Sewer Main	LF	780	$49.00	$38,220.00	7.40	5,772.00	5.50	4,290.00	10.00	7,800.00	14.50	11,310.00	1.00	780.00
121	Type 2 Pipe Bedding	CY	350	$44.50	$15,575.00	65.00	22,750.00	24.00	8,400.00	55.00	19,250.00	57.80	20,230.00	43.00	15,050.00
122	Imported Trench Backfill	CY	350	$90.00	$31,500.00	44.00	15,400.00	20.50	7,175.00	50.00	17,500.00	69.00	24,150.00	40.00	14,000.00
123	12" PVC Sanitary Sewer Main	LF	800	$124.00	$99,200.00	160.00	128,000.00	242.00	193,600.00	270.00	216,000.00	99.00	79,200.00	230.00	184,000.00
124	Sanitary Sewer Service Reconnect	EA	6	$750.00	$4,500.00	880.00	5,280.00	1,700.00	10,200.00	3,000.00	18,000.00	1,619.00	9,714.00	2,150.00	12,900.00
125	48" Sanitary Sewer Manhole	EA	2	$7,000.00	$14,000.00	7,000.00	14,000.00	9,250.00	18,500.00	10,000.00	20,000.00	7,240.00	14,480.00	22,000.00	44,000.00
126	Exploratory Excavation	HR	10	$650.00	$6,500.00	270.00	2,700.00	360.00	3,600.00	550.00	5,500.00	1,116.00	11,160.00	240.00	2,400.00
127	Tree Trim	EA	3	$1,000.00	$3,000.00	$1,300.00	$3,900.00	$300.00	$900.00	$500.00	$1,500.00	$976.00	$2,928.00	$800.00	$2,400.00
			Base Bid Total		$399,529.50		$401,111.00		$444,295.00		$549,940.00		$422,161.00		$568,265.00

This represents a true tabulation of bids opened and read on March 28, 2024.

Ryan Welsh
Project Engineer
Date: 4/3/2024

MONTANA
RYAN E. WELSH
14003 PE
LICENSED PROFESSIONAL ENGINEER

File Attachments for Item:

8. Resolution - Resolution Of Intent To Adopt Updated Growth Management Policy For The City Of Laurel-Yellowstone County Joint Planning Jurisdiction And Provide For A Thirty (30) Day Public Comment Period.

RESOLUTION NO. R24-_____

RESOLUTION OF INTENT TO ADOPT UPDATED GROWTH MANAGEMENT POLICY FOR THE CITY OF LAUREL-YELLOWSTONE COUNTY JOINT PLANNING JURISDICTION AND PROVIDE FOR A THIRTY (30) DAY PUBLIC COMMENT PERIOD.

WHEREAS, the City of Laurel City Council tasked the City of Laurel-Yellowstone County Joint Planning Board (hereinafter "the Planning Board") with the preparation of an Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

WHEREAS, the Planning Board approved an Action Plan incorporating public input and an approximate time-frame for the adoption of an Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

WHEREAS, the Planning Board conducted a series of public meetings and invited extensive public participation in the preparation of the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

WHEREAS, the Planning Board considered various factual and legal issues in relationship to the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

WHEREAS, the Planning Board heard both written and verbal testimony on issues and items of interest and concern related to the future growth and development expected to occur during the pendency of the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

WHEREAS, the proposed Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction addresses all statutory components of a Growth Policy, as set forth in Mont. Code Ann. § 76-1-601, to the extent considered and deemed acceptable, within the full discretion of City Council, as the governing body, consistent with Mont. Code Ann. § 76-1-601(2);

WHEREAS, the Planning Board conducted Public Hearings on the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction on December 20, 2023 and February 21, 2024, and the Planning Board has recommended adoption of the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

WHEREAS, the City of Laurel continues to work cooperatively with Yellowstone County through the Planning Board on various planning, subdivision, and land use related issues;

WHEREAS, the City desires to establish updated growth management standards that relate to the continued growth of the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

WHEREAS, the City desires to provide persons who may be affected by the adoption of the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction ample opportunity for involvement in the adoption process;

WHEREAS, Mont. Code Ann. § 76-1-604 provides the process for the adoption, revision, or rejection of a Growth Policy by the City Council; and

WHEREAS, the City will conduct a public hearing on May 28, 2024 at 6:30 p.m., in City Council Chambers, regarding the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Laurel, Montana, as follows:

1. The City Council hereby adopts this Resolution of Intent to adopt the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

2. The City formally opens a public comment period for at least thirty (30) calendar days, during which interested persons may comment upon the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

3. The City will conduct a public hearing on May 28, 2024 at 6:30 p.m., in City Council Chambers, regarding the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction;

4. Notice of the passage of this Resolution of Intent shall be published in a newspaper of record not less than twice during the comment period; and

5. Persons who desire to comment on the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction shall submit comments in written form to City of Laurel: Planning Director, 115 West 1st Street, PO Box 10, Laurel MT 59044.

BE IT FURTHER RESOLVED that following the closure of the public comment period, City Council will consider adopting in its entirety, adopting with revisions, or rejecting the Updated Growth Management Policy for the City of Laurel-Yellowstone County Joint Planning Jurisdiction.

Introduced at a regular meeting of the City Council on the _____ day of _____, 2023, by Council Member _____.

PASSED and APPROVED by the City Council of the City of Laurel the _____ day of _____, 2023.

APPROVED by the Mayor the _____ day of _____, 2023.

CITY OF LAUREL

_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

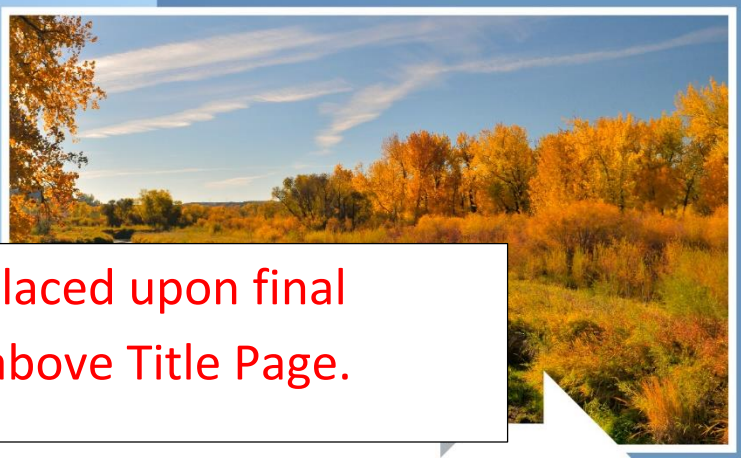
APPROVED AS TO FORM:

_____
Michele L. Braukmann, Civil City Attorney

REQUESTED UPDATE

To the 2020 Growth Management Policy for the City of Laurel/ Yellowstone County Joint Planning Jurisdiction

Prepared by the City of Laurel/Yellowstone County Planning Board 2023



This page to be replaced upon final approval with the above Title Page.

November 2020

GROWTH MANAGEMENT POLICY

Contents

CHAPTER 1: INTRODUCTION AND PURPOSE

Introduction

The Growth Management Policy is a guide for the development of the ~~City of Laurel~~ Laurel Planning jurisdiction area over the next five years. The purpose of this plan is to provide general guidelines to develop and maintain Laurel as a safe, livable, and economically viable community that residents, institutions, and businesses are proud to call home. This document presents information about the planning jurisdiction ,~~City~~ its residents, and the goals and objectives the ~~City~~ planning board will work towards in the long term.

This document is focused on the City of Laurel and its ~~surrounding~~ zoning and planning jurisdictions. Laurel is at a crossroads both in place and time. It is located at a vital junction for agriculture, transportation, and industry that helped develop the area over the past 130 years. The timing of this policy update is also essential given a growing population, changing demographics, a fast-growing municipality nearby (Billings), and the need for updated regulations and policies to face 21st century technological, economic, and land-use challenges.

Historical Context

The Crow was the principle Tribe in the Yellowstone Basin when European explorers first arrived. In July of 1806, Captain William Clark and his expedition floated down the Yellowstone River from current-day Livingston in crude canoes on their return journey. Clark and his expedition camped at the mouth of the Clark's Fork of the Yellowstone River near Laurel's present site and noted it as a possible location for a trading post. Chief Joseph later led the Nez Perce over the Yellowstone River near Laurel during their retreat to Canada in 1877. Colonel Sam Sturgis and his cavalry caught up and battled the Tribe at Canyon Creek approximately six miles north of present-day Laurel. The Nez Perce escaped the cavalry and continued their flight to Canada after the battle. Laurel is located on both the Lewis & Clark and Nez Perce National Historic Trails that commemorate these events.

European settlement of the area began in 1879. The railroad reached Billings by 1882 and reached current-day Laurel by that fall. The City of Laurel, initially called Carlton, was established in 1882 along the newly laid railroad tracks. The western legend of "Calamity Jane" Canary was associated with Laurel in its early years after she came to Laurel in 1882 and had her dugout near the Canyon Creek Battleground.

Laurel's population and its economy boomed during the early years. By 1920, the population had reached 2,338 residents. The rail yards were a permanent fixture of the local economy and became a dependable employer due to the consistent demand for agricultural products nationwide. The three major industries which have played a significant role in the growth of the City have been agriculture, the

railroad, and oil. Local farms near current-day Laurel were settled before any official town being established. Popular crops for area farmers and ranchers included alfalfa, grains, and sugar beets. This agricultural production was a significant draw for the region outside of the rail yard's ability to ship goods. These farms were an essential driver of the local economy despite the railyard's outsized role as a shipping center.

The Northern Pacific, Great Northern, and Chicago, Burlington, and Quincy Railroads all made their junction in Laurel by 1906. The Northern Pacific was building terminal yards in 1907, which would eventually lead to Laurel being the largest terminal and classification station between St. Paul, Minnesota, Seattle, and Washington. The yards would eventually have a fifty-five-stall roundhouse, machine shop, ice-making plant, loading docks, water tank, and disinfecting plant. ~~The yard is currently operated by Montana Rail Link, which is leased from the Burling Northern/Santa Fe Railroad.~~ Laurel remains the largest rail yard between Minneapolis and Seattle.

The area was repeatedly drilled for oil exploration in the early 1920s. The Northwest Refining Company bought a site for a proposed 2,000-barrel refinery in 1922. In 1927, productive oil fields were discovered in the nearby Oregon Basin of Wyoming. The existing regional rail infrastructure made Laurel an ideal location for the refining and exporting of crude oil from Wyoming and other regions. The refinery in Laurel has been operated by many companies, including the Independent Refining Company, Farmers Union Central Exchange, and now CHS Inc.

Purpose

The Growth Management Policy is a statement of the community goals and objectives that will guide the ~~City's~~ planning jurisdiction's development. The policy is a comprehensive document covering many different study areas, including demographics, land use, infrastructure, public services, transportation, and housing. The purpose of this Growth Management Policy is to:

- Establish Community Goals and Objectives
- Present an updated profile of the community
- Provide projections for housing, natural resources, population, land use, and other subjects
- Ensure an orderly set of policy priorities for the expansion of the City
- Put forward an implementation guide for the established Goals and Objectives
- Act as a guide and resource for city and county staff and other local stakeholders

Community Vision

The Growth Management Policy allows local stakeholders to create a future vision for the Laurel community. A well-thought-out vision is important because it informs the structure and form of the document and influences the City's work long after it is published. This vision can involve where the City wants to grow, what types of business residents would like to see, priorities for project funding, and the quality of life residents would like to have. The Growth Management Policy's goals,

objectives, and recommendations for implementation are developed from this community vision. City staff worked with Planning Board members to develop a community vision for the planning jurisdiction. ~~Laurel.~~

In the future, the Laurel area will have:

- A diverse array of residents, businesses, and institutions,
- Greater employment opportunities,
- Connected and accessible neighborhoods,
- A variety of housing options and levels of affordability,
- A thriving downtown and commercial district,
- Well-functioning public services and amenities,
- Clear and consistent regulations for development, and
- An engaged community.

Regulatory Requirements

The Growth Management Policy is a statutory necessity for local governments. Montana Code Annotated Title 76, Chapter 1, Part 6 provides the foundation for establishing a municipal growth policy. These statutes require certain general items to be included, but the direction, focus, and contents of the policy are the local governing body's responsibility. These statutes were established to enable local governments to proactively envision their future and implement change in a coordinated way.

CHAPTER 2: PUBLIC INVOLVEMENT

Overview

The update process for the 2020 Growth Management Policy began in November 2019 and continued through October of 2020. Much of the plan was developed in the spring and early summer of 2020. The Planning Department convened multiple meetings of the Planning Board to discuss and review draft chapters and information and reached out to local, county, and state officials for input.

The onset of the COVID-19 pandemic and subsequent shelter-in-place directives disrupted the Laurel City-County Planning Board's in-person meetings. The Planning Department continued to draft sections of the plan, met with stakeholders virtually, and compiled chapters despite this disruption.

Prior Efforts

Before this update, the most recently approved Growth Management Policy was completed and approved by Laurel City Council in December of 2013. Before adopting the 2013 Growth Management Policy, The City of Laurel had prepared and adopted a Growth Management Policy in 2004.

Outreach

Outreach efforts were made during the late winter and early spring of 2020. The City reached out to many local, regional, and state groups. These groups and organizations were identified as essential stakeholders in the development of the plan. Many groups were unable to comment due to the COVID-19 pandemic, which caused significant scheduling and contact issues. The chart below shows the groups that the City met with and those contacted but who did not follow-up or could not provide direct information due to the pandemic.

Laurel Growth Management Policy Update Outreach	
Groups with which Meetings were held	**Groups Contacted**
Laurel Urban Renewal Agency	Laurel Chamber of Commerce
Laurel School District	Big Sky Economic Development Authority
City of Laurel Public Works	Montana Department of Commerce
City of Laurel Fire Department	Yellowstone County Disaster & Emergency Services
City of Laurel Police Department	Yellowstone County GIS
Laurel Rotary Club	Montana Department of Justice
Yellowstone County Board of County Commissioners	
Yellowstone County Sheriff's Department	
Department of Natural Resources and Conservation	
Montana Department of Transportation (Billings District)	
Beartooth Resource Conservation & Development	
Montana Department of Environmental Quality	

Timeline of Meetings for the Growth Management Policy Update

The onset of the COVID-19 pandemic curtailed meetings of the Planning Board between March and June of 2020. Compiling the policy components and preparation of narrative portions continued during this time under the previously established schedule. The chart below shows the Planning Board and City Council meetings in which the Growth Management Policy Update was presented.

Laurel Growth Management Policy Update 2020 - Meeting Schedule			
Date	**Purpose**	**Task**	**Outcome**
December 11, 2019	Approve Schedule and Contacts	Initial Visioning Discussion	Invites to Agencies
January 8, 2020	Disc: Chapters 1&3	Introduction, Purpose and Common Goals	Work Session
February 12, 2020	Disc: Chapters 4&5	Community Profile, Employment Forecast	Work Session
February 26, 2020	Disc: Chapter 6	Land Use	Work Session
March 11, 2020	Disc: Chapter 7	Future Land use	Work Session
March 25, 2020	Disc: Chapter 8	Housing	Work Session
April 8, 2020	Disc: Chapter 9	Infrastructure	Work Session
April 22, 2020	Disc: Chapter 10	Transportation	Work Session
May 13, 2020	Disc: Chapter 11	Economic Development	Work Session
May 27, 2020	Disc: Chapters 12&13	Public Services, Facilities & Recreation Plan	Work Session
June 10, 2020	Disc: Chapters 3, 14, 15	Community Goals, Natl Resources & Implementation	Work Session
June 24, 2020	Review Document	Review Completed Chapters	Work Session
July 22, 2020	Planning Board Review	Chapters 3, 7, 7.5, 8, 9, 10, 11, 13	Work Session
August 19, 2020	Planning Board Review	Review Draft Document	Schedule Public Hearing
October 21, 2020	Planning Board Public Hearing	Full Document Review and Approval	Resolution of Adoption
November 3, 2020	City Council Discussion Session	Full Document (PB Approved)	Preliminary Presentation
November 17, 2020	City Council Workshop	Full Document (PB Approved)	City Council Review and Comments
November 24, 2020	City Council Public Hearing	Receive Public Comment, Approve Resolution of Adoption	Resolution of Adoption
December 24, 2020	Final Adoption	30 Day Comment Period	Adoption of Growth Management Policy

Laurel Growth Management Policy Update 2023 - Development Schedule			
Date	**Purpose**	**Task**	**Outcome**
January 24, 2023	County Commissioners Meeting Approving Resolution No. 23-03	County Commissioners request to update 2020 Growth Management Policy with changes to the City of Laurel/ Yellowstone Couty Planning Board	Planning Board to take up the task
February 15, 2023	Planning Board Meeting	Report to the Panning Board of the County's request	Started the review
March 15, 2023	Planning Board Meeting		Work Session
April 19, 2023	Planning Board Meeting		
May 2, 2023	City Council Workshop	Staff recommendation asking City Council to request Growth Management Policy update with changes to The City of Laurel/Yellowstone County Planning Board	Discussion
May 9, 2023	City Council Meeting Approving Resolution R23-29	City Council's request to update 2020 Growth Management Policy with changes to the City of Laurel/ Yellowstone Couty Planning Board	Planning Board to continue updates
May 17, 2023	Planning Board Meeting	Inform Planning Board of City Council Resolution R23-29	Review changes
June 21, 2023	Planning Board Meeting	Review 2020 growth management policy	Review changes
July 26, 2023	Planning Board Meeting	Review 2020 growth management policy	Review changes
September 20,2023	Planning Board Meeting	Set work sessions for planning board and to send legal notice to the community	Work Session Set
September 29, 2023	Legal Advertisement Published in Yellowstone County News	Work Session Public Notice for every Wednesday in October	Public Notice
October 4, 2023	Planning Board Review	Review 2020 growth management policy draft changes	Work Session
October 6, 2023	Legal Advertisement Published in Yellowstone County News	Work Session Public Notice for every Wednesday in October	Public Notice
October 11, 2023	Planning Board Review	Review 2020 growth management policy draft changes	Work Session
October 18, 2023	Planning Board Review	Review 2020 growth management policy draft changes	Regular Meeting
October 18,2023	Planning Board Meeting	Review 2020 growth management policy draft changes	Work Session
November 15, 2023	Planning Board Meeting	Review draft changes and to set a public hearing for December 20th, 2023	Advertise Public Hearing for Planning Board
December 1, 2023	Legal Advertisement Published in Yellowstone County News	Community Public Notice	Public Notice
December 1, 2023	Send out draft document and maps to City and County Offices for Comments	City and County Staff Notice	

December 8, 2023	Legal Advertisement Published in Yellowstone County News	Community Public 2nd Notice	Public Notice
December 15, 2023	Legal Advertisement Published in Yellowstone County News	Community Public 3rd Notice	Public Notice
December 20, 2023	Planning Board Public Hearing	Full Document Review and Approval	
December 20, 2023	Planning Board	Tabled – Resolution to approve Growth Management Policy	
January 17, 2024	Planning Board	Tabled and set Workshop for January 31,2024 and additional Public Hearing for February 21, 2024.	
January 25, 2024	Legal Advertisement Published in Laurel Outlook	Community Public Notice for Workshop Session	Public Notice
January 31, 2024	Planning Board Workshop	Amended Maps for Annexation Priority Area and Future Land Use Maps	
February 1, 2024	Legal Advertisement in Laurel Outlook	Community Public Notice for 2/21/2024 Public Hearing	Public Notice
February 8, 2024	Legal Advertisement in Laurel Outlook	Community Public Notice for 2/21/2024 Public Hearing	Public Notice
February 9, 2024	Legal Advertisement Published in Yellowstone County News	Community Public Notice for 2/21/2024 Public Hearing	Public Notice
February 15, 2024	Legal Advertisement in Laurel Outlook	Community Public Notice for 2/21/2024 Public Hearing	Public Notice
February 16, 2024	Legal Advertisement Published in Yellowstone County News	Community Public Notice for 2/21/2024 Public Hearing	Public Notice
February 21, 2024	Planning Board Public Hearing	Full Document Review and Approval	
TBD	City Council discussion Session	Full Document	Preliminary Presentation
TBD	City Council Workshop	Full Document	City Council Review and Comments
TBD	County Commissioners Discussion Session	Full Document	Preliminary Presentation
TBD	County Commission Discussion Session	Full Document	City Council Review and Comments
TBD	Legal Advertisement Published in Yellowstone County News	Community Public 1st Notice - City	Public Notice

TBD	Legal Advertisement Published in Yellowstone County News	Community Public 1st Notice - County	Public Notice
TBD	Legal Advertisement Published in Yellowstone County News	Community Public 2nd Notice - City	Public Notice
TBD	Legal Advertisement Published in Yellowstone County News	Community Public 2nd Notice - County	Public Notice
TBD	City Council Public Hearing	Receive Public comment, Approve Resolution of Adoption	Resolution of Adoption
TBD	County Commissioners Public Hearing	Receive Public Comment, Approve Resolution of Adoption	Resolution of Adoption
TBD	Final Adoption	30 Day Comment Period	Adoption of Growth Management Policy

CHAPTER 3: GOALS, OBJECTIVES, AND STRATEGIES

Overview

The community goals and objectives presented in this chapter were established to transform the community vision into a concrete reality. These goals, objectives, and strategies were developed through research, data collection, interviews, and public meetings that the City and the planning board conducted throughout the planning process.

These goals cover a wide range of topics, including Land Use, Transportation, Housing, Economic Development, Infrastructure, and more. This collection of community goals and objectives is meant to be exhaustive to provide the City, developers, residents, and business owners with comprehensive guidance to inform local efforts across different sectors, topics, and areas of influence.

Land Use Goals and Objectives

Land use policy is one of the most potent tools a city has. Zoning and subdivision codes influence growth patterns, infrastructure placement, road connectivity, and much more. The ~~City of Laurel~~ planning board is focused on the effective use of land in and around the City. The ~~City~~ planning board also plans to conserve open space and traditional land uses by focusing on smarter, denser development clustered along significant routes and commercial areas.

This plan's overall goals are to conserve open space while maximizing the areas currently in and directly adjacent to the City. Laurel's downtown and Southeast 4th Street rehabilitation are possible through a mix of infill development, mixed-use buildings, improved infrastructure, and updated façade and signage standards.

Goal 1: Conserve open space and traditional land uses

- Encourage cluster developments to incorporate open space into new developments
- Provide options for landowners for conserving portions of their land
- Study and Implement strategies to create an interconnected system of parks and greenways and open space that are accessible to area residents

Goal 2: Develop downtown Laurel into a vibrant place to live, work, and play

- Encourage mixed uses for living, working, and shopping local
- Identify priority parcels for infill development
- Implement Placemaking projects to create a more livable and enjoyable downtown
- Partner with local groups to support community businesses, events, and gatherings
- Connect with regional agencies to access project funding, receive technical support, and boost the visibility of Laurel development opportunities

Goal 3: Update Subdivision Code to meet the needs of Laurel and the surrounding area

- Provide clear and consistent standards
- Ensure the proper scale and scope of regulations
- Include trails, open space, and greenway considerations in parkland subdivision review
- Regularly review and update the Subdivision Code as needed to remain current

Goal 4: Update the Zoning Code to provide for greater flexibility of allowable uses, clearer requirements, and more efficient land use

- Study the inclusion of different types of housing within residential districts
- Update Overlay Districts, Parking Requirements, and the Sign Code to better fit the City's needs and character
- Allow mixed-use live/work opportunities in commercial areas
- Enable property owners to use their land more effectively and efficiently

Goal 5: Use long term planning documents to identify funding and address priority needs for infrastructure and development

- Establish an Annexation Plan to develop priority growth areas and strategies
- Develop a Capital Improvement Plan for vital infrastructure to support the City as it grows
- Prepare a Commercial and Industrial Development Study for land adjacent to major transportation routes in the Laurel area

Annexation Goals and Objectives

Municipalities need to seize growth opportunities. Having strategies to address challenges for developing a community and preparing priorities for expansion are vital activities. Two overarching goals have been designated to help the City of Laurel grow through annexation.

Goal 1: Adopt a long-range view for the growth of the City

- Establish a growth-conscious set of policies to expand the City and its services
- Create priority growth areas for extension of services
- Develop and approve an Annexation Plan for the Laurel Planning Jurisdiction
- Support the creation of a long-term Capital Improvement Plan for the extension of essential infrastructure

Goal 2: Manage fiscal responsibility with established and proposed annexation standards

- Ensure that the established standards are right and proper for the City of Laurel
- Ease the burden for developers to annex into the City while meeting established standards
- Allow greater flexibility in development patterns
- Determine the cost and benefits of annexation

Housing Goals and Objectives

Housing is a necessity in any community. The goals presented below are a means to ensure that people can find affordable, accessible, comfortable, and attractive housing in the community. To date, Laurel has not struggled with significant housing affordability issues. One housing trend that Laurel might consider is the growing demand for closer-knit, denser, and connected neighborhoods near commercial areas. Many younger Americans have abandoned the traditional single-family home for other housing, including rowhouses, tiny homes, condominiums, and apartments. Many older Americans are also focusing on downsizing to housing that is more accessible to local services, including restaurants, medical services, and grocery stores.

Housing is closely connected with transportation and economic development. Updating the zoning code to allow a more comprehensive array of housing options such as tiny homes, accessory dwelling units, and multi-family housing is an important goal. This update will ensure that currently developed parcels and vacant parcels within the City can be developed with more options for prospective buyers or renters. It is also crucial for Laurel to have standards and code that allow for the efficient use of space already within the City while enabling the effective use of land in the surrounding area.

Goal 1: Encourage a mixture of housing types to meet the demand of all market sectors

- Maintain a diverse array of housing and affordability levels
- Promote higher density housing types in the downtown area and adjacent to major transportation corridors
- Study mixed-use housing and other alternative housing types and styles
- Provide options for a full spectrum of housing from rentals to retirement housing

Goal 2: Provide information on housing-related grants, loans, and ownership programs

- Develop a list of resources for renters and homeowners
- Collect information on federal, state, local, and philanthropic rental and homeownership programs
- Advise Laurel area residents as to available support for housing, rent, and homeownership

Infrastructure Goals and Objectives

Infrastructure is the foundation of the community. It will be vital for the City to utilize long-range planning to establish infrastructure standards, map current infrastructure facilities, and identify infrastructure development costs for necessary and prospective projects.

The drafting of planning documents, including master plans and preliminary engineering reports (PERs) relating to the Laurel water system, wastewater system, and stormwater system, is critical to ensure orderly and effective growth of the City. A Capital Improvement Plan (CIP) is another vital infrastructure planning document that should be completed. Plans and engineering reports should provide useable data, allow for inclusion in grant applications, and present direct insight into necessary current and future projects.

Goal 1: Maintain an Effective and Efficient Public Infrastructure System that Adequately Serves the Needs of the City

- Develop a data-driven infrastructure maintenance schedule
- Determine any existing gaps in services and other infrastructure deficiencies within the City
- Adopt up-to-date infrastructure standards that are appropriate for the needs of the City
- Study using public spaces within floodplains, watercourses, and wetlands to be used as passive recreation areas such as parks and greenways
- Study the feasibility of recycling programs and other means to reduce solid waste
- Incorporate stormwater system planning into roadway and other infrastructure planning processes

Goal 2: Establish the Long-Term Capital and Infrastructure Needs for the City

- Develop a Capital Improvement Plan for the improvement and expansion of infrastructure
- Prepare a Water System Master Plan
- Create a Wastewater System Master Plan
- Complete a Stormwater Management Plan
- Ensure infrastructure planning documents are routinely updated.
- Confirm that the established infrastructure priorities are adequate

Goal 3: Seek out Possible Funding Sources for the Expansion and Improvement of Infrastructure and Essential Community Services

- Study the physical and financial needs for the extension of infrastructure to priority growth areas.
- Collaborate with Montana agencies on major projects and studies
- Explore federal, state, and philanthropic infrastructure grant opportunities
- Determine positive impacts from the expansion and improvement of infrastructure
- Apply for funding opportunities that are appropriate for city priorities and projects and assist in keeping user fees reasonable

Transportation Goals and Objectives

The transportation network brings people together. This network is a patchwork of streets, roads, sidewalks, bike paths, trails, and rail. It is crucial to couple transportation development with land use. To this end, a goal is the development of a more multi-modal approach to streets and pathways. Implementing bicycle and pedestrian improvements such as bike lanes, greenways, improved signage, and sidewalk improvements is critical. Furthermore, traffic and speed data should be studied on significant routes to determine street safety and determine possible resolutions to improve motorized and non-motorized traveler safety. Laurel seeks to make neighborhoods and commercial areas more accessible and connected by improving pedestrian facilities, including sidewalks, accessible curb cuts, signage, and road markings. Establishing a road network master plan is also vital to create a concrete plan for street expansion and continuity to support orderly and consistent growth patterns.

These transportation goals are a way to increase the quality of life, connect people to their community, increase safety, and plan for current trends and future growth. There are three overarching transportation goals, including objectives and strategies.

Goal 1: Preserve, Maintain, and Improve the Existing Transportation System

- Update the Long-Range Transportation Plan (LRTP)
- Establish a systematic approach for the maintenance and repair of the road network.
- Develop a Capital Improvement Plan to identify and prioritize significant transportation projects
- Establish a Road Network Master Plan to ensure street continuity, traffic flow, and neighborhood connectivity,
- Promote fiscal responsibility and high return on investment
- Coordinate roadway improvement projects to coincide with underground infrastructure improvements

Goal 2: Improve the Mobility, Safety, and Accessibility for all users and modes of travel

- Implement bicycle and pedestrian improvements and traffic calming measures to transform the downtown area into a pedestrian-friendly place
- Create a looping bicycle/pedestrian trail and street system that connects different areas of Laurel
- Adopt pedestrian and multi-modal friendly transportation standards and safety measures
- Explore options to improve and expand the Laurel Transit program and strategies to create other multi-modal transportation connections.
- Partner with local, regional, and statewide groups to further integrate Laurel into the more comprehensive passenger transportation network

Goal 3: Connect Transportation Decisions with Land-Use Decisions

- Integrate land-use planning and transportation planning to manage better and develop the transportation network.
- Utilize transportation projects to encourage intensive development patterns along significant routes and existing areas of the City.
- Adopt and implement consistent system policies and maintenance standards
- Ensure the development of a sustainable transportation system that minimizes environmental impacts

Economic Development Goals and Objectives

The Laurel economy has changed dramatically in the past few decades. The emergence of online retail has shifted the focus away from traditional brick and mortar downtowns businesses to easy to use and seemingly more convenient online or delivery options. Recently, small towns and cities across the country are finding that thoughtful economic development and land use planning can rehabilitate their downtowns and neighborhoods to reverse some of the losses related to the emergence of online retail.

The City has established focus areas for economic development. These areas include Laurel's traditional downtown core, the Southeast 4th St. Commercial district, the 1st Avenue Corridor, and Old Route 10 running west from the City. This chapter's primary focus is to establish a smarter, more sustainable development that adds character and connectivity to commercial areas. Commercial areas of Laurel should be attractive places to visit. Placemaking and beautification projects are useful to encourage residents and visitors to explore different areas of the City. Increasing walkability and mixed-use development can also create better housing and commercial opportunities.

The goals presented below are an effort to increase the attractiveness, usefulness, and quality of the community's commercial and economic sectors. The expansion brings new opportunities, and the area near the West Laurel Interchange has significant growth potential. This area could become a central area for the Laurel community's growth and development through the effective use of placemaking strategies, smart growth concepts, and cohesive zoning and development standards. Four main goals with related objectives have been established related to Economic Development as follows:

Goal 1: Develop downtown Laurel as a destination to live, work, and play

- Institute placemaking projects to further enhance district character
- Increase live-work opportunities for current and future residents and businesses
- Apply TIF funding to beautification, blight removal, and public improvement projects
- Identify and find solutions for unused or underused parcels as candidates for development

Goal 2: Create a resilient local economy

- Strengthen core businesses and industries through communication and connections with technical support
- Ensure that local economic activities are inclusive and accessible to all stakeholders
- Implement policies that create stable and sustainable economic growth
- Work to highlight the shared benefits of working together as a community with local businesses stakeholders, and developers
- Provide an economic ecosystem that allows for a wide array of businesses, industries, and developments to thrive
- Study and implement policies to enhance local business demand and alternative strategies for value creation for the community

Goal 3: Collaborate with area organizations to support economic growth and local employment and training opportunities

- Communicate with local groups to determine any needs and assistance
- Create partnerships with local and regional groups to fill local service gaps and create needed programming
- Take part in events and workshops to support local business initiatives and activities
- Establish common ground with local and regional groups to provide resources and assistance
- Connect residents and businesses with like-minded economic, financial, and entrepreneurship resources and opportunities

Goal 4: Study options for new commercial and industrial properties in anticipated high-growth areas

- Create a Corridor Master Plan for growth in and around the intersection with Old Route 10 and the West Laurel Interchange
- Study options and determine priorities for the possible establishment of Tax Increment Financing Districts (TIFs) and Targeted Economic Development Districts (TEDDs)
- Review and pursue opportunities for clustered commercial or industrial parks
- Develop funding strategies to provide services for priority growth areas.

Public Facilities and Services Objectives, Policies and Strategies

Effective and efficient public services are a significant draw for prospective residents, developers, and businesses. Above all, public facilities and services must be accessible, useful, and dependable for everyone residing, working, and visiting the City. Laurel should identify current gaps and determine the projected needs of public facilities as the City grows. It is crucial to work with public stakeholders and departments to include the whole population. Providing consistent and stable service delivery is essential.

Goal 1: Provide consistent and high-quality public services to the community

- Develop standard operating procedures to ensure consistency for city departments
- Develop maintenance procedures for parks, facilities, and public areas.
- Study current facilities and services to identify gaps and determine projected needs in services

Goal 2: Respond to the changing nature of the community

- Plan for the expansion of public facilities in priority growth areas
- Invest in public facilities that are accessible to everyone in the community
- Study how to improve city services to boost the quality of life for residents, businesses, and institutions

Goal 3: Work with city departments and local stakeholders to determine the priority expansion of public facilities and services

- Open lines of communication between city departments and local stakeholders to gather input on major projects
- Consider the public service requirements of large-scale projects before their approval and implementation
- Develop plans for the expansion of Fire, Police, and EMS facilities

Recreation Goals and Objectives

The wide array of Laurel city parks is a great asset to residents. It is the goal to ensure that current and future city parkland is an essential amenity. Parks should be developed and improved to act as neighborhood focal points. Many of Laurel's parks are very small, with some located in less than optimal locations. It is a goal to ensure that parkland is a useable and enjoyable amenity for residents. The City should study underutilized or burdensome parkland parcels and consider re-use scenarios.

Historical Riverside Park has been a staple of the community for almost one hundred years. The Riverside Park Master Plan was developed in 2018 to provide a blueprint for improvements and the park's use. It will be essential to continue the ongoing improvement efforts and develop policies to attract visitors. Riverside Park should be maintained as a historical, recreational, and economic asset in the future.

Goal 1: Develop parkland as an essential and enjoyable amenity for residents

- Ensure new developments have appropriate park space for recreation and general use
- Study how existing parks can be improved through new facilities, changed layouts, or additions
- Review current park infrastructure and determine if improvements are necessary to serve the needs of the surrounding area better

Goal 2: Promote Riverside Park as a vital historic, civic, and recreation resource for residents and visitors

- Adhere to the projects and strategies presented in the 2018 Riverside Park Master Plan
- Seek grant funding for structural and site improvements
- Develop historic markers for Riverside Park and its historic structures
- Study options for connecting Riverside Park to the city proper through infrastructure improvements, civic engagement, or other means
- Establish signage and marketing for the assets and resources of Riverside Park to area residents and visitors

Goal 3: Create an interconnected system of parks, greenspace, and trails that are accessible to all

- Create a city-wide Park System Master Plan to develop project priorities
- Consider the creation of a City Parks Department to oversee park operations and maintenance
- Identify unused land that can be transformed into green space or trails for use by the public
- Update the zoning and development codes to encourage the creation of bicycle and pedestrian trail corridors

Natural Resource Goals and Objectives

The Laurel planning jurisdiction contains a variety of terrain types and environments. The natural environment should be preserved and enhanced to balance environmental sustainability with economic growth, recreational opportunities, and development. Natural resources and the natural environment can be managed with growth activities to provide social, economic, and community benefits to people over time while continuing their natural functions. The natural resource goals and objectives have been developed with this balance of activities in mind.

Goal 1: Protect Laurel's natural resources and traditional environment

- Provide options for landowners for conserving portions of their land while developing others
- Achieve a balanced pattern of growth to ensure environmental concerns are considered during the development
- Manage the local water resources as a healthy, integrated system that provides long-term benefits from enhanced environmental quality

Goal 2: Incorporate sustainable development patterns in the Laurel subdivision and land use codes

- Review and update existing zoning and subdivision regulations to ensure environmental preservation and conservation are addressed
- Review and update landscaping ordinances as needed to best suit Laurel's natural environment
- Manage rivers, floodplains, wetlands, and other water resources for multiple uses, including flood and erosion protection, wildlife habitat, recreational use, open space, and water supply

Goal 3: Connect with local, regional, and state agencies and stakeholders to improve the natural environment in and around Laurel

- Sponsor environmental cleanup and rehabilitation programs that include the City, school district, community organizations, and residents
- Participate in regional watershed studies to achieve adequate long-term flood protection
- Explore the possibility of creating a conservation corridor along the Yellowstone River

Intergovernmental Coordination Goals and Objectives

Intergovernmental coordination and collaboration are essential to ensure that the City of Laurel can sustainably develop, seize growth opportunities, and improve residents, visitors, and businesses' quality of life. Consistent intergovernmental coordination will allow Laurel to be a partner and participant rather than a bystander in regional growth.

It will be necessary for the City to regularly communicate with local, county, and state partners to seize grant and development opportunities, provide the Laurel perspective, and connect local groups to those in the broader region. It is envisioned that the City will help direct residents, businesses, developers, and groups to helpful county, state, federal and institutional resources and supports.

Goal 1: Establish lines of communication with local, county, and state partners

- Create an accurate directory of government representatives and staff
- Update governmental stakeholders regarding ongoing projects and work in the Laurel area
- Develop working relationships with legislators, staff, and stakeholders at different levels of government

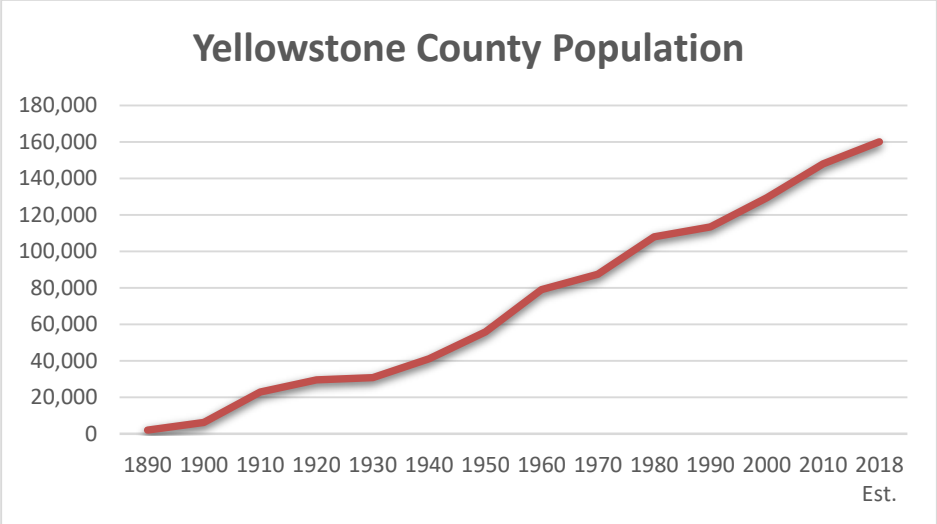
Goal 2: Coordinate with local and regional institutions to support and grow the Laurel community

- Work with economic development groups to seize opportunities for business growth
- Connect area businesses with institutions and governmental groups that can support their mission
- Communicate with area legislators to provide information on growth patterns and development in the Laurel area.
- Maintain open communications with state agencies and the Board of County Commissioners to confirm compliance with statewide codes and operational needs.

CHAPTER 4: COMMUNITY PROFILE

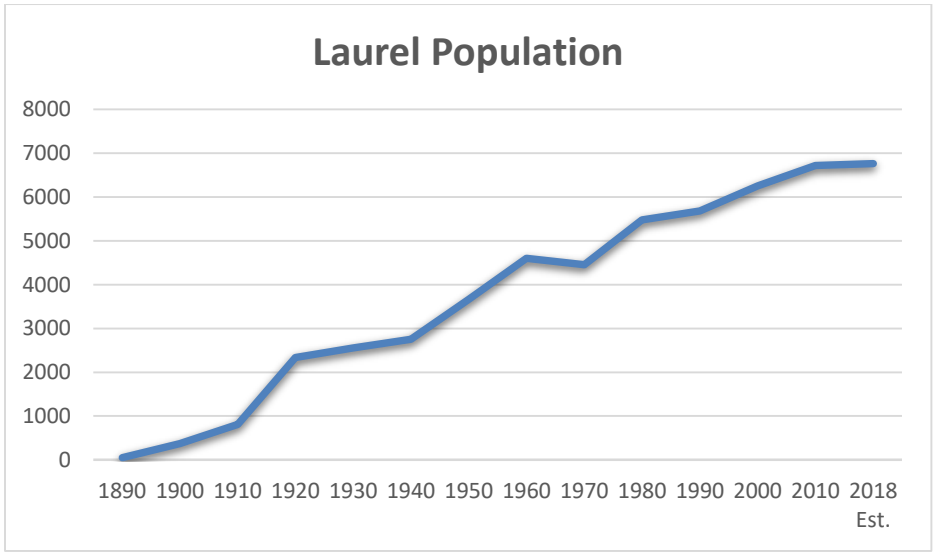
Population Trends

The City of Laurel was incorporated in 1908. The population of Laurel grew steadily after the early boom years of railroad and oil development. The nearby City of Billings has also contributed to the overall growth and development in Yellowstone County in the past few decades, with Laurel playing a somewhat lesser role. City staff anticipates a continuation of steady growth despite certain developments that may impact this, such as establishing the West Laurel Interchange for interstate I-90.



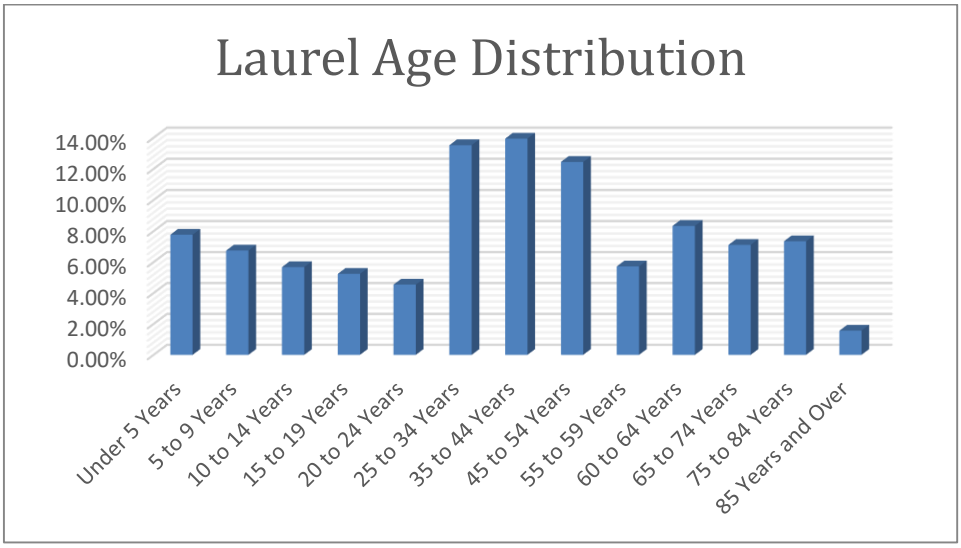
U.S. Decennial Census, 2013-2017 American Community Survey 5-Year Estimates

Laurel has grown slowly over the past forty years. It is anticipated that Laurel will reach a population of 7,000 after the 2020 U.S. Census is completed. Laurel's current population is 7,203.



U.S. Decennial Census, 2013-2017 American Community Survey 5-Year Estimates

Residents of Laurel tend to be older. The chart below shows that most residents are above 25, with almost 40 percent of the population between the ages of twenty-five and fifty-nine.



2013-2017 American Community Survey 5-Year Estimates

Ethnic Characteristics

The charts below provide a summary of the ethnic makeup of the City of Laurel. The current Census estimates indicate that Laurel is not a very diverse community. The lowest estimate for white/Caucasian residents is 95.11 percent, which is displayed in the "Hispanic or Latino and Race" Chart below.

Race	Estimate	Percent
Total Population	6,885	100.00%
White	6,775	98.40%
Black or African American	11	0.16%
American Indian and Alaska Naïve	192	2.79%
Asian	0	0.00%
Native Hawaiian and Other Pacific Islander	0	0.00%
Some Other Race	16	0.23%
2013-2017 American Community Survey 5-Year Estimates		

Hispanic or Latino and Race	Estimate	Percent
Total Population	6,885	100.00%
Hispanic or Latino (of any race)	178	2.59%
Mexican	101	1.47%
Other Hispanic or Latino	77	1.12%
Not Hispanic or Latino	6,707	97.41%
2013-2017 American Community Survey 5-Year Estimates		

Households and Families

There are an estimated 2,882 households and 1,907 families in the City of Laurel. Households in Laurel have a median household income of $50,778, while Laurel families have an estimated median income of $68,575. An estimated 9 percent of Laurel residents are below the poverty level compared with 5.5 percent of families. It is forecasted that Laurel's overall population will increase by 1.3 percent between 2019 and 2024, with an increase in total households of 1.1 percent and families of 8.6 percent.

Education

Laurel is a well-educated community. 94.07 percent of the population over the age of 25 has attained a high school diploma, with 51.21 percent having at least completed some college or an associate degree program. Laurel spends less per student than the United States average but maintains a more positive student per librarian and student per counselor ratio.

Education	Laurel, MT	United States
Expenditures Per Student	8,629.00	12,383.00
Educational Expenditures Per Student	7,897.00	10,574.00
Instructional Expenditures per Student	5,080.00	6,428.00
Pupil/Student Ratio	15.87*	16.80
Students per Librarian	464.70	538.10
Students per Counselor	348.50	403.20

Education in Laurel, Montana. Bestplaces.net. Accessed 2/3/2020.
*Figure 25: Student to Teacher Ratios (2013), Towncharts.com

Work Commute

Seventy-nine percent of Laurel residents commute to work alone in a car, truck, or van. This percentage is slightly higher than the national average of 76.4 percent. Laurel does have a higher than average carpool rate, with 13.66 percent versus the national average of 9.2 percent, according to the American Community Survey. Laurel residents travel an average of 21.5 minutes to work, which can be partially attributed to the fact that several Laurel residents travel to the nearby city of Billings for employment purposes. (Billings is approximately 17 miles away).

Commuting to Work	Estimate	Percent
Workers 16 Years and Over	3,528	100.00%
Car, Truck, or Van - Drove Alone	2,787	79.00%
Car, Truck, or Van - Carpooled	482	13.66%
Public Transportation (excluding Taxicab)	22	0.62%
Walked	82	2.32%
Other Means	15	0.43%
Worked at home	140	3.97%
Mean travel time to work (minutes)	21.50	
2013-2017 American Community Survey 5-Year Estimates		

CHAPTER 5: EMPLOYMENT AND POPULATION FORECASTS

A diverse mix of businesses helps a city thrive and allows residents to live, work, and play in their communities. A diverse array of businesses also keeps a community more resilient in the case of economic downturns. The Laurel community has ~~been blessed with~~ two long-term stable employers; the Montana Rail Link -BSNF railyard and the CHS Refinery. These two institutions are well established and are not anticipated to disappear. The City of Laurel hopes to diversify the local economy further and attract various businesses and related employment. The growth policy focuses on revitalizing Laurel's downtown businesses, assessing how zoning can be updated to meet the needs of businesses and employees better, and connecting Laurel neighborhoods with the existing business communities to help increase traffic to existing establishments.

Employment Forecasts

66.92 percent of the estimated 5,362 residents of Laurel aged 16 years and over are in the labor force. Only 2.69 percent are unemployed, and 30.40 percent are not in the labor force, according to the 2017 U.S. Census estimates. The unemployment rate has remained steady, with the current rate at approximately 2.5 percent. Laurel also has a balanced split of occupations, with no general sector having more than 16 percent of the total labor pool. This type of mix of industries and employment is suitable for a community as it helps to insulate it from major economic shifts.

Industry	Estimate	Percent
Total Civilian Employed Population 16 years and over	3,588	100.00%
Agriculture, Forestry, Fishing and Hunting, and Mining	153	4.26%
Construction	262	7.30%
Manufacturing	315	8.78%
Wholesale Trade	157	4.38%
Retail Trade	603	16.81%
Transportation and Warehousing, and Utilities	206	5.74%
Information	66	1.84%
Finance and Insurance, and Real estate and rental and leasing	208	5.80%
Professional, Scientific, and Management, and Administrative and waste management services	299	8.33%
Education Services, and Healthcare and Social Assistance	533	14.86%
Arts, Entertainment, and Recreation, and Accommodation and Food Services	493	13.74%
Other Services, except public administration	233	6.49%
Public Administration	60	1.67%
2013-2017 American Community Survey 5-Year Estimates		

Housing

Housing is a critical asset to a community. Maintaining a mix of affordable housing is essential to attracting a diverse array of people to the community. Housing provides shelter and provides character to a community by way of how it is designed, situated, and utilized. The charts below provide an overview of housing in Laurel. Laurel has a low housing vacancy rate and many owner-occupied units.

Housing Occupancy	Estimate	Percent
Total housing units	2,992	100%
Occupied housing units	2,882	96.30%
Vacant housing units	110	3.70%
2013-2017 American Community Survey 5-Year Estimates		

Sixty-seven percent of all houses in Laurel are owner-occupied. This information means that people have invested their time, money, and effort into the Laurel community because they live here full-time.

Housing Tenure	Estimate	Percent
Occupied Housing Units	2,882	100.00%
Owner-Occupied	1,931	67.00%
Renter-Occupied	951	33.00%
2013-2017 American Community Survey 5-Year Estimates		

Affordable rents enable a wide array of people to live in the community. Seventy percent of renters in Laurel pay 35 percent or less of their income toward their monthly rent. This percentage is positive because it allows more money to be utilized for other consumer purposes, such as restaurants, shopping, and other services.

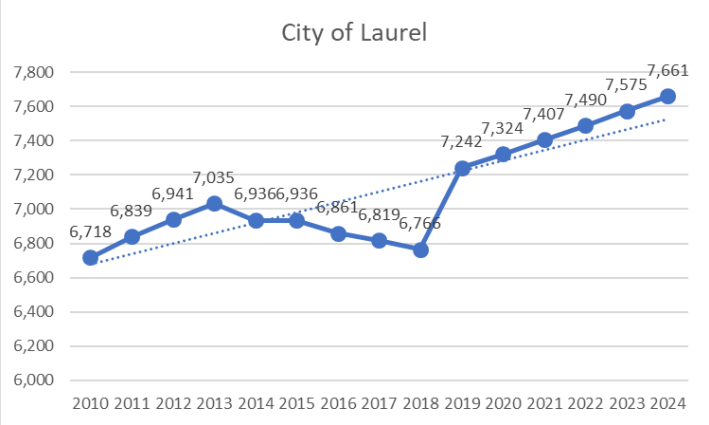
Gross Rent as a Percentage of Household Income	Estimate	Percent
Occupied units paying rent	898	100.00%
Less than 15.0 percent	115	12.81%
15.0 to 19.9 percent	183	20.38%
20.0 to 24.9 percent	52	5.79%
25.0 to 29.9 percent	161	17.93%
30.0 to 34.9 percent	121	13.47%
35.0 percent or more	266	29.62%
2013-2017 American Community Survey 5-Year Estimates		

Seventy-eight percent of houses in Laurel are worth between $100,000 and $300,000. The median household value is $169,900. This data is very positive as affordable houses and rents allow a more diverse array of people to become homeowners and put long-term roots into the community.

Housing Value	Estimate	Percent
Owner-Occupied Units	1,931	100.00%
Less than $50,000	203	10.51%
$50,000 to $99,999	155	8.03%
$100,000 to 149,999	377	19.52%
$150,000 to $199,999	592	30.66%
$200,000 to $299,999	554	28.69%
$300,000 to $499,999	50	2.59%
$500,000 to $999,999	0	0.00%
$1,000,000 or More	0	0.00%
Median (In Dollars)	$ 165,900	
2013-2017 American Community Survey 5-Year Estimates		

Population Forecasts

Laurel saw a dip in population between 2013 and 2018 (from 7,035 to 6,766). This trend was reversed in 2019, with an increase in population to 7,242 residents. It is anticipated that Laurel will grow at a steady rate over at least the next five years. This assumption considers the community's proximity to the City of Billings and the ability to attract businesses, residents, and commuters that support the Billings and Yellowstone County economy.



Growth Rate	2010-2019	2019-2024
Population	0.880%	1.30%
Households	0.840%	1.10%
Families	0.580%	8.60%
Median Household Income	X	1.68%
Per Capita Income	X	2.44%

CHAPTER 6: Land Use

Overview

Laurel is in South Central Montana, 16 miles west of Billings, the largest City in Montana. Laurel is located along major transportation routes, including Interstate I-90, Route 212, and Old Route 10. Laurel is located 223 miles east of Helena, the state capital, seventy miles from the northeast entrance of Yellowstone National Park, 80 miles from the Little Big Horn Battlefield National Monument, and 137 miles from Bozeman.

Laurel is located on the western boundary of Yellowstone County. This area has seen significant development with the City of Billings' continued growth, but the surrounding region remains sparsely populated and remains mostly prairie, rangeland, and farmland.

Trends

The City of Laurel has developed slowly in the past few decades. The development has focused itself north and west of the City. There are also many vacant and underused parcels within the City itself. The area adjacent to Interstate I-90 is mostly commercial and industrial. This similar land use is seen along Old Route 10 to the west of the City.

Existing Land Uses

The City of Laurel has a variety of established zoning districts. These districts cover a wide range of uses and purposes. The districts and their official definitions can be found below.

- ~~Agricultural-open space (AO) zone - The agricultural-open space zone is intended to preserve land for agricultural and related use. Land within this zone is usually un-subdivided and contains a minimum of roads, streets, and other utilities. It may be cultivated acreage or land less suitable for cultivation, yet suitable for various agricultural enterprises using the broadest scope of the agricultural definition. Land within this zone may be located adjacent to highways and arterial streets. The AO zone is further intended to discourage the scattered intrusion of uses not compatible with an agricultural rural environment.~~

- ~~Suburban residential (SR) zone - This zone is limited to single-family residential tracts on a minimum of five acres of land and on which agricultural uses may be conducted with the exception that animal units shall not exceed ten per five acres.~~

- ~~Residential tracts (RT) zone - This zone is designed for single-family residential homes on a minimum of one acre of land. Livestock is limited to two livestock units per acre with additional units allowed per additional half-acre increments in conformance with Section 17.08.651 of this code. No livestock is allowed in the city limits, and all livestock must be removed if/when annexation occurs.~~

- ~~Residential estates-22,000 (RE-22,000) zone - This zone is intended to provide of low-density, single-family, residential development in areas near or adjacent to the City that are served by either central water or sewer systems.~~

- Residential-7500 (R-7500) zone – This zone is intended to provide an area for medium, urban-density, single-family, residential environment on lots that are served by a public sewer and sewer system.

- Residential-6000 (R-6000) zone – This zone is intended to promote an area for a high, urban-density, duplex residential environment on lots that are usually served by a public water and sewer system.

- Residential light multifamily (RLMF) zone – This zone is intended to provide a suitable residential environment for medium density (up to a fourplex) residential dwellings. The area is usually served by a public water and sewer system.

- Residential multifamily (RMF) zone - The RMF zone is intended to provide a suitable residential environment for medium to high density residential dwellings; and to establish, where possible, a buffer between residential and commercial zones.

- Residential manufactured home (RMH) zone - The RMH zone is intended to provide a suitable residential environment for individual manufactured homes, manufactured home parks, and competitive accessory uses.

- Planned unit development (PUD) zone – This zone is intended to provide a district in which the use of the land is for the development of residential and commercial purposes, as an integrated unit.

- Residential professional (RP) zone - This zone is intended to permit professional and semiprofessional uses compatible with surrounding residential development.

- Neighborhood commercial (NC) zone - The NC zone is intended to accommodate shopping facilities consisting of convenience retail and personal service establishments which secure their principal trade by supplying the daily needs of the population residing within a one-half mile radius of such neighborhood facilities. The location and quantity of land within the NC zone should be a business island not more than four acres in size and that no business frontage should extend more than six hundred feet along any street.

- Central business district (CBD) classification - The CBD classification is intended to primarily accommodate stores, hotels, governmental and cultural centers and service establishments at the central focal point of the City's transportation system.

- Community commercial (CC) classification - The CC classification is primarily to accommodate community retail, service and office facilities offering a greater variety than would normally be found in a neighborhood or convenience retail development. Facilities within the classification will generally serve an area within a one and one-half mile radius and is commensurate with the purchasing power and needs of the present and potential population within the trade area. It is intended that these business facilities be provided in business corridors or islands rather than a strip development along arterials.

- Highway commercial (HC) district - The purpose of this district is to provide areas for commercial and service enterprises which are intended primarily to serve the needs of the tourist, traveler, recreationist, or the general traveling public. Areas designated as highway commercial should be located in the vicinity of, and accessible from freeway interchanges, intersections in limited access highways, or adjacent to primary or secondary highways. The manner in which the services and commercial activities are offered should be carefully planned in order to minimize the hazard to the safety of the surrounding community and those who use such services; and to prevent long strips of commercially zoned property.

- Light industrial (LI) classification - A LI classification is intended to accommodate a variety of business warehouse and light industrial uses related to wholesale plus other business and light industries not compatible with other commercial zones, but which need not be restricted in industrial or general commercial zones, and to provide locations directly accessible to arterial and other transportation systems where they can conveniently serve the business and industrial center of the City and surrounding area.

- Heavy industrial (HI) district – This district accommodates manufacturing, processing, fabrication, and assembly of materials and products. Areas designated as heavy industry should have access to two or more major transportation routes, and such sites should have adjacent space for parking and loading facilities.

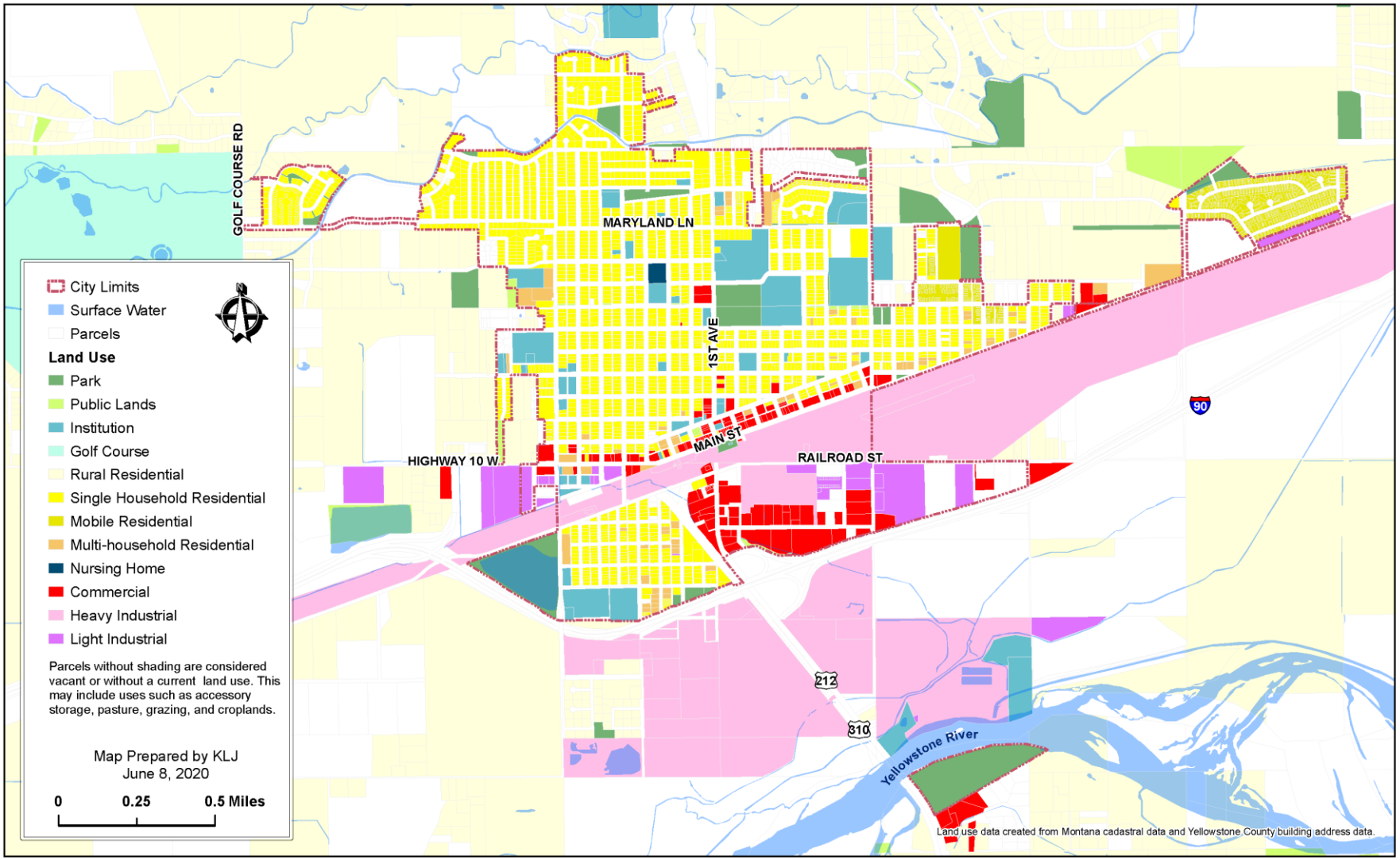
- ~~Airport (AP) zone - The AP zone is designated to preserve existing and establish new compatible land uses around the Laurel airport.~~

- Floodplain (FP) zone - This zone is designed to restrict the types of uses allowed within the areas designated as the floodplain and floodways as officially adopted by the Montana Board of Natural Resources and Conservation, Helena, Montana.

- Public (P) zone – This zone is intended to reserve land exclusively for public and semipublic uses in order to preserve and provide adequate land for a variety of community facilities which serve the public health, safety and general welfare.

- Zoning District Number 18- County Zoning – The regulations and development pattern adopted in the zone are for the purpose of protecting and furthering the health, safety, and general welfare of the people living in the district and in Yellowstone County, Montana. This zoning district comprises of an agriculture zone, a suburban zone, a residential zone, a recreational zone, and a commercial zone. Zoning District Number 18 was adopted in July of 1997.

The planning board is currently reviewing the zoning designations inside Laurel city limits and may be tasked with county zoning recommendations and after future discussions with the County Commissioners. A new interlocal agreement between the City of Laurel and the Yellowstone County may be necessary to facilitate zoning regulations for the City of Laurel and an area to be determined around the City of Laurel.



EXISTING LAND USE

~~Laurel Area Existing Land Use Zoning, 2020~~ Updated maps are attached to this document for the 2023 update.

Residential and Rural Residential

Laurel's many residential districts provide a variety of housing densities, volumes, and types. Laurel has a joint city-county planning board and has regulations that accommodate these two different modes of living. The older areas of the City, such as the south side and neighborhoods adjacent to downtown, have higher density zoning as is appropriate for those originally platted parcels and smaller-scale residential buildings. Newer developments and additions to the City generally have lower density zoning than the original Laurel townsite and are more suburban. It is important to provide a mix of residential styles and types to provide residents and prospective residents a housing choice.

Commercial

Laurel is a full-service community with supermarkets, gas stations, bars, and restaurants accessible to the public. There are a variety of different commercial areas as well. The traditional central business district remains heavily commercial, with some buildings containing apartments on the upper floors. The area adjacent to I-90 accessible from 1st Avenue S. by E. Railroad St. and SE 4th St. contains commercial and industrial properties that serve residents and highway travelers. The parcels along Old Rt. 10 contain a mix of zoning, including highway-focused commercial properties. Many properties located along E. Main Street are zoned Community Commercial and contain a variety of establishments.

Public

The City of Laurel maintains a full array of public facilities to serve the residents, businesses, and institutions within the city limits. The City maintains a fully staffed city hall, public library, public works shops, a water treatment plant, and a sewer treatment plant. The Laurel School District maintains the Laurel High School and Middle School along with Graff Elementary School, South Elementary School, and West Elementary School.

Parks

Laurel is home to many parks of all shapes and sizes. The most important of these parks are Thompson Park and Riverside Park. Thompson Park is in the City center and has many athletic fields, a public pool, and public facilities. Riverside Park is a historic park that has been used by residents and travelers to the area since before the City of Laurel officially existed. Throughout Laurel's history, this park has been used by private, civic, and government groups. Many other smaller parks are established as land has been annexed into the City and further developed.

Industrial

There is a large amount of industrial property in and around the City of Laurel. The City of Laurel was initially built around the commercial rail yard currently operated by Montana Rail Link, the most massive switching yard between Minneapolis and Seattle. The second major industrial property is the large refinery complex owned and operated by CHS Inc. The other crucial industrial property in and around the City is the Fox Lumber operation, located along East Railroad Street.

Urban Renewal

The City of Laurel established a Tax Increment Finance District (TIF) in 2007 that encompasses the traditional downtown area and the SE 4th Street commercial area. This District has provided financing for infrastructure projects and grant funding to local property owners and residents for façade, structural, signage improvements, and technical assistance within the district. The grant program is managed by the volunteer board that makes up the laurel Urban Renewal Agency.

CHAPTER 7: FUTURE LAND USE

Overview

Laurel has struggled to grow over the past two decades due to a lack of long-term planning capacity, lack of funding, and a lack of focus on larger goals. Laurel's somewhat stagnant growth happened during a time of consistent growth for the neighboring City of Billings and other areas throughout Yellowstone County. Laurel must be forward-thinking if it wants to thrive as a separate entity outside of Billings. This change of thinking involves planning for commercial and industrial expansion, seizing growth opportunities, and adopting zoning and development standards that meet the city needs and attract developers and new residents.

Residents of Laurel pride themselves on the small-town character of the community. The City needs to properly plan for growth and have the appropriate regulations to grow and maintain the classic community character that residents enjoy. This balance includes establishing appropriate building design standards, zoning requirements, and signage standards to maintain community character.

Residential Districts

Residential areas within Laurel's planning jurisdiction come in many shapes and sizes. Some are more densely built and more urban looking, while others are the traditional, modern American suburb with single-family homes. Many American cities continue to maintain a more restrictive style code that limits specific residential uses, types, and sizes while others have begun moving toward a more inclusive model of allowing different styles, sizes, and housing types in residential areas.

Some different housing types compared to the traditional single-family home include accessory dwelling units (ADU's), townhomes, and rowhouses. Expanding housing options can be as simple as adjusting the number of allowable units and setbacks for lots. Development in residential neighborhoods can be increased through small changes. Studying the existing districts and updating setbacks and other restrictions can significantly impact helping our neighborhoods evolve and grow over time.

Vacant Land

The City currently has numerous unused or vacant parcels that could be brought into productive use. Adaptive reuse of vacant structures is a strategy many cities use to revitalize downtowns. Prioritizing infill development for the downtown area and the SE 4th Street District can help bring new businesses, jobs, and residents. The City can also utilize Tax Incremental Financing (TIF) funding to support vacant properties' acquisition and rehabilitation within the downtown and SE 4th Street commercial areas. Partnering with local institutions and organizations to better utilize unused land as gathering spaces or as a home for community projects and other efforts can help people see new land uses that may have been unused/vacant for many years.

Development Standards

The City of Laurel currently has multiple development standards that include the Public Works Standards, rules governing utilities, and subdivision development requirements. Adopting a consistent and understandable set of development standards for areas within the ~~City and its zoning jurisdiction~~ planning jurisdiction will ease the development process for residents, landowners, and developers.

~~Extraterritorial Zoning~~

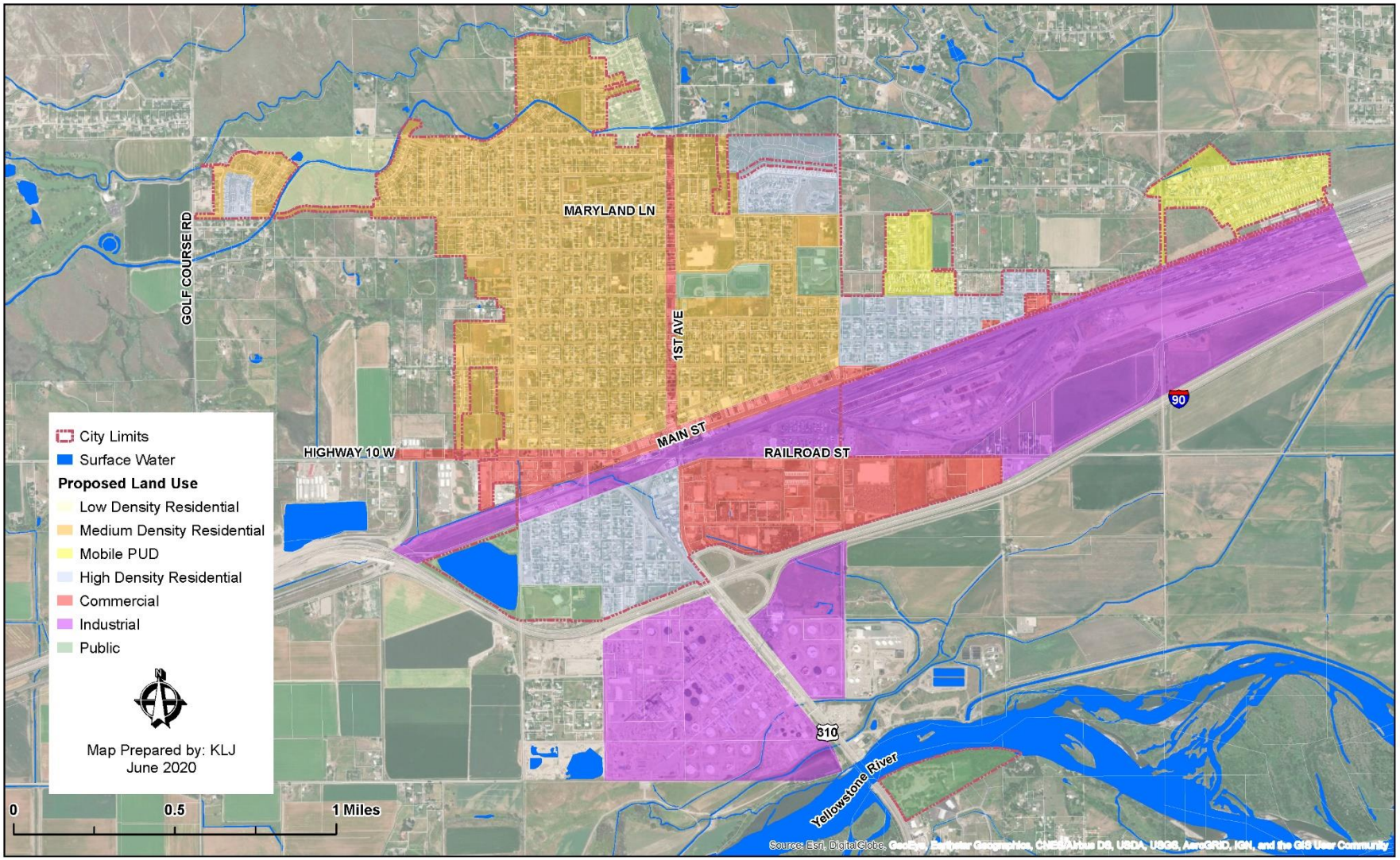
~~The extraterritorial zoning of Laurel extends approximately one mile outside the municipal city limits. This current zoning district is classified as "Residential Tracts" and is focused on low-density residential. The City needs to ensure that this zoning designation and its requirements still adequately cover county residents' needs within the zoning jurisdiction. It is recommended that City staff ensure this extraterritorial zoning can easily allow county residents to join the City if they so choose.~~

Infrastructure Extension

Planning for the expansion of city services and infrastructure is vital in bringing new growth to a community. The City did not address long-term infrastructure and growth for many years. Installing new infrastructure is expensive, but it is more costly to lose development opportunities that allow the community to grow and develop.

Identifying and installing critical infrastructure along major routes needs to be a priority for city staff. There are many opportunities to support these infrastructure efforts through public and private grants and loan programs. Many grant programs exist to extend infrastructure to support job creation and economic growth. Grants such as these can be used to expand infrastructure to the recently completed West Laurel Interchange.

New development and growth require adequate infrastructure to support it. Development of an Annexation Plan and a Capital Improvement Plan can establish the priority areas for growth and establish project costs for identified infrastructure needs. Laurel has not previously prepared either of these types of plans. It would be wise for city staff, partners, and stakeholders to study the possibilities for significant commercial and industrial development in the area and plan infrastructure to accommodate these new land uses.



PROPOSED LAND USE MAP

~~Laurel Future Land Use, 2020~~ Updated maps are attached to this document for the 2023 update and shall be inserted upon final approval.

Future Land Use Goals and Objectives

This plan's overall goal is to conserve open space while maximizing areas currently in and directly adjacent to the City. Parks and greenways will be essential amenities for residential developments and commercial corridors and should be considered in initial planning rather than as an afterthought. Zoning will be updated to provide a more diverse array of housing types and density. Priority areas and parcels for annexation and development will be determined, and infrastructure extension costs will be discussed. Codes will be updated to maintain community character while simultaneously enabling the development of new neighborhoods. Work in the central business district will focus on infill and mixed-use development to create the most effective use of Laurel's traditional downtown.

Goal 1: Conserve open space and traditional land uses

- Encourage cluster developments to incorporate open space into new developments
- Provide options for landowners for conserving portions of their land
- Study and Implement strategies to create an interconnected system of parks and greenways and open space that are accessible to area residents

Goal 2: Develop downtown Laurel into a vibrant place to live, work, and play

- Encourage mixed uses for living, working, and shopping local
- Identify priority parcels for infill development
- Implement Placemaking projects to create a more livable and enjoyable downtown
- Partner with local groups to support community businesses, events, and gatherings
- Connect with regional agencies to access project funding, receive technical support, and boost the visibility of Laurel development opportunities

Goal 3: Update Subdivision Code to meet the needs of Laurel and the surrounding area

- Provide clear and consistent standards
- Ensure the proper scale and scope of regulations
- Include trails, open space, and greenway considerations in parkland subdivision review
- Regularly review and update the Subdivision Code as needed to remain current

Goal 4: Update the Zoning Codes to provide for greater flexibility of allowable uses, clearer requirements, and more efficient land use of the planning jurisdiction

- Study the inclusion of different types of housing within residential districts
- Update Overlay Districts, Parking Requirements, and the Sign Code to better fit the City's needs and character
- Allow mixed-use live/work opportunities in commercial areas
- Enable property owners to use their land more effectively and efficiently
- Work with Yellowstone County Commissioner’s to enact previous believed zoning regulations for the area around the City of Laurel

Goal 5: Use long term planning documents to identify funding and address priority needs for infrastructure and development

- Establish an Annexation Plan to develop priority growth areas and strategies
- Develop a Capital Improvement Plan for vital infrastructure to support the City as it grows

- Prepare a Commercial and Industrial Development Study for land adjacent to major transportation routes in the Laurel area

CHAPTER 7.5: ANNEXATION

Overview

The annexation of properties outside the current city limits must have Laurel remain a viable, independent community. Annexing territory into a municipality helps a city grow geographically, economically, and socially. Laurel's actual City has grown slowly over the past few decades, with very few new subdivisions and parcels annexing into the City despite many developments in the surrounding area. The City of Laurel and its residents seek to maintain their longstanding identity and character while supporting steady growth. Due to the City's proximity to the fast-growing City of Billings, annexation is now necessary to ensure Laurel's long-term viability, character, and independence.

Annexation planning is a long-term process in both scope and scale. Targets and goals are usually set for a timeline of five and ten years, with performance measures in place to track progress. Implementing successful annexation and growth activities involves thoughtful updates to local development and annexation codes, addressing infrastructure gaps, and outreach to nearby county property owners and developers to showcase the City's benefits.

Purpose

Annexation is presented in Title 7, Chapter 2. in the Montana Code Annotated that establishes the Creation, Alteration, and Abandonment of Local Governments. Parts of this chapter sets the conditions and rules for annexation and addition of territory into a municipality, establishes the ways areas can be annexed and provides specific limitations to these processes for both municipalities and property owners.

Annexation is a process that brings new territory into a municipality and extends public services to that territory. Annexation is a necessary process to continue the growth and development of communities in Montana. Adding new territory to a community adds new business opportunities, industry, recreation, and residential developments. Annexation also provides an opportunity for new resources and amenities to be added.

Importance

Laurel is currently at a crossroads in development. The City has not grown or expanded significantly in the past few decades, while the nearby city of Billings has been steadily expanding westward toward Laurel. Billings has established and implemented a long-term annexation and expansion plan while Laurel has had piecemeal annexations and additions to the City. Laurel could find itself hobbled financially if it does not address annexing new territory that can create growth opportunities as Billings steadily expands into western Yellowstone County.

Proper annexation planning and implementation can lead to increased economic activity, new residential development, and increased revenues for the local government to provide services. Growth and expansion need to be an official part of Laurel's conversation to remain a viable, livable, and autonomous community in the future. It will be necessary to update the current annexation policy to ensure it provides reasonable restrictions, clear guidelines, and options and incentives to developers and property owners who want to annex the City.

Priority Areas

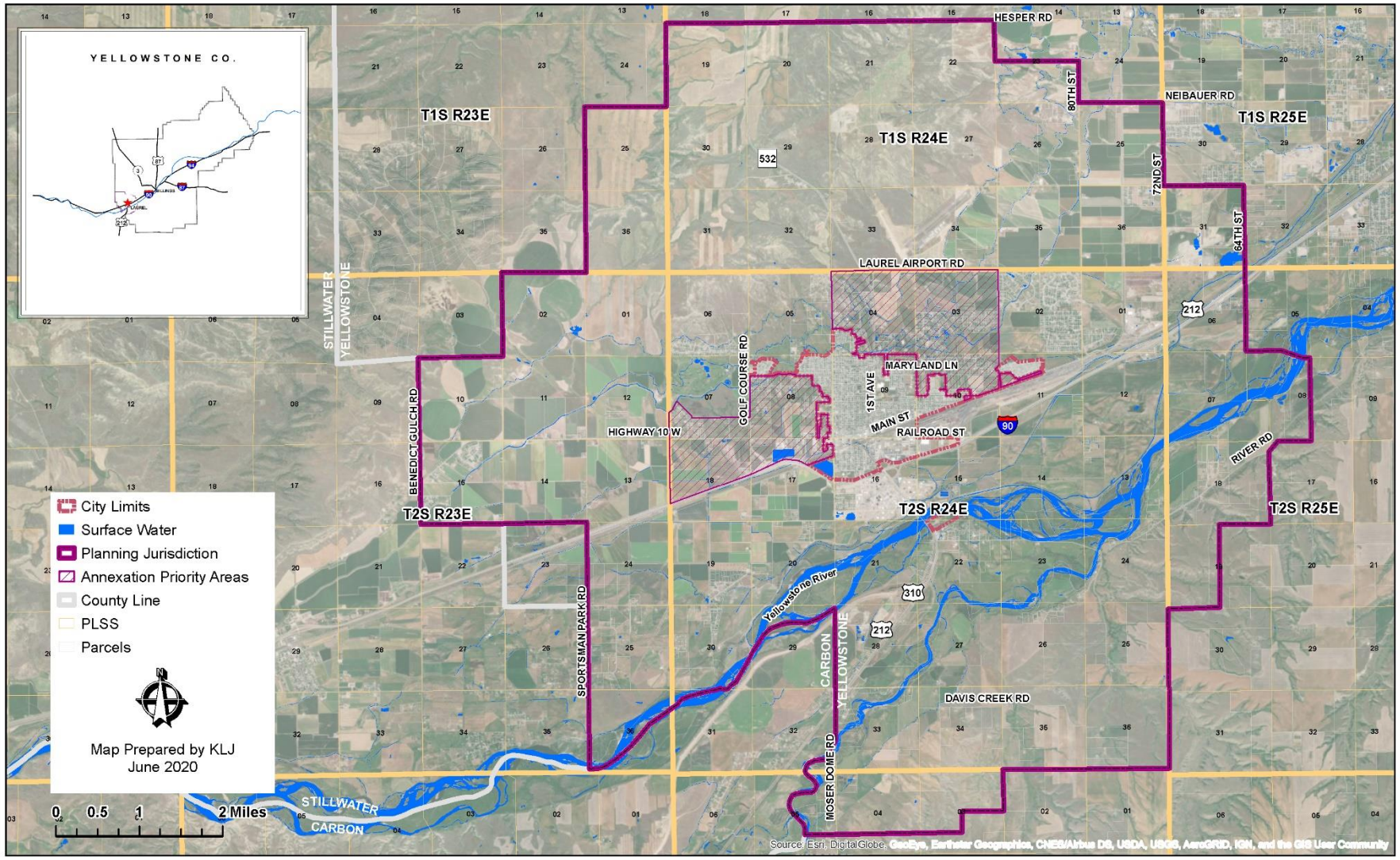
Establishing priority areas is essential for setting a plan for growth, starting discussions with property owners and developers, and preparing projects. A map of the Laurel Planning Jurisdiction and priority growth areas are presented on the next page.

Areas to the west of Laurel are a high priority for development due to their proximity to the City and established transportation corridors. The annexation of territory to the west presents the most viable options for growth. Roadways already serve this area, and there are adjacent services nearby. A high priority should be placed on parcels between 8th Avenue and Golf Course Road, parcels neighboring the intersection of Old Rt. 10, and the West Laurel Interchange.

There are many areas directly adjacent to the east of the City that would be prime candidates for annexation in addition to the previously mentioned westward expansion. The parcels between Alder Avenue and Yard Office Road, especially those along East 8th Street, should be considered and the lands adjacent to the Village Subdivision. These areas are already closely linked to the City with roads and services, and their inclusion would fill gaps in the Laurel City Map.

A few specific areas should be looked at for annexation north of the City as well. These include lands off West 12th Street that straddle the big ditch, areas between Montana Avenue and Great Northern Road, and the land neighboring 1st Ave North to Lois Place.

Growing the City of Laurel to the south is not a viable option because the CHS refinery makes up the bulk of the land between Interstate-90 and the Yellowstone River. The costs associated with the extension and construction of city services to those parcels adjacent to and south of the Yellowstone River would be prohibitive due to the distances needed to extend infrastructure and the fact that floodplain makes up much of the land adjacent to the Yellowstone River.



PLANNING JURISDICTION

CITY OF LAUREL GROWTH MANAGEMENT PLAN

~~Laurel Planning Jurisdiction and Priority Growth Areas, 2020~~ Updated maps are attached to this document for the 2023 update and shall be inserted upon final approval.

Annexation Policies

~~Laurel has not annexed many territories in recent years. This lack of annexation can be attributed to the 2008 annexation policy, which many prospective developers consider draconian. Many property owners and developers have remarked that the policy's strict requirements and its lack of alternatives and options for infrastructure financing and build-out place too high a price on annexation to make it feasible. Discussions should take place as to if this approved policy still serves the City's needs and what policies and requirements would enable growth activities and annexation more fully. A future annexation policy should also establish priority areas and specific goals over the next five to ten years~~. The City of Laurel may want to update its annexation policy as it was last adopted in 2008 and changes may be necessary to provide the best opportunities for land inclusion into the City of Laurel.

Infrastructure Extension

Connection to improved utilities and services is the main driver behind annexing into a municipality. Laurel has not developed a long-term plan around extending services that can enable property owners to annex into the City more quickly. Developing a CIP will help Laurel prioritize growth areas and build out public services to position Laurel for growth and attract new properties and development to the City.

Annexation Goals

The following two goals were prepared to help the City of Laurel grow through annexation.

Goal 1: Adopt a long-range view for the growth of the City

- Establish a growth-conscious set of policies to expand the City and its services
- Create priority growth areas for extension of services
- Develop and approve an Annexation Plan for the Laurel Planning Jurisdiction
- Support the creation of a long-term Capital Improvement Plan for the extension of essential infrastructure

Goal 2: Manage fiscal responsibility with established and proposed annexation standards

- Ensure that the established standards are right and proper for the City of Laurel
- Ease the burden for developers to annex into the City while meeting established standards
- Allow greater flexibility in development patterns
- Determine the cost and benefits of annexation

CHAPTER 8: HOUSING

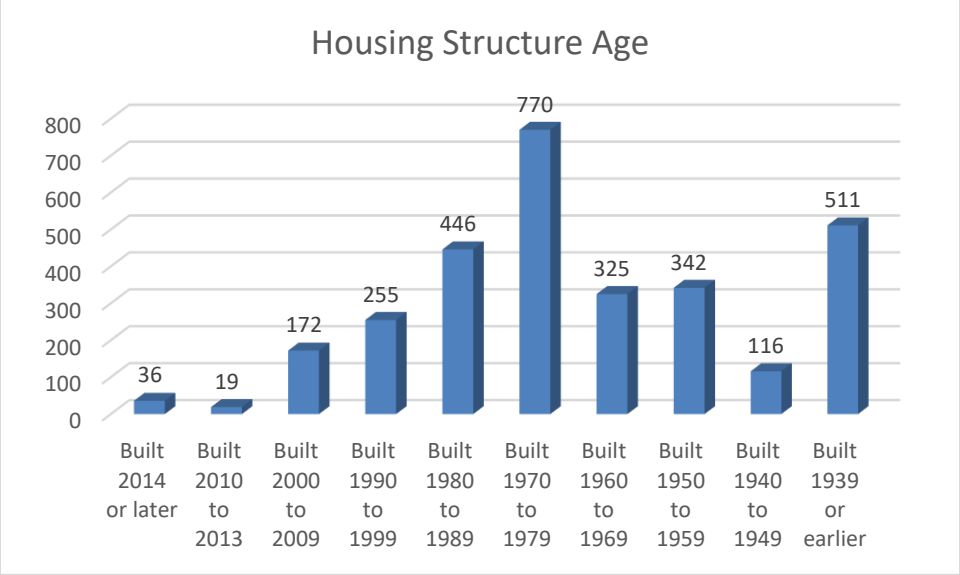
Overview

Housing is an essential element of any community. This chapter summarizes housing in Laurel and discusses some housing support programs to help renters and current and prospective homeowners. Having adequate, accessible, and affordable housing is an essential piece of what attracts people to a community. The City of Laurel has a variety of housing options and housing types that provide options for residents. It is crucial to maintain a wide array of housing that meets the market's different demands, including rental properties, multifamily units, single-family homes, and retirement homes.

Laurel's location has made it an attractive bedroom community to Billings. This strategic location opens opportunities for traditional neighborhood residential housing and embraces the growing trends of building closer-knit, dense, connected neighborhoods for more urban and in-town development. It will be necessary for the city to think about housing and real estate trends as it grows. This will ensure that the current population's housing needs are met while creating housing that will interest prospective residents and homeowners.

Households and Housing Units

Approximately 68 percent of Laurel's housing stock dates to before 1979. Aging housing stock can pose issues for maintenance, safety, and accessibility. These issues can lead to the need for code enforcement to step in to ensure the local ordinances are followed and that the situation has not become hazardous or dangerous. Ensuring that new housing is built will provide new homeownership opportunities and help raise the standard of housing available for residents.



2013-2017 American Community Survey 5-Year Estimates

Sixty-five percent of Laurel's housing stock is made up of detached single-family homes. Mobile homes make up the next most significant share of housing at 15 percent of units.

This proportion of detached single-family homes has been the norm for Laurel and many other cities and towns throughout the United States.

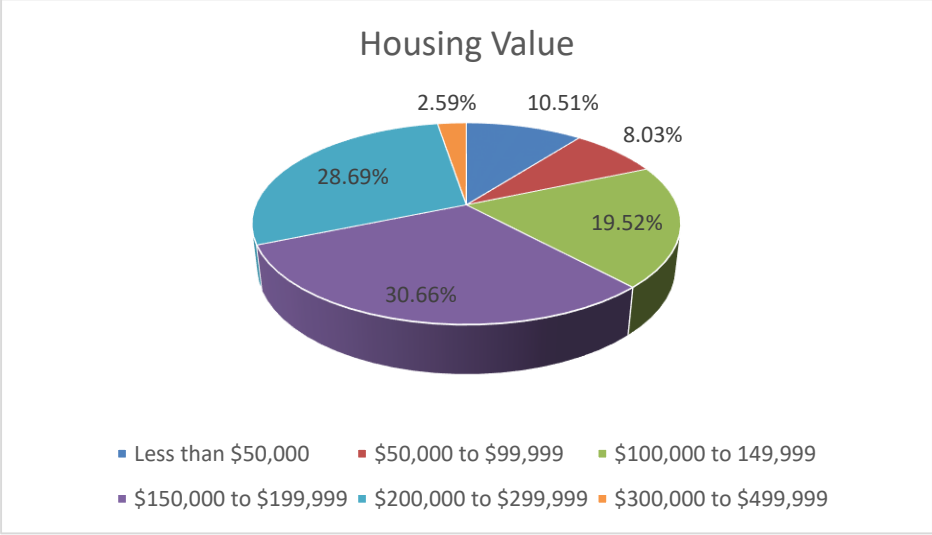
It is important to think about current and emerging housing trends to embrace growth opportunities, whether in a traditional residential neighborhood or more urban or downtown environments.

Units in Structure	Estimate	Percent
Total housing units	2,992	2,992
1-unit, detached	1,952	65.20%
1-unit, attached	87	2.90%
2 units	92	3.10%
3 or 4 units	103	3.40%
5 to 9 units	119	4.00%
10 to 19 units	48	1.60%
20 or more units	130	4.30%
Mobile home	461	15.40%
Boat, RV, van, etc.	0	0.00%
2013-2017 American Community Survey 5-Year Estimates		

A move back towards traditional downtowns has also been seen across the United States. This trend presents various opportunities for diversifying the type and size of housing options to include rowhouses, townhomes, live-work (mixed-use) buildings, and more.

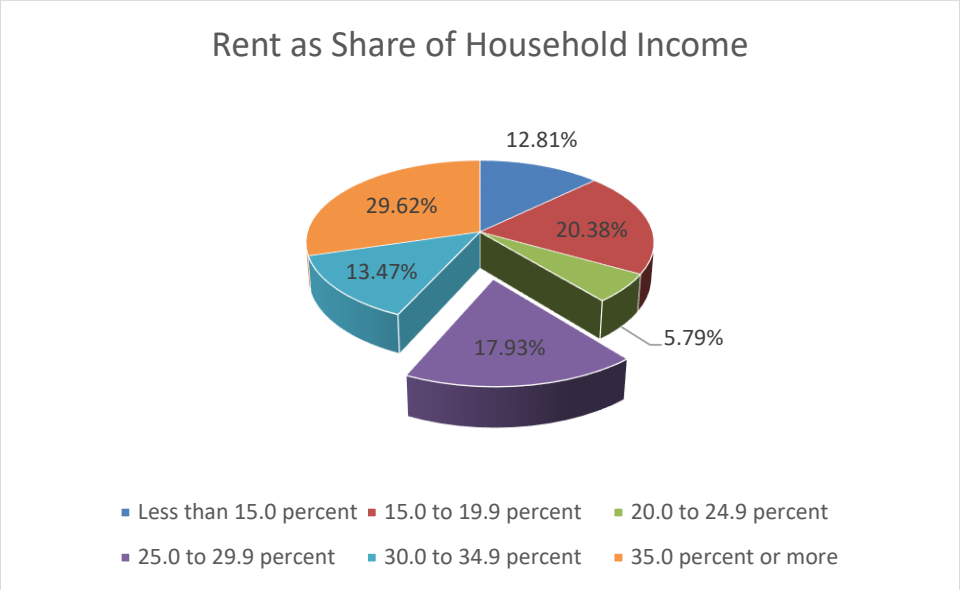
Housing Affordability

Many parts of the United States are facing issues with housing affordability. This affordability issue has included some communities in Montana, such as Bozeman and Whitefish. Housing in Laurel has generally remained affordable despite being located within twenty miles of the state's largest city. The charts below provide an overview of both current housing value and rental expenditures.



2013-2017 American Community Survey 5-Year Estimates

Rental affordability is an essential factor in retaining residents, especially those who may work in the service and retail industries. Overall, 57 percent of Laurel residents spend less than 30 percent of their income on rent. These statistics is a positive figure that allows a diverse array of residents to afford to live in Laurel.



2013-2017 American Community Survey 5-Year Estimates

Housing Programs and Incentives

Many housing support and incentive programs exist that are sponsored by non-profits, institutions, and state and federal agencies, including the following:

Montana Housing Support Programs

- Bond Advantage Down Payment Assistance program
- MBOH Plus 0% Deferred Down Payment Assistance Program
- Multi-Family Coal Trust Homes Program
- Housing Choice Voucher Program
- Veterans Affairs Supportive Housing (HUD-VASH)
- Project-Based Section 8
- Section 811 Supporting Housing for Persons with Disabilities

The Federal Government also has several First Time Homebuyer Loans and Programs, including the following:

- FHA Loan Program
- HUD - Good Neighbor Next Door Buyer Aid Program
- Homepath ReadyBuyer Program
- Energy Efficient Mortgage Program
- HOME Investment Partnerships Program

Community Land Trust

Community Land Trusts (CLTs) are non-profits that hold land permanently in trust for communities to make it available for housing, farming, ranching, commercial space, historic preservation, or open space. These organizations separate the land price from the improvements made to it, investing subsidy, and enforcing resale restrictions on properties to ensure permanent affordability. Trust Montana is a statewide organization that assists rural cities and towns with managing community land trusts to ensure they can maintain affordable and traditional land uses. CLTs serve an essential role in setting aside land as a community asset for generations to use and enjoy.

Inclusionary Zoning

Inclusionary zoning is a land-use policy that incentivizes dense housing development through tax relief, abatements, and bonuses. These zoning policies enable developers to maintain regular profits while capturing a share of excess profits for public benefit. Inclusionary zoning utilizes feasibility studies to analyze the impact of density and infill development on specific areas. Communities must carefully weigh each incentive's costs and benefits and evaluate them relative to the affordable housing requirements or goals. Incentives include:

- Density Bonuses
- Expedited Processing
- Fee waivers
- Parking reductions
- Tax abatements

Housing Goals and Objectives

Goal 1: Encourage a mixture of housing types to meet the demand of all market sectors

- Maintain a diverse array of housing and affordability levels
- Promote higher density housing types in the downtown area and adjacent to major transportation corridors
- Study mixed-use housing and other alternative housing types and styles
- Provide options for a full spectrum of housing from rentals to retirement housing

Goal 2: Provide information on housing-related grants, loans, and ownership programs

- Develop a list of resources for renters and homeowners
- Collect information on federal, state, local, and philanthropic rental and homeownership programs
- Advise Laurel area residents as to available support for housing, rent, and homeownership

CHAPTER 9: INFRASTRUCTURE

Overview

The City of Laurel Department of Public Works operates the municipal water treatment and distribution system, the wastewater collection and treatment system. It conducts maintenance and improvement work on roads, streets, sidewalks, and parks. The City of Laurel has recently completed several major infrastructure upgrades. These include an upgrade to the Wastewater Treatment Plant, an overhaul of the Water Treatment Plant, installation of a new water Intake, and improvement of the sedimentation basins at the Wastewater Treatment Plant.

There are still primary infrastructure needs that need to be addressed. The City's water and sewer lines are aging, and in many places are still the original lines installed around the time of incorporation. A major priority is to study how to provide services to the West Laurel Interchange area, which has significant growth potential.

Opportunities also include expanding services to nearby county residents to the north, west, and east of the current city limits. There is a total of 2,858 water connections in the city system. Exploring funding for the extension and improvement of water and wastewater services to enable more annexation and development is worthwhile. Additionally, funding the expansion of the capacity of the City to handle stormwater runoff is of vital importance in increasing the longevity of streets, roads, and pedestrian areas.

The goals and objectives presented in this chapter are focused on just a few critical areas. It is hoped that the City can maintain an efficient and effective system of infrastructure and services that meets the City's needs while establishing long-term capital infrastructure goals to expand and improve services. The City should seek federal, state, and philanthropic grant and loan programs to support these goals and priorities.

Wastewater System

The City of Laurel's Wastewater Treatment Plant is located at 5310 Sewer Plant Road. It is staffed with three operators and one relief. The facility was first constructed in 1908 and underwent substantial upgrades in the 1930s and 1986. The Plant most recently underwent a significant upgrade that was completed in 2016. The reclamation system is a Biological Nutrient Removal system (BNR). The facility now conducts sludge dewatering as well. The new system has reduced nitrogen levels and phosphorus being discharged into the Yellowstone River. Improvement of the Sedimentation Basins was completed in 2019. The wastewater system has a capacity of 1,120,000 gallons per day. City staff should monitor the current wastewater and sewer system to ensure that it can meet the growing demands of the City.

Water System

The Laurel Water Treatment Plant is located at 802 Highway 212 South. An upgrade of the Water Treatment Plant was completed in 2019. The Plant operates 24 hours per day and is staffed with six employees plus management. The Water Treatment Plant has a treatment capacity of 5,000,000 gallons per day. The Plant provides water service to more than 6,700 people and has a total of 2,858 metered connections.

The Yellowstone River is the raw water source for the City of Laurel. A water right was filed in 1908, giving the City access to 12,600,000 gallons per day. A water reserve was granted in 1978 that allowed for the anticipation of future growth and added 6,380,000 gallons per day.

The original water distribution system was installed in 1908. There is currently one ground storage tank built in 1967 with a capacity of 4,000,000 gallons, with 2,000,000 of them being usable and the other 2,000,000 creating pressure for distribution. Additionally, the City has two booster pump stations. Pipe sizes in the system range from 2 to 18 inches in diameter. The 301 fire hydrants scattered throughout the system are tested routinely to ensure they are working correctly.

The City provides water to all areas within the City Limits; however, 82 residential connections and one industrial connection are outside the City boundary. Property owners in the county who are interested in connecting to the City system must make all the necessary excavations and pay for all materials necessary for connections. The current standards and regulations for public works and utilities require developers to extend to utilities.

The Yellowstone River has provided adequate water for the City, but in recent years concerns have been raised regarding enough flow due to erosion from flooding and droughts. The City has taken steps to counteract these concerns through significant upgrades to the Water Treatment System. Upgrades and improvements were completed on the sedimentation basins and the Water Treatment Plant in 2019.

Additionally, a new water intake in the Yellowstone River was completed in 2017 to ensure a stable water supply despite the changing nature of the river's course and level. One additional project that has been identified is the need for a second water reservoir to create extra storage capacity as the City grows. The City should include this in any future public works planning documents.

Stormwater System

Stormwater is collected and managed to prevent flooding, erosion, and contamination of water sources. Water can carry pollutants such as oil, fertilizer, pesticides, soils, and trash as it runs off rooftops, paved streets, highways, and parking lots after a rain event or during snowmelt. Stormwater can flow directly into the Yellowstone River from a property or into a storm drain and through the city infrastructure until it is released into the Yellowstone River. The three significant concerns of stormwater management are the volume of runoff water, the timing of runoff water, and the potential contaminants the water is carrying.

The City of Laurel has historically experienced problems with flooding in the downtown area. Flooding activities are generally from heavy rain runoff and not directly due to the nearby Yellowstone River. The City of Laurel has a limited stormwater infrastructure to handle stormwater runoff. The majority of stormwater infrastructure is in the central business district and the South East 4th Street area. Stormwater management has also been established for the Elena, Iron Horse, and Foundation Subdivisions.

The City needs to address stormwater infrastructure within its current limits and as it expands. Creating an adequate stormwater management system helps keep roadways in good condition and lessens drivers' hazards in inclement weather. Stormwater system extensions should be considered during any roadway planning procedure to ensure roadways improvements do not have to be recreated.

Solid Waste Services

The City of Laurel Public Works Department provides exclusive solid waste collection services within the city limits. The City does not provide any solid waste collection services outside of the city limits. Garbage services are not exclusive to parcels that choose to annex into the City as per Montana state regulations. The City of Laurel operates the City's transfer station, which is located at 175 Buffalo Trail Road. The transfer station provides added services such as taking in large or bulky items, tree branches, and other unusual materials and pieces. Laurel utilizes the Billings Regional Landfill located nearby.

Infrastructure Goals and Objectives

Goal 1: Maintain an Effective and Efficient Public Infrastructure System that Adequately Serves the Needs of the City

- Develop a data-driven infrastructure maintenance schedule
- Determine any existing gaps in services and other infrastructure deficiencies within the City
- Adopt up-to-date infrastructure standards that are appropriate for the needs of the City
- Study using public spaces within floodplains, watercourses, and wetlands to be used as passive recreation areas such as parks and greenways
- Study the feasibility of recycling programs and other means to reduce solid waste
- Incorporate stormwater system planning into roadway and other infrastructure planning processes

Goal 2: Establish the Long-Term Capital and Infrastructure Needs for the City

- Develop a Capital Improvement Plan for the improvement and expansion of infrastructure
- Prepare a Water System Master Plan
- Create a Wastewater System Master Plan
- Complete a Stormwater Management Plan
- Ensure infrastructure planning documents are routinely updated.
- Confirm that the established infrastructure priorities are adequate

Goal 3: Seek out Possible Funding Sources for the Expansion and Improvement of Infrastructure and Essential Community Services

- Study the physical and financial needs for the extension of infrastructure to priority growth areas.
- Collaborate with Montana agencies on major projects and studies
- Explore federal, state, and philanthropic infrastructure grant opportunities
- Determine positive impacts from the expansion and improvement of infrastructure
- Apply for funding opportunities that are appropriate for city priorities and projects and assist in keeping user fees reasonable

CHAPTER 10: TRANSPORTATION

Overview

Laurel is at the center of a major transportation network that includes local streets and sidewalks, state arterials, railroad lines, and an interstate highway. The city itself was surveyed and built on a gridded road network that provided orderly development for residential and commercial properties close to the railroad, Old Route 10, and 1st Avenue, which run through Laurel's downtown. The establishment of Interstate-90 near Laurel led to commercial development on the south side of the city. Subsequent developments of residential subdivisions and commercial areas have not continued the original ordered network, causing problems for road continuity, provision of services, and orderly and consistent city growth at its boundaries. The railyard and numerous railroad lines bisect the city, separating neighborhoods from each other and creating only two north-south access points, the 1st Avenue underpass, and the 5th Avenue railroad crossing.

Connecting transportation decisions with land use policy is a crucial city goal. A priority for the city is to develop a multi-modal approach to streets and pathways. The City will encourage intensive land use within and adjacent to the city and along major transportation routes while ensuring residential developments provide adequate and accessible pedestrian improvements to allow everyone to access their community. Establishing a consistent maintenance plan to preserve, improve, and expand the transportation network will provide current and future residents with an easy and effective way to move around the city regardless of travel mode. The orderly growth of the transportation network will also be essential to ensure neighborhoods and commercial areas are easily accessible to all. These transportation goals help increase quality of life, connect people to their community, increase safety, and plan for current trends and future growth.

Local Routes & Maintenance

Laurel's downtown core and original neighborhoods were developed on a gridded network of streets and alleyways. Subsequent developments have strayed from this system and have not followed any set guidelines for road connections or continuity. This lack of orderly roads and pedestrian systems outside Laurel's traditional core has created future growth issues.

Very few existing streets allow for unbroken travel from the east to the west side of Laurel. New development has taken place without considering roadway connections and traffic planning.

Subsequent subdivisions and construction have not provided easements or right of way to continue city thoroughfares, and structures were constructed within the path of right of ways. This lack of forethought is especially apparent west of 8th Avenue, which has many roads that seemingly go nowhere. It will be necessary for Laurel to establish specific guidelines to ensure adequate road connectivity for traffic flow, safety, wayfinding, and the extension of future services.

Laurel has only two north-south road connections between its northern and southern neighborhoods. The two connections are the 1st Avenue underpass and 5th Avenue railroad crossing. The nearest other connections are Exit 437 for East Laurel and Exit 426 to Park City. Investigating other means of north-south access and finding other connection points will improve emergency service response, ease traffic along major routes, and improve accessibility to and from different city areas.

Many of Laurel's roads are also in dire need of repair. Many of the city's older local roads were built with deficiencies and antiquated design methods, which now compound annual maintenance problems. The city recently completed a study of its municipal road network that included an inventory and provide solutions to the system's infrastructure deficits. Utilizing this study and updated development and service standards will lead to improved road conditions and connectivity for Laurel residents, businesses, and visitors.

State Highways

Two major state routes pass through Laurel. These are 1st Avenue, which forms the major north-south route, and Old Route 10, which runs east-west and acts as Laurel's Main Street. These routes support significant commercial and industrial traffic, resulting in congestion during peak hours at intersections.

Seeking mobility and safety improvements along these two routes is encouraged to create more livable, accessible, and safer streets as the city updates its zoning code, subdivision code, and roadway standards. A map of road classifications has also been provided to show further details of the Laurel road network and other major streets and roadways in the city.

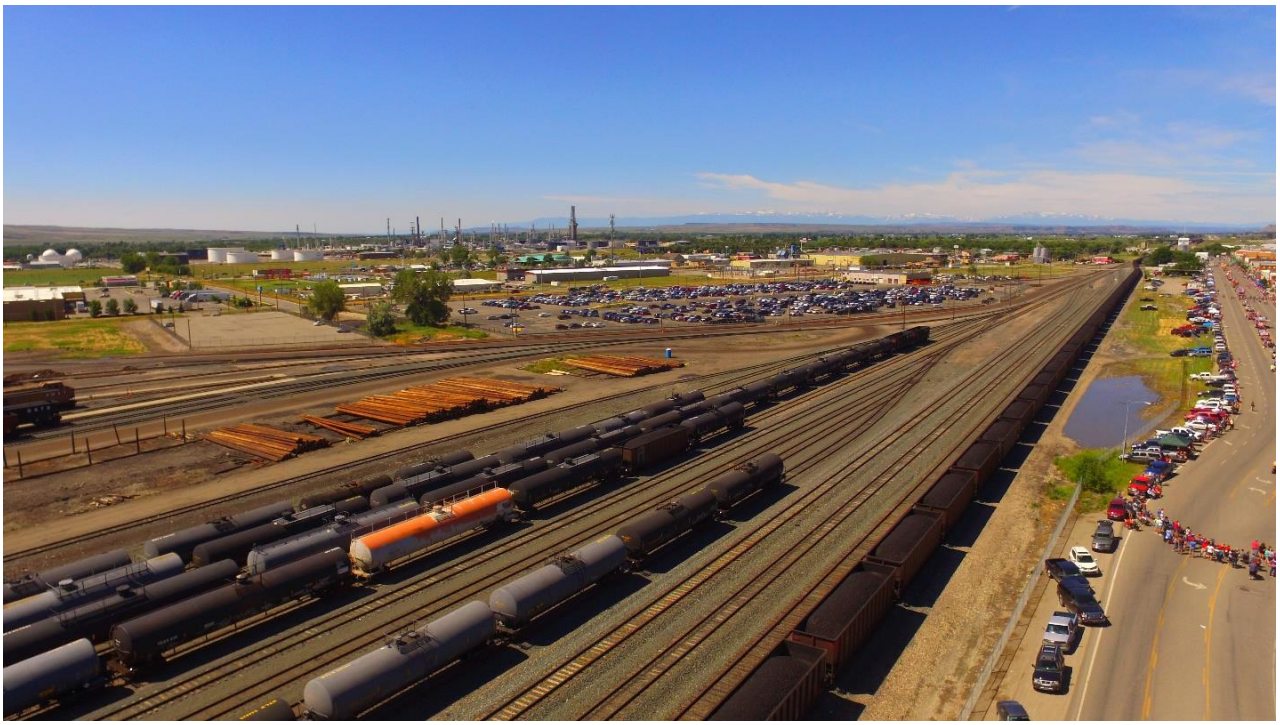
Federal Highways

Interstate-90 passes directly through Laurel. There are currently three off-ramps to access the highway, the most recent of these just completed in 2020 on the city's west end. The interstate has been a source of growth for the city, with many businesses locating in the SE 4th Street District adjacent to the highway.

The Montana Department of Transportation recently completed a north-facing on/off-ramp west of Laurel to connect to 19th Avenue West. This additional on/off-ramp is expected to alleviate some access issues and provide new development opportunities. This additional access point is also anticipated to bring new growth opportunities for the area. Planning for this growth and seeking out possible funding sources to extend city services to this area is vital

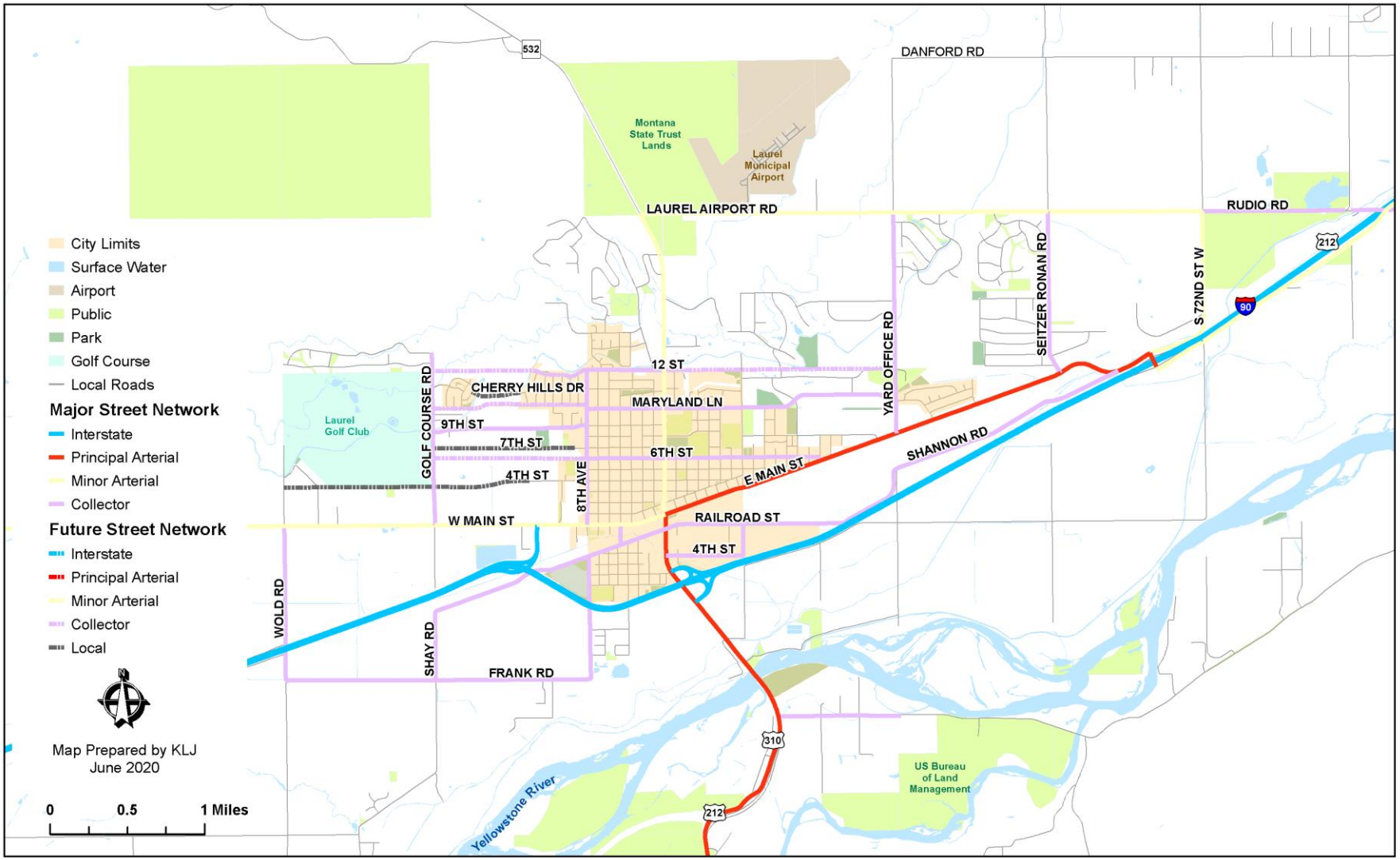
Railroad

Montana Rail Link has operate~~d~~ the rail yard in Laurel. MRL has decided to terminate its lease with BNSF and BNSF is transitioning to once again assuming operations. This yard has been active since the late 1800s and is a historic asset to the transportation and economic sectors. The rail yard is a hub for freight and raw materials heading through the area. Despite not being within the city limits, the railroad, CHS refinery, and other industrial properties provide many benefits to the area by providing a healthy



job base, revenue to the school district, and lower tax rates for residential and commercial properties.

The railroad is a major asset to the area and hinders transportation in and around the Laurel area. The railroad is not within the Laurel city limits, and as such, the city has little oversight of the activities taking place. The rail yard and its lines split the city into a north and south side with only two north-south connections, the 1st Avenue underpass, and the 5th Avenue crossing. The only other north-south connections are the East Laurel Exit and West Laurel Exit on Intersate-90.



MAJOR STREET NETWORK

CITY OF LAUREL GROWTH MANAGEMENT PLAN

~~Laurel Road Classifications, 2020~~ Updated maps are attached to this document for the 2023 update and shall be inserted upon final approval.

Roadway Classifications

- Interstate Highway (Principal Arterial)
  - Primary through travel route
  - Longest trip length
  - Highest trip speed
- Principal Arterial
  - Serves major activity centers and includes corridors with the highest traffic volumes and the city's longest trip length.
  - Provides the highest level of mobility, at the highest speed, for long uninterrupted travel.
- Minor Arterial
  - Interconnects principal urban arterials
  - Provides continuity for rural arterials that intercept urban boundaries
- Collector
  - Designed for travel at lower speeds and shorter distances.
  - Collectors are typically two-lane roads that collect and distribute traffic from the arterial system.
  - Collector roads penetrate residential communities, distributing traffic from the arterials
  - Urban collectors also channel traffic from local roads onto the arterial system.
  - Serves both land access and traffic circulation in higher density residential and commercial/industrial areas
- Local
  - Largest element in the American public road network in terms of mileage.
  - Local roads provide basic access between residential and commercial properties, connecting with higher-order roadways.
  - Provides access to adjacent land
  - Short distance trips

Public Transportation

Laurel Transit was established in 2010 through grant funding from the State of Montana to provide transportation services to the elderly and disabled population in the Laurel area. Laurel Transit currently provides on-demand transportation services within Laurel, its surrounding area, and scheduled service to Billings. Laurel Transit operates Monday-Friday, 10:00 am – 4:00 pm. The Billings scheduled service route begins at 7:30 am. Laurel Transit has connected with local and regional agencies whenever possible to expand its services.

Discussions have previously taken place around the viability of a fixed route system for the city of Laurel. These services are currently not feasible but future growth and development in Laurel could also necessitate better in-town transit connections or a commuter route to Billings.

Funding Sources

Many state and federal funding sources exist for transportation projects that impact:

- Road Safety
- Alternative Transportation
- Improved Mobility
- Economic Development
- Job Creation and Retention

Federal Agencies with available grants include:

- Federal Highways Administration
- U.S. Department of Transportation
- Federal Transit Administration
- U.S. Department of Agriculture
- U.S. Environmental Protection Agency

Transportation Goals and Objectives

The three overarching transportation goals with objectives and strategies are as follows:

Goal 1: Preserve, Maintain, and Improve the Existing Transportation System

- Update the Long-Range Transportation Plan (LRTP)
- Establish a systematic approach for the maintenance and repair of the road network.
- Develop a Capital Improvement Plan to identify and prioritize significant transportation projects
- Establish a Road Network Master Plan to ensure street continuity, traffic flow, and neighborhood connectivity,
- Promote fiscal responsibility and high return on investment
- Coordinate roadway improvement projects to coincide with underground infrastructure improvements

Goal 2: Improve the Mobility, Safety, and Accessibility for all users and modes of travel

- Implement bicycle and pedestrian improvements and traffic calming measures to transform the downtown area into a pedestrian-friendly place
- Create a looping bicycle/pedestrian trail and street system that connects different areas of Laurel
- Adopt pedestrian and multi-modal friendly transportation standards and safety measures
- Explore options to improve and expand the Laurel Transit program and strategies to create other multi-modal transportation connections.
- Partner with local, regional, and statewide groups to further integrate Laurel into the more comprehensive passenger transportation network

Goal 3: Connect Transportation Decisions with Land-Use Decisions

- Integrate land-use planning and transportation planning to manage better and develop the transportation network.
- Utilize transportation projects to encourage intensive development patterns along significant routes and existing areas of the City.
- Adopt and implement consistent system policies and maintenance standards
- Ensure the development of a sustainable transportation system that minimizes environmental impacts

CHAPTER 11: ECONOMIC DEVELOPMENT

Overview

Laurel has two traditional industries that have been the community economic pillars; the railroad and oil refining. These two economic sectors play a significant role in the economy. Still, they have been joined by many other services and businesses that diversify economic opportunity to include retail, education, healthcare, and finance. Laurel has seen a decline in downtown and local businesses as Billings has become more accessible, and online shopping and delivery become more readily used. Large and small communities have been forced to compete more and more for businesses, workers, and growth opportunities in an increasingly connected global economy. It will take significant effort to develop Laurel as a community with a self-contained business ecosystem where local businesses and entrepreneurs and larger statewide and national establishments can thrive.

Laurel's proximity to Billings is a smaller scale example of how different factors impact the local community economy. Laurel has been considered a bedroom community to Billings due to its proximity and number of Laurel residents who commute into Billings. It has also become easier for Laurel residents to travel to Billings for food, shopping, and other services. If it were in any other county in Montana, Laurel would be the center of economic development and business activities.

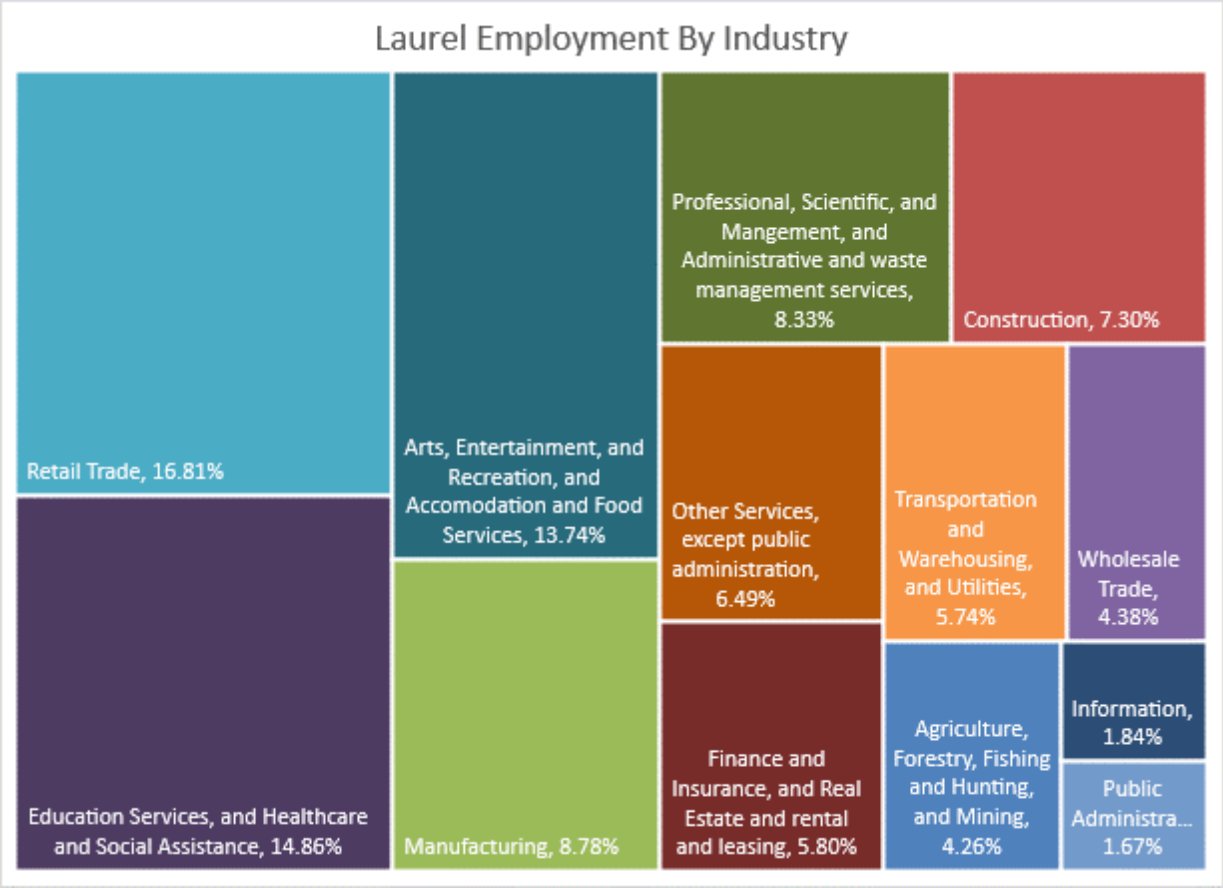
Laurel can still become a community where small businesses thrive, the downtown is healthy, and entrepreneurs take the risk to open a business even with its proximity to Billings. Creating a more attractive and active business community is not an impossible task. Goals have been established to help develop Laurel independently while keeping it connected with Yellowstone County and the Billings area.

Studying and adopting policies to develop downtown Laurel into a destination to live, work, and play can help breathe new life into the community. Focusing on resilient economic growth activities will create both new activity and sustainable, long term economic stability. Increasing Laurel's collaboration and communication with area groups can help connect stakeholders to business funding supports, employment, and training opportunities that would otherwise not be available. Growth is anticipated on the west side of Laurel. It is essential to plan for this growth by studying options for new commercial and industrial properties in priority areas.

The Local Economy

Workers in Laurel are employed in a wide array of industries. The following chart presents a visual representation of the different industries and their percentage in those workforces. A diverse employment base helps to ensure a stable and resilient economy. Improving the City's core sectors while opening up new growth opportunities is an important objective to help keep the local economy healthy.

Several major industries are located directly outside the city limits that have a large impact on the community. These include the MRL railyard and the CHS refinery. These two industries provide many jobs to Laurel residents and those residing within the Laurel planning jurisdiction. These anchor industries provide livelihoods to many Laurel area residents and support other industries and businesses in the Laurel planning areal. It will be essential to maintain good relationships with MRL and CHS to coordinate growth efforts and adequately develop the Laurel area.



(2013-2017 American Community Survey 5-Year Estimates)

Economic Development Organizations

Various groups are active in the economic development field in the Laurel and Yellowstone County area. Big Sky Economic Development and Beartooth Resource Conservation & Development serve the Laurel community and have services available for businesses and residents.

These agencies can help leverage funding and access to different state and federal programs to support local economic development efforts.

Laurel Chamber of Commerce

The Laurel Chamber of Commerce provides services to foster a healthy business climate in the Laurel area for business owners, employees, and customers. The Chamber supports and hosts many community events, including farmer's markets, the July 4th Celebration, and the Christmas Stroll. The Chamber has also developed relationships with local organizations and businesses to create a better business climate, a thriving downtown, and improve the community.

Big Sky Economic Development Agency

The official mission statement of Big Sky Economic Development is "… to sustain and grow our region's vibrant economy and outstanding quality of life, by providing leadership and resources for business creation, expansion, retention, new business recruitment, and community development."

Big Sky Economic Development Agency (BSEDA) is the South-Central Montana region's certified economic development authority. BSEDA directly serves a nine-county region, including Petroleum, Wheatland, Golden Valley, Musselshell, Sweetgrass, Stillwater, Yellowstone, Carbon, and Big Horn counties. BSEDA provides services and support for small business development, community development initiatives, federal procurement assistance, tax increment financing assistance, workforce development, veterans business assistance, and business financing.

The City of Laurel Planning Director is currently the Ex-Officio representative for the City of Laurel on BSEDA's Board of directors. The Ex-Officio member represents the interests of the City on the Board and communicates the position of the City to BSEDA's staff and partners.

Beartooth Resource Conservation & Development

Beartooth Resource Conservation & Development, or Beartooth RC&D, began in 1969 as a partnership between the USDA Natural Resource Conservation Service and Carbon and Stillwater Counties to serve that area. Beartooth is now an officially designated Economic Development District and has expanded its support to Sweet Grass, Yellowstone, and Big Horn Counties. Beartooth RC&D provides technical assistance and community development services to groups in the South-Central Montana region.

The overall mission of Beartooth RC&D is to improve local economic and social conditions by focusing on the conservation, utilization, and development of the natural and human resources of the region. The City has begun regular conversations with Beartooth RC&D to coordinate local economic development efforts and be notified of ongoing work in the region. Keeping communication channels open and collaborating on projects will help support Laurel's economic development and the surrounding area.

Economic Development Objectives and Policies and Strategies

Four main goals and related objectives have been established that focus on Economic Development and are as follows:

Goal 1: Develop downtown Laurel as a destination to live, work, and play

- Institute placemaking projects to further enhance district character
- Increase live-work opportunities for current and future residents and businesses
- Apply TIF funding to beautification, blight removal, and public improvement projects
- Identify and find solutions for unused or underused parcels as candidates for development

Goal 2: Create a resilient local economy

- Strengthen core businesses and industries through communication and connections with technical support
- Ensure that local economic activities are inclusive and accessible to all stakeholders
- Implement policies that create stable and sustainable economic growth
- Work to highlight the shared benefits of working together as a community with local businesses stakeholders, and developers
- Provide an economic ecosystem that allows for a wide array of businesses, industries, and developments to thrive
- Study and implement policies to enhance local business demand and alternative strategies for value creation for the community

Goal 3: Collaborate with area organizations to support economic growth and local employment and training opportunities

- Communicate with local groups to determine any needs and assistance
- Create partnerships with local and regional groups to fill local service gaps and create needed programming
- Take part in events and workshops to support local business initiatives and activities
- Establish common ground with local and regional groups to provide resources and assistance
- Connect residents and businesses with like-minded economic, financial, and entrepreneurship resources and opportunities

Goal 4: Study options for new commercial and industrial properties in anticipated high-growth areas

- Create a Corridor Master Plan for growth in and around the intersection with Old Route 10 and the West Laurel Interchange
- Study options and determine priorities for the possible establishment of Tax Increment Financing Districts (TIFs) and Targeted Economic Development Districts (TEDDs)
- Review and pursue opportunities for clustered commercial or industrial parks
- Develop funding strategies to provide services for priority growth areas.

CHAPTER 12: PUBLIC SERVICES AND FACILITIES

Overview

Municipalities and County Governments provide numerous public services to their residents, businesses, and institutions. Effective public services are vital for a community to thrive. Public services include fire departments, police and sheriff departments, parks and recreation programs, libraries, emergency medical services, public works departments and water and sewer utility systems. Public officials need to take a lead role by planning and implementing expansions and improvements of public services that maintain and improve their community's quality of life.

This chapter presents the array of public services operated by the City of Laurel and Yellowstone County and provides goals and objectives to improve and expand those services to help the community better. A proactive approach to public services can also lead to many benefits as newly established or upgraded services can incentivize new development and growth. Effective public services show prospective residents, business owners, and developers that the municipality and the county is working to provide stable services while addressing future service needs.

City Administration

Laurel City Hall is located at 110 West 1st Street. The City Hall contains offices for the City Clerk-Treasurer, Water Department, Planning Department, and the Public Works Department. The City Hall also contains the City Council Chambers, the Office of the Mayor, City Court, and related administrative archives.

Laurel Police Department

The Laurel Police Department is a full-service department serving the community twenty-four hours a day, seven days a week. The City of Laurel currently has 14 sworn officers employed by the City. Services include patrolling for criminal activities and traffic violations, accident investigation, and misdemeanor and felony crime investigation. The Department's service area is within Laurel's municipal boundaries unless responding as backup to another law enforcement agency in the surrounding area. The Laurel

Police Department works with the Eastern Montana Drug Task Force, (EMDTF) assists the Yellowstone County Sherriff on calls near Laurel, and works closely with the Montana Highway Patrol.

The City of Laurel ensures that its officers are appropriately certified and trained above and beyond the state requirements. Officers must pass a twelve-week introductory police officer course at the Montana Law Enforcement Academy in the state capital of Helena. Furthermore, communication officers must also attend and pass a one-week course for their additional responsibilities. The Laurel Police Department also hosts its introductory reserve course annually for reserve officers.

The Laurel Police Department is currently located in the Fire-Ambulance-Police Building (FAP building). The facility is shared with the Fire Department and Ambulance service. The facility was built in 1976 and has seen several additions and renovations over time. The FAP Building is aging and lacks many facilities that the departments require. The Police Station lacks sufficient office space for its officers, a breakroom, separate locker room facilities for male and female officers, and the radio room lacks adequate fire control due to the space required for department servers. This space also lacks secure vehicle and equipment storage areas. It is essential that the city seek out funding options to improve, expand, and construct new facilities for the Police Department.

The Department is in need of a new facility. Planning should focus on construction of a new Police Station to the West of the City to follow anticipated growth trends. This location is also a security requirement for the Department. A westward location would be upwind from the Railroad lines and Refinery complex which would be secure in the face of any major ecological, chemical, or radiological crisis that might originate at these industrial and shipment points. Major elements for a future Police Station include:

- DUI Processing Rooms (secure with camera system)
- Video Security system (specifically for animal storage, inventory, and evidence)
- Separate Locker Rooms with bathing facilities and adequate locker space
- Full kitchen/breakroom area
- Secure and reinforced lobby area and front desk with audio system
- Evidence storage rooms with processing rooms and secure lockers
- Storage bays for larger amounts of evidence and vehicles
- Secure weapons room for ammunition, weaponry, and cleaning supplies
- Vehicle Storage area for Police vehicles and equipment under cover and secured.
- Conference room for meetings, presentations, press conferences, and trainings

Department leadership has identified certain staffing needs for the department as Laurel grows. The department needs a second Lieutenant position and a possible Captain position. These command positions would provide more effective leadership for the patrol officers. The Department also plans to add a Parking & Animal Control position in the near future. The department also needs additional civilian positions filled including an additional dispatcher, and an evidence technician and executive assistant to help with day to day duties.

The current policies and procedures for the Department date to 2014 and have not been updated due to a lack of manpower and lack of time. Department leadership has identified the program Lexipol as a vital digital resource that will help to keep the department's policies and procedures up to date. The Department plans to contract with Lexipol to assist with updating policies, training, and overall helping to keep law enforcement agencies current.

Fire Protection and Emergency Medical Services

Laurel Volunteer Fire Department

The Laurel Volunteer Fire Department (LVFD) has served the City of Laurel and the surrounding area since its inception in 1909. The Mission statement of the Laurel Volunteer Fire Department is: "Laurel Fire Department is committed to serving the City of Laurel, its residents, the surrounding fire districts, and the visitors to our City for any of their emergency fire rescue needs. We will do this through strong dedication and commitment to our community with a long tradition guiding us to what is important."

The LVFD provides full-service fire response service to the City of Laurel, Laurel Airport Authority, Yellowstone Treatment Center, Laurel Urban Fire Service Area, and Fire Districts 5, 7, and 8. These services include structure fires, wildland fires, vehicle fires, industrial hazards, water, ice rescue, vehicle extractions, Hazmat situations, rope rescue, and public service calls.

It has been recognized that the LVFD needs to adapt to the changing nature of fire services. It will be essential to improve the delivery of high-quality services to the community by planning and implementing new policies. The LVFD has begun the development of a "Fire Services Business and Work Plan" that presents information about the Department as well as goals and objectives to improve and expand fire services. Goals presented in the Draft Work Plan include:

- Finance – Develop avenues of revenue to offset costs for manpower, operations, and equipment replacement
- Equipment replacement – Develop a schedule for equipment replacement
- Education – Communicate with city officials on the beneficial aspects of the current LVFD structure
- Training – Continue and expand training to evolve with ever-changing fire services
- Communications – Develop communication lines between various groups at Department, local, county, and state levels.
- Performance Management – Evaluate Department on skills and abilities for career advancement and adjustments to training needs
- Construction of a New Fire Station – A new station will be necessary to meet a growing community's needs.

Firefighters in Montana are required to complete a minimum of thirty training hours per year. Many of the members of the LVFD regularly complete over 100 hours of training hours per year. Members of the LVFD are allowed to travel to specialized schools and training sessions to learn new information and share it with their fellow firefighters in the Department.

The LVFD is actively involved in the community through events and has held annual events such as Fire Prevention Weeks and Safety Days. The LVFD also manages the fireworks display for the 4th of July celebration. The Laurel 4th of July celebration is well-known throughout the state and brings awareness of the work of the LVFD.

The LVFD is currently set at 45 members to meet current community needs. The Department undertook a reorganization in 2010 to better coordinate efforts. This reorganization allowed the Department to meet any partially paid staff requirements for a department if the City of Laurel met the requirements for a Second-Class city of 7,500 residents or more. The Laurel Volunteer Fire Department has a mutual aid agreement with Yellowstone County Fire Services.

As previously noted, the Department is in the Fire-Ambulance-Police Building (FAP building). This facility has three full bays and an extra half bay for equipment. The LVFD also has access to equipment bays at the Laurel City shops as necessary. It is anticipated that an expansion of the FAP building or the construction of a new facility will be necessary to cover the Laurel community's fire service needs long-term adequately.

Ambulance Service

The primary mission of the City of Laurel Ambulance Service (LAS) is to provide quality pre-hospital emergency medical services and transportation to medical facilities promptly and safely to those residing, visiting, or traveling through the Laurel service area. The Department is a hybrid model, with certain full-time positions and additional volunteers. The Department has a full-time director and five full-time Emergency Medical Technicians (EMTs). LAS staff are trained to provide at least a minimum of Basic Life Support (BLS) assistance. They also have the necessary endorsements from the state to provide other advanced services.

As previously noted, the LAS is located at the Fire-Ambulance-Police building. The FAP building has space for three ambulances, restrooms, a crew lounge, offices, a small kitchen, and storage rooms. The building also has a community meeting room attached. The City needs to consider options for upgrades, expansions, or new facility locations to improve emergency services.

School District

The Laurel School District serves the City of Laurel and the surrounding area. The District instructs 2,100 students in total. The District maintains instructional levels from Kindergarten through twelfth grade (K-12). The grades are grouped as follows:

- Kindergarten through 4th grade – Elementary School
- Grades 5 through 8 – Middle School
- Grades 9 through 12 – High School

The Laurel School District currently operates five school buildings that include:

- Laurel High School
- Laurel Middle School
- Fred W. Graff Elementary
- South Elementary
- West Elementary

The Laurel School District's Mission is: "Dedicated to the individual development of each student, every day, without exception." Students are assigned to a classroom or group depending on what will best serve that student. Considerations are made for class size, peer relations, student/teacher relations, and teaching instructional style. The School District also has administrative offices located at the old Laurel Middle School at 410 Colorado Avenue.

The Goals of the Laurel School District are:

- To deliver a quality educational program that promotes both academic success and the overall development of every student.
- To meet the needs and skill level of each student.
- To promote high student expectations, the importance of lifelong learning and creative/critical thinking.
- To provide the students with a strong desire to learn.
- To foster self-discovery, self-awareness, and self-discipline.
- To develop an awareness of and appreciation for cultural diversity.
- To stimulate intellectual curiosity and growth.
- To provide fundamental career concepts and skills.
- To help the student develop sensitivity to others' needs and values and respect for individual and group differences.
- To be free of any sexual, cultural, ethnic, or religious bias.

The District previously established goals for District growth in a 10-15 Year Master Facility Plan. This plan included developing a new facility for grades 3 through 5 and a transportation facility, the remodeling of existing schools, relocating administrative offices, selling aging district-owned structures, and addressing inadequate learning environments in certain facilities. The District developed these goals to grow with the community and adapt when necessary and will be updating their Master Facility Plan in 2021.

Public Library

The Laurel Public Library was created in 1916 via ordinance and opened to the public on July 18, 1918. The Library was first established at 115 West 1st Street, the site of the current City Hall. The Library relocated to its current facility at 720 West 3rd Street in 1989 after fundraising by volunteers, and the Library Board allowed for the move. The Laurel Public Library serves the citizens that reside within the city limits. Yellowstone County residents are served without cost. Stillwater and Carbon County residents can also apply for and receive a library card. The Library's mission is to provide a "place where community members can grow, teach, and interact in mutual benefit with others."

The current library facility is approximately 6,000 square feet and contains four wings. The Library's clients' general needs are met by the current building, but improvements have been discussed. The Library could be improved by expanding the building to include a storage room, meeting rooms, and small study rooms. The needs of library clients have been growing, and the Library will need to grow with them.

The Library does not have any specific sharing agreements with the ~~Parmly~~ Library in Billings or other regional libraries. The Library is currently part of the Montana Shared Library Catalog Consortia by agreeing with the Montana State Library. This consortium comprises more than 140 libraries across the state consisting of public, academic, and particular library types.

Yellowstone County Sheriff's Office

The mission of the Yellowstone County Sheriff's Office is to maintain and improve the quality-of-life withing the community by working will all people to preserve life, maintain human rights, protect property, and promote individual responsibility and community commitment.

The Sheriff's department covers the entire county and is the sole operator of the county's only detention facility. The sheriff's department provides law enforcement withing the planning jurisdiction around Laurel and coordinates law enforcement activities with the Laurel Police Department.

The Yellowstone County detention facility is in Billings Montana and serves as the only detention facility for inmates from the local community as well as a detention facility for state and federal inmates while they are being processed through the court system. The detention facility is overcapacity most of the time and the county is currently focused on ways to improve the detention facility and plan for expansion as the population in Yellowstone County continues to increase.

Yellowstone County Public Works Department

This department is comprised of four divisions: The Administration Division, the Road and Bridge Division, the Junk Vehicle Division, and the Noxious Weed Division.

The mission of the Yellowstone County Public Works Department is to manage the county's transportation infrastructure, junk vehicle disposal, and noxious weed control in the most cost-effective manner possible.

The Public Works Department is managed by a director who is appointed by and reports to the Yellowstone County Board of Commissioners. The Director is responsible for all operations, programs, and services provided by the department.

Yellowstone County GIS Department

This department maintains a computer system designed for storing, manipulating, analyzing, and displaying data in a geographic context. The GIS department provides the ability to assist in the decision-making process by providing an additional tool to analyze and compare numerous geographic data layers along with traditional databases.

The GIS department provides an interactive way to find information about Yellowstone County. Information about Floodplain, Public Works, School, Sheriff, Zoning, Elections, Levy Districts, and Emergency and Cemeteries are displayed as layers that can be turned on/off, queried, and identified by using a click of your mouse on the map.

Yellowstone County Disaster and Emergency Services Department

The DES department or emergency management is an integrated effort to prevent- or minimize the seriousness of emergencies and disasters and to plan and coordinate the community's response to them should they occur. It requires establishing partnerships among professional emergency management

personnel to prevent, respond to, and recover from disasters. This department is responsible for an emergency management program, and continual improvement saves lives and reduces losses from disasters.

Yellowstone County Clerk and Recorders Office

The Clerk and Recorder is an elected county official established by the Constitution of Montana. Statutory authority establishes the duties as providing the primary administrative function for recording and maintaining the majority of all the legal documents relating to real estate records, land descriptions, county birth and death records and the records of the Board of County Commissioners. The first Yellowstone County Clerk and Recorder took office on February 2, 1883. Currently the office records an average of about 200 documents per day.

The types of documents that are maintained in the Clerk's office include:

- Deeds
- Mortgages
- Liens
- Powers of Attorney
- Homestead Declarations
- Subdivision Plats
- Certificate of Survey
- Military Discharge
- Federal Income Tax Liens

Yellowstone County Elections Office

The Election Department administers the maintenance of the voter registration files, candidate filings and all aspects of the election process. Additionally, information is available concerning upcoming election dates, polling places and the results of current elections. Of primary emphasis and concern is making voter registration and the process of voting as simple and accessible as possible.

Voter registration cards will be mailed out if requested, can be downloaded from this the Yellowstone County website, or completed in the office. Cards are also available in the telephone book, Montana tax booklets and state agencies. Absentee ballot requests can also be mailed out upon request or downloaded and upon our receipt of this signed document a ballot will be mailed to the elector.

Public Services and Facilities Goals and Objectives

Effective and efficient public services are a necessity for existing and prospective residents, developers, and businesses. Above all, public facilities and services must be accessible, helpful, and dependable for everyone residing, working, and visiting the City and County. ~~City~~ Departmental staff should identify the current gaps and projected needs of public facilities as the City and County experiences ~~grows~~ growth. It is vital to work with public stakeholders and departments to ensure input and projects positively impact the whole population. Providing consistent and stable service delivery is paramount.

Goal 1: Provide consistent and high-quality public services to the community

- Develop standard operating procedures to ensure consistency for city and county departments
- Develop maintenance procedures for parks, facilities, and public areas.
- Study current facilities and services to identify gaps and determine projected needs in services

Goal 2: Respond to the changing nature of the community

- Plan for the expansion of public facilities in priority growth areas
- Invest in public facilities that are accessible to everyone in the community
- Study how to improve city services to boost the quality of life for residents, businesses, and institutions

Goal 3: Work with city /county departments and local stakeholders to determine the priority expansion of public facilities and services

- Open lines of communication between city/county departments and local stakeholders to gather input on major projects
- Consider the public service requirements of large-scale projects before their approval and implementation
- Develop plans for the expansion of Fire, ~~Police~~ Law Enforcement, and EMS facilities

CHAPTER 13: RECREATION PLAN

Overview

Access to recreational opportunities and parkland is a critical component of quality of life for communities, especially Montana communities. The parks and public areas owned and maintained by the City of Laurel are assets to local and area residents. Access to walking, biking, hiking, and other local amenities help boost residents' and visitors' quality of life. Many cities and towns have begun establishing greenways and trails to connect parks and open spaces with local neighborhoods. Incorporating these into Laurel planning and development strategies can help enhance livability and help residents be healthier and more active.

The City should consider developing a vision for the Laurel parks system that would establish priorities for park funding and placement of parks that would be most useful for residents. Creating a connected park and trail system would enable residents to enjoy more parts of Laurel and the surrounding area.

Many of Laurel's parks are very small, with some located at less than ideal or fully accessible locations. Parkland must be a fully useable amenity for residents. Parks should be developed and improved to act as neighborhood focal points. The City should also study underutilized or burdensome parkland parcels and consider reuse scenarios.

Repurposing vacant or underused land as parks and trails can create many added benefits for a community. Downtown Laurel currently has large areas of vacant land owned by the BNSF Railroad and leased by MRL. Studying options for low impact reuse of this land as parkland or greenways could enliven downtown by activating the south side of Main Street, creating more opportunities for residents to spend time downtown, and creating more public space for events or gatherings.

Riverside Park has been a staple of the community for almost one hundred years. The Riverside Park Master Plan was developed in 2018 to provide a blueprint for improvements and the park's use. It will be essential to continue the ongoing improvement efforts detailed in that plan and develop policies to attract Yellowstone County and beyond. Riverside Park should be maintained as a historical, recreational, and economic asset in the future.

City Parks

There are many public parks throughout the City of Laurel. Some of the larger, more established parks are listed below. There are also many smaller unnamed parks throughout the city.

- Thomson Park
- Russell Park
- Nutting Park
- Kiwanis Park
- Murray Park
- South Pond
- Riverside Park
- Lions Park
- MT State Firefighters Memorial Park

Yellowstone County Parks

The County has many parks in the Laurel Yellowstone City County Planning jurisdiction. Most of these parks are the result of subdivisions of land that required parkland dedication as part of the subdivision process. Many of these parks are not developed or are underdeveloped. Yellowstone County has a parks board that advises the County Board of Commissioners on park planning and implementation of park improvements.

Parks Funding, Governance, and Operations

The City of Laurel Public Works Department is responsible for maintaining and improving park facilities. Public Works provides staff time and funding toward the upkeep of park facilities. The City of Laurel Park Board comprises volunteers who provide oversight and input on park operations, maintenance, and activities.

Riverside Park is an essential historic asset for the city, the region, and Montana. Many private and public groups are active in this park's historic preservation, including the Yellowstone Historic Preservation Board that helps to support preservation and improvement efforts in Riverside Park.

Community Sponsored Events

Community sponsored events are an effective way to get residents outside, engaged with nature, and connected to their community. Laurel has a history of hosting popular events that get people outside and active. City staff and local stakeholders should continue to work together to promote outdoor events to encourage people to be more active in the community.

Laurel hosts several events throughout the year. The July 4th festivities include the Chief Joseph Run, pancake breakfast, parade, and fireworks celebration. Laurel also hosts an annual Christmas tree lighting event downtown, farmer's markets, and other seasonal events throughout the year.

The city's parks are a focal point for residents and visitors. They represent an important asset that makes Laurel a better place to live. City staff should partner with local groups to support community

events and create more opportunities for recreational activities and outdoor enjoyment in the city's neighborhood parks.

Recreation Objectives and Policies and Strategies

Goal 1: Develop parkland as an essential and enjoyable amenity for residents

- Ensure new developments have appropriate park space for recreation and general use
- Study how existing parks can be improved through new facilities, changed layouts, or additions
- Review current park infrastructure and determine if improvements are necessary to serve the needs of the surrounding area better

Goal 2: Promote Riverside Park as a vital historic, civic, and recreation resource for residents and visitors

- Adhere to the projects and strategies presented in the 2018 Riverside Park Master Plan
- Seek grant funding for structural and site improvements
- Develop historic markers for Riverside Park and its historic structures
- Study options for connecting Riverside Park to the city proper through infrastructure improvements, civic engagement, or other means
- Establish signage and marketing for the assets and resources of Riverside Park to area residents and visitors

Goal 3: Create an interconnected system of parks, greenspace, and trails that are accessible to all

- Create a city-wide Park System Master Plan to develop project priorities
- Consider the creation of a City Parks Department to oversee park operations and maintenance
- Identify unused land that can be transformed into green space or trails for use by the public
- Update the zoning and development codes to encourage the creation of bicycle and pedestrian trail corridors

CHAPTER 14: NATURAL RESOURCES

Overview

The Laurel planning jurisdiction contains a variety of terrains and environments. The city itself is urbanized and is surrounded by several residential subdivisions. A variety of farmland, grazing land, riverine areas, and wetlands surround the city and make up much of the planning area. Laurel's natural features pose unique opportunities and challenges that should be considered when planning for growth.

The natural environment should be preserved and enhanced to balance environmental sustainability with economic growth, recreational opportunities, and development. Natural resources and the natural environment can be balanced with growth activities to provide social, economic, and community benefits to people over time while continuing their natural functions. The proximity to natural areas such as parks, trails, and other open spaces is an essential variable for many people as they choose where to live and work.

The Laurel area is an interconnected network of land and water resources that contribute to the community's health, economic well-being, and quality of life. This network of natural resources requires investment and maintenance, just like roads and utility systems. Creating a balance of conservation, management, and growth can reward a community with excellent benefits, including increased quality of life, longer-lasting infrastructure, and improved property values.

Groundwater Resources

Groundwater quality and quantity will become a growing concern as Laurel and the surrounding area develops. Traditional modes of living will shift because of groundwater issues. The direct impact of development in the area will be a reduction of groundwater recharge capacity. Groundwater recharge has averaged 8.2 inches per year but depends on the specific land use and soil type. The planning area contains relatively thin alluvial gravel deposits of groundwater. The average saturated thickness of local aquifers is fifteen feet, with the thinnest saturated zones occurring along cliffs and bluffs and the Yellowstone River's channel.

Wildlife Habitat

Rivers, Streams, and Lakes

It is important to recognize the Yellowstone River as a critical asset to Laurel. The Yellowstone River provides a stable water source for the city and recreational opportunities and riverine wildlife habitat. Maintaining the Yellowstone River as a resource is a complex job that includes managing the river ecosystem, monitoring historic water rights, and considering the local community's needs for economic and residential uses.

There are also many year-round and seasonal drainage and irrigation ditches that carry water through the city. These ditches include the Nutting Drain Ditch, Big Ditch, High Ditch, and Cove Ditch. Flooding is known to occur intermittently near the ditches. High water levels on properties near the ditches are a concern for property owners seeking to develop their property.

Floodplains

A floodplain is an area of land adjacent to a stream, river, or other water sources that stretches from the banks or boundaries of its channel to the base of higher elevation terrain that experiences flooding during high discharge rainfall periods. Floodplains are natural drainage basins for the discharge of heavy precipitation. The Yellowstone River exhibits vast floodplains and variations in flow due to terrain. Flow rates are dependent upon the season and the amount of rain and snowmelt. Flows are usually at their highest during the spring months and into early summer.

The Federal Emergency Management Agency (FEMA) utilizes the 100-year floodplain boundaries as the standard measurement for floodplain regulation. The 100-year floodplain is the area that has a one percent chance of flooding each year from a specific water source. The federal government expects municipalities and counties to take a proactive approach to flood damage prevention. Laurel has had an established Flood Insurance Rate Map (FIRM) since 1982. This map was most recently updated in November of 2013.

Most of the Laurel planning area is outside the 100-year floodplain. The areas within the 100-year floodplain include many properties directly abutting the Yellowstone River and its tributaries, some irrigation and stormwater ditches running through the city, and portions of downtown Laurel along Main Street as well as directly adjacent side streets. Laurel's Riverside Park is also within the floodplain.

Wetlands

Wetlands are ecosystems that are flooded by water permanently or seasonally. Wetlands have unique vegetation, wildlife, and hydric soils.

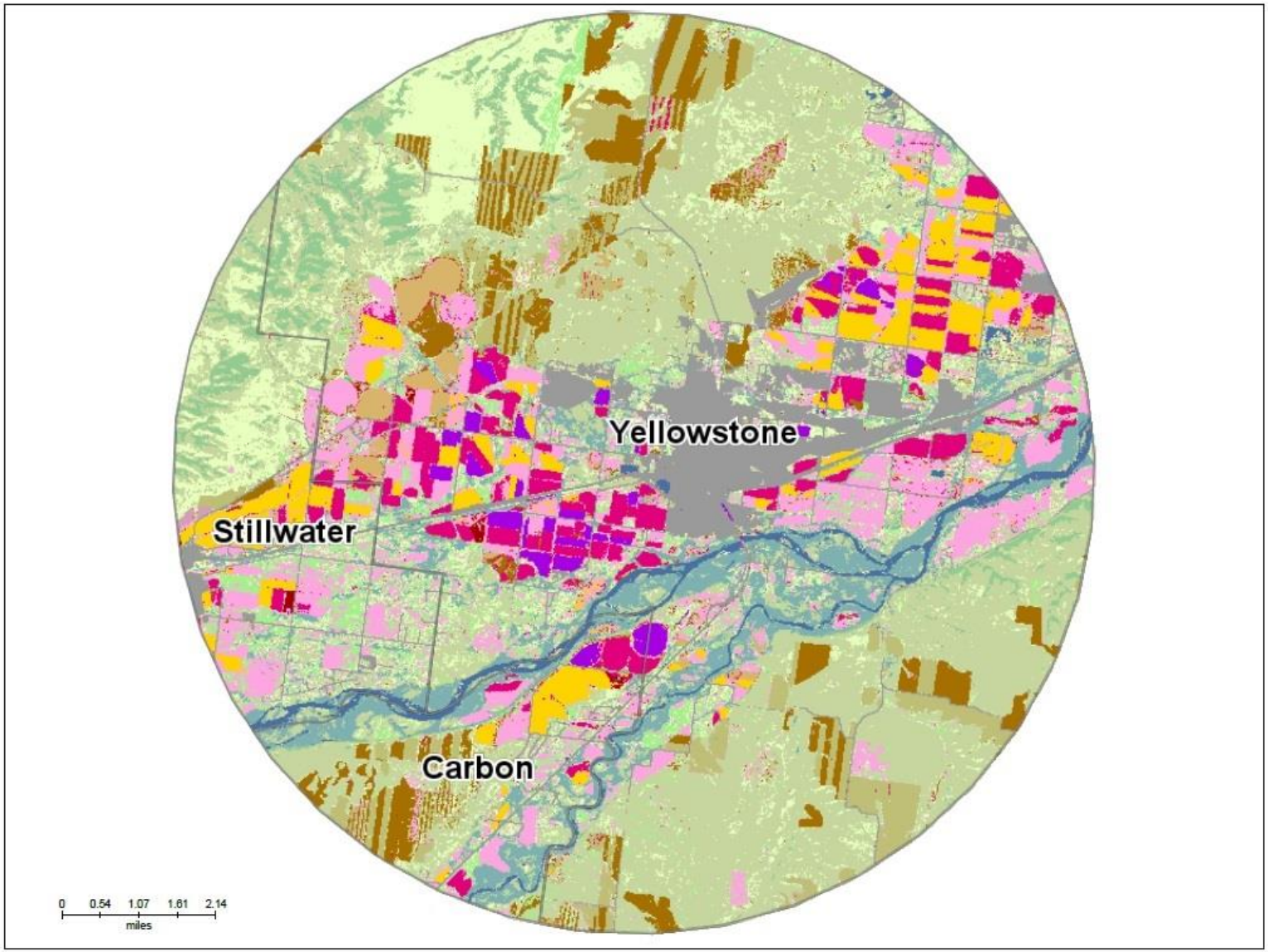
Wetlands near Laurel include riparian areas along the Yellowstone and Clark's Fork Rivers, marshes, spring seeps, and prairie potholes. Wetlands have historically been obstacles and have been removed whenever possible. Much of Laurel and the surrounding area suffers from high groundwater. Close attention must be paid to high groundwater and its impacts on public utilities such as water lines, sewer lines, and stormwater drainage systems. It is vital to understand wetlands and their traditional role in the environment to better plan for growth and development.

Agricultural Land

The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) defines prime farmland as land with the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. These crops also have the soil quality, growing season, and moisture supply needed to produce economically sustained high crop yields when managed appropriately.

Laurel and Yellowstone County have been home to agricultural farms and ranches since the beginning of European settlement in the area. There a vast amount of agricultural farmland within the Laurel planning jurisdiction itself. The map below presents the varieties of crops in the Laurel planning area.

Laurel - Crop Data



Land Cover Categories
(by decreasing acreage)

AGRICULTURE*

- Grass/Pasture
- Alfalfa
- Fallow/Idle Cropland
- Other Hay/Non Alfalfa
- Winter Wheat
- Barley
- Corn
- Spring Wheat
- Sugarbeets
- Dry Beans
- Triticale
- Peas
- Safflower
- Oats
- Flaxseed
- Canola

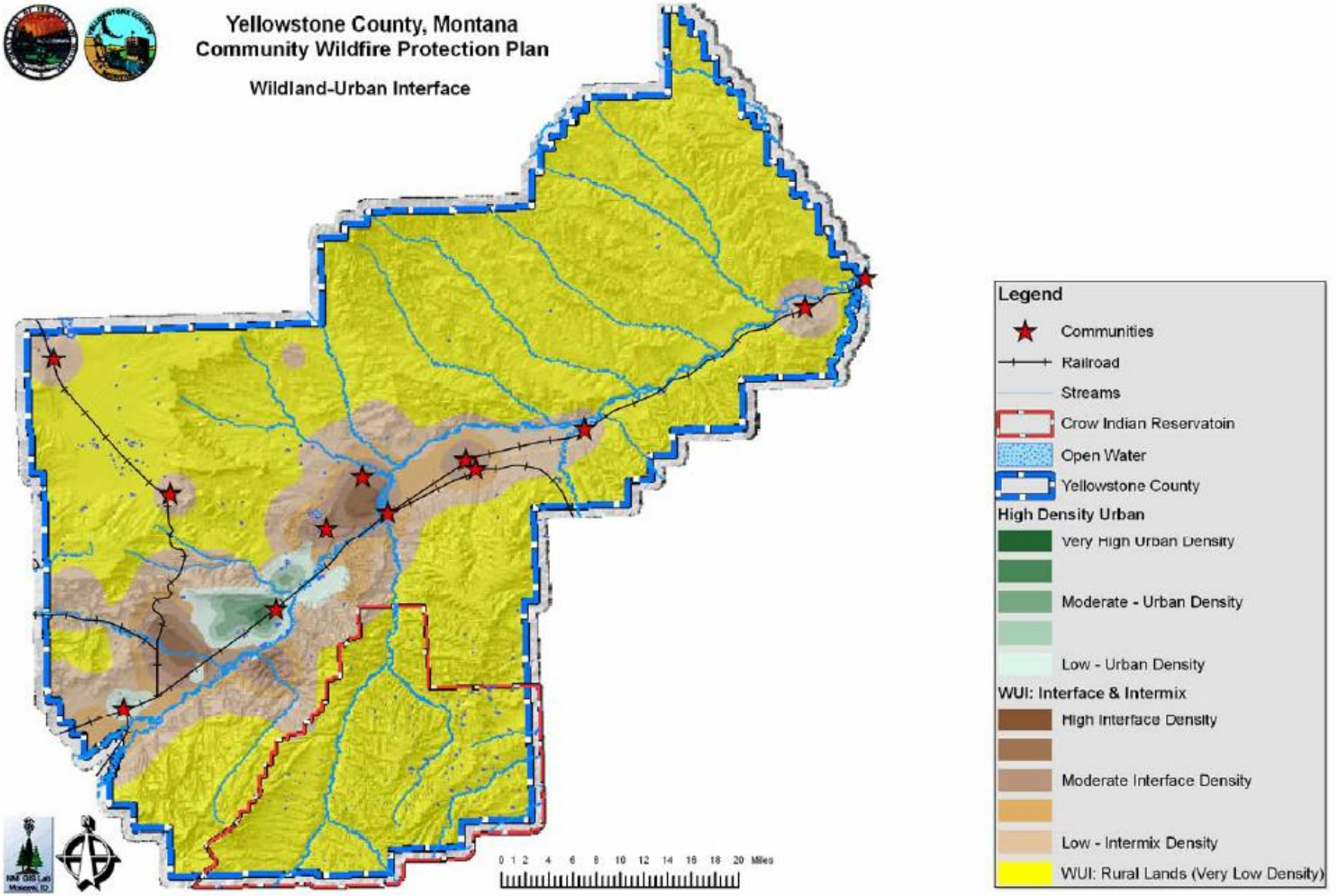
NON-AGRICULTURE**

- Shrubland
- Woody Wetlands
- Evergreen Forest
- Developed/Low Intensity
- Developed/Open Space
- Herbaceous Wetlands

Produced by CropScape - http://nassgeodata.gmu.edu/CropScape

Top 16 agriculture categories / Top 6 non-agriculture categories listed.

Wildland-Urban Interface and Significant Infrastructure



Wildland-Urban Interface

Laurel was part of the planning process for the Community Wildfire Protection Plan in 2006. A Wildland-Urban Interface (WUI) map was prepared as a part of this process. The planning process's goal was to improve fire prevention, reduce hazardous fuels, restore, fire-adapted ecosystems, and promote community assistance.

Yellowstone County has a diverse ecosystem with an array of vegetation that has developed with, and adapted to, fire as a natural disturbance. Decades of wildland fire suppression and long-standing land-use practices have altered the plant community. They have resulted in dramatic shifts in the types of fires and local species composition. Rangelands and farmland in Yellowstone County have become more susceptible to large-scale, high-intensity fires that threaten life, property, and natural resources because of these long-term practices.

Floodplain

Floodplain – The area of the Regulated Flood Hazard Area including and adjoining the watercourse or drainway that would be covered by the floodwater of a Base Flood. The area is partitioned into a Flood Fringe and Floodway where specifically designated. See Regulated Flood Hazard Area.

Floodway – The identified portion of the Floodplain of the Regulated Flood Hazard Area that is the channel and the area adjoining the channel that is reasonably required to carry the discharge of the Base Flood without cumulatively increasing the water surface by more than one half foot.

Regulated Flood Hazard Area – A Floodplain whose limits have been designated pursuant to Part 2, Chapter 5 of Title 76, MCA, and is determined to be the area adjoining the watercourse that would be covered by the floodwater of a Base Flood. The Regulated Flood Hazard Area consists of the Floodway and Flood Fringe where specifically designated.

The purpose of Floodplain Hazard Management Regulations is to promote public health, safety and general welfare of the residents and minimize public and private losses due to flood conditions in Regulated Flood Hazard Areas. These Regulations are intended to:

- Protect human life and health.
- Minimize expenditure of public money for costly flood control projects;
- Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- Minimize prolonged business and public service interruptions.
- Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges;
- Help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize future flood disruptions; and to

- Ensure compliance with the minimum standards for the continued participation in the National Flood Insurance Program for the benefit of the residents.

The Regulated Flood Hazard Area includes areas specifically identified, labeled and illustrated on maps such as Floodplain, Floodway, or Flood Fringe that have differing uses allowed and minimum building standards that apply. The Regulated Flood Hazard Area is the geographic area inundated by the Flood of 100-year Frequency illustrated and depicted in the referenced studies and maps.

The Regulated Flood Hazard Area supporting study and maps illustrating the regulatory area are based on studies and maps that have been specifically adopted pursuant to 76-5-201et.seq. The maps and accompanying study become the Regulated Flood Hazard Area only when formally adopted by DNRC and subsequently by the political subdivision by these regulations. The original source of studies and data may be from a Flood Insurance Study by FEMA, or other studies by Corps of Engineers, Soil Conservation, United States Geological Service or other federal or state agency.

Within the Regulated Flood Hazard Area, subdivisions including new or expansion of existing manufactured home parks, must be designed to meet the following criteria:

- The Base Flood Elevations and boundary of the Regulated Flood Hazard area must be determined and considered during lot layout and building location design;
- Locations for future structures and development must be reasonably safe from flooding;
- Adequate surface water drainage must be provided to reduce exposure to flood hazards;
- Public utilities and facilities such as sewer, gas, electrical and water systems must be located and constructed to minimize or eliminate flood damage; and
- Floodplain permits must be obtained according to these regulations before
- development occurs that is within the Regulated Flood Hazard Area.

Natural Resource Goals and Objectives

Goal 1: Protect Laurel's natural resources and traditional environment

- Provide options for landowners for conserving portions of their land while developing others
- Achieve a balanced pattern of growth to ensure environmental concerns are considered during the development
- Manage the local water resources as a healthy, integrated system that provides long-term benefits from enhanced environmental quality

Goal 2: Incorporate sustainable development patterns in the Laurel subdivision and land use codes

- Review and update existing zoning and subdivision regulations to ensure environmental preservation and conservation are addressed
- Review and update landscaping ordinances as needed to best suit Laurel's natural environment

- ❖ Manage rivers, floodplains, wetlands, and other water resources for multiple uses, including flood and erosion protection, wildlife habitat, recreational use, open space, and water supply

Goal 3: Connect with local, regional, and state agencies and stakeholders to improve the natural environment in and around Laurel

- ❖ Sponsor environmental cleanup and rehabilitation programs that include the City, school district, community organizations, and residents
- ❖ Participate in regional watershed studies to achieve adequate long-term flood protection
- ❖ Explore the possibility of creating a conservation corridor along the Yellowstone River

CHAPTER 15: GROWTH POLICY IMPLEMENTATION

Overview

The 2020 Laurel Growth Policy is a significant upgrade of the existing Growth Management Plan. The previous Growth Management Plan provided very useful information regarding existing community characteristics as well as trends that had future implications for the community, but it did not provide specific recommendations regarding how the community might best address existing and emerging issues.

The content of this chapter is critical to compliance with state law and provides necessary details for the Laurel community to be eligible for various funding programs and resources. The chapter is organized into two primary sections as follows:

1. Section 1: Identification of tools available to Montana cities to help implement the growth policy; and
2. Section 2: Fulfills a specific requirement in Montana State Law requiring growth policies to evaluate jurisdictional subdivision regulations in the following three ways:
    a. Identification of how local government defines various impact assessments as specified in the law
    b. Addressing how public hearings for proposed subdivisions will be conducted, and
    c. Addressing how the local government will make decisions with respect to various impact assessments

In addition, the second section identifies specific objectives, policies, and strategies for six planning topic areas which are also outlined throughout the Growth Policy text:

- Land Use
- Housing
- Infrastructure
- Economic Development
- Public Facilities and Services
- Intergovernmental Coordination

In some cases, the topic areas identify specific resources and programs that are available to help implement strategies identified for each topic area. Objectives are also listed, and for each identified objective, there are recommended implementation measures. The implementation measures are either recommended policies or strategies. Recommended policies reflect the intent of how a governing body might address a planning topic or issue through policy. Strategies reflect a specific course of action that a governing body might utilize to address a specific planning topic or issue.

Implementation Tools

This section identifies several types of Growth Policy implementation tools. Generally, there are five types of tools at a local government's disposal to help implement a growth policy. They include:

- ***Regulations***: Regulations are generally outlined and authorized by Montana Code Annotated (MCA) and adopted into law by local government.

- ***Policies:*** The Growth Policy and other adopted plans contain policies that express the community's interest in pursuing a course of action on topics and issues. Unlike regulations, local government has discretion in the implementation of policies.
- ***Government Finance:*** Government finance tools represent the community's financial commitment to fund the implementation of policies and strategies outlined in the Growth Policy.
- ***Education:*** Educational tools, such as the growth policy itself, include several activities that inform the public, appointed officials and elected officials that facilitate effective decision making.
- ***Coordination:*** Coordination tools are voluntary measures in the local government or between a local government and other local, state and federal government or agency that result in more efficient and effective delivery of services or a shared response to a common concern.

A discussion of each of the types of growth policy implementation tools is provided below. The tools described are not all inclusive but rather are intended to provide examples of tools that are commonly used by communities in Montana. Several of the tools are already being utilized by the City of Laurel. The tools not in use may be considered as additional means to advance the implementation of the Growth Policy.

Regulatory Tools

Subdivision Regulations

MCA requires counties to adopt subdivision regulations that comply with the Montana Subdivision and Platting Act. Subdivision regulations control the creation or modification of the division of land into new parcels or tracts. They also control the design of subdivisions and provide standards for adequate provision of infrastructure without adversely impacting public services and natural resources.

The City of Laurel has adopted subdivision regulations that are enforced in the City or on lands proposed for annexation into the City. Subdivision regulations will need to be updated to be consistent with this Growth Policy and must include any amendments made during the 2020 Montana Legislative session.

Zoning Regulations

Zoning regulations are a common regulatory tool to control land use. One of the primary purposes of zoning regulations is to minimize land use incompatibility. Zoning regulations also establish standards that limit the density or intensity of development as well as other characteristics of development such as off-street parking, signs, lighting, site layout, etc. Zoning regulations are supplements to a zoning map that establishes zoning districts in the jurisdiction. The zoning map provides the means to separate incompatible land uses and zoning regulations mitigate potential land use incompatibilities at the boundaries separating different zoning districts.

The City of Laurel adopted zoning regulations in 2001. Over the years, several amendments have been made. The city is in the process of reviewing a comprehensive update to the zoning regulations as prepared by their planning consultant. ~~Pursuant to MCA, the City of Laurel can establish extraterritorial zoning jurisdiction up to one mile beyond the city limits if Yellowstone County and the city create the extraterritorial area and provide for joint administration.~~

The area around the City of Laurel's city limits was previously believed to an extra-territorial zoning jurisdiction up until recently when state statues were reviewed and it was discovered that MCA 76-2-310 does not give the City of Laurel the right to adopt extra-territorial zoning beyond municipal boundaries.

MCA 76-2-310 states "Extension of municipal zoning and subdivision regulations beyond municipal boundaries. (1) Except as provided in 76-2-312 and except in locations where a county has adopted zoning or subdivision regulations, a city or town council or other legislative body that has adopted a growth policy pursuant to chapter 1 for the area affected by the regulations may extend the application of its zoning or subdivision regulations beyond its limits in any direction subject to the following limits:

(a) up to 3 miles beyond the limits of a city of the first class as defined in 7-1-4111;
(b) up to 2 miles beyond the limits of a city of the second class; and
(c) up to 1 mile beyond the limits of a city or town of the third class

Yellowstone County has adopted subdivision regulations for the planning jurisdiction around Laurel city limits and therefore the City cannot extend it's zoning regulations beyond it's municipal boundaries. Yellowstone County has enforced the adopted subdivision regulations for lands outside the City of Laurel limits and has historically approved or denied the subdivision of land in the area surrounding the City of Laurel.

Design Standards

Design standards are most often contained within zoning regulations but can also be established in subdivision regulations. The purpose of design standards is to enhance the appearance and functionality of a development. Overly restrictive design standards can impede development. If properly crafted, design standards can significantly enhance the built environment without placing undue burdens on a developer.

Floodplain Regulations

Floodplain regulations are intended to regulate the use of land located within an officially designated 100-year floodplain in order to protect buildings and occupants from the risks associated with flooding. Floodplain provisions are contained in the subdivision regulations. Some communities choose to participate in the National Flood Insurance Program Community Rating System (CRS). CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Any community in compliance with the minimum requirements of NFIP may participate. Participation in the CRS results in discounted premiums for flood insurance policy holders; between 5 to 45 percent depending on the rating of proposed floodplain management activities, reducing the likelihood or magnitude of damage resulting from a flood.

Zoning Compliance Permits

Zoning compliance permits ensure that development activities comply with zoning regulations. The City of Laurel requires the issuance of zoning compliance permits for most types of improvements to private property.

Building Permits

Building permits are utilized to ensure that construction of buildings follows the State of Montana Building Code. Building permits are required for all buildings over two hundred (200) square feet. Most

residential building permits are issued by the City Building Inspector but permits for commercial or residential buildings with five or more dwelling units are issued by the State.

Policy Tools

Neighborhood or Area Plans

The Growth Policy can be further implemented by more detailed neighborhood or area plans. With the adoption of the Growth Policy, plans may be prepared that provide a greater level of detail for specific areas or issues as the City finds need.

Annexation Policy

A city expands its boundaries and its jurisdictional authority through the process of annexation. There are six different methods for annexation authorized by state statute (Parts 42 through 46 of Title 7, Chapter 2, MCA). Part 46 authorizes an annexation resulting from a petition from private property owners.

Cities use two tools to facilitate and guide future annexations. The first is a "Limits of Annexation" map that delineates the areas surrounding the city that can be reasonably supported by urban services and infrastructure. The map is prepared in coordination with the preparation of a capital improvements plan. The second is the use of annexation agreements. Entering into an annexation agreement with a property owner prior to the submission of development plans gives a local jurisdiction the opportunity to assign infrastructure and other costs associated with development of the annexed property.

Urban Planning Area

Urban planning areas are different than Extra Territorial/City-County Planning areas. An Urban Planning Area focuses on extension of infrastructure over a portion of the City-County Planning Jurisdiction and typically for a shorter time horizon than the jurisdictional area associated with the City-County Planning Jurisdiction.

Designation of an urban planning area is utilized for the extension of urban services as a jurisdiction grows. It delineates the geographic extent of how far outside the city limits the jurisdiction is prepared to extend urban services within a 10-year planning horizon. This is often accomplished by establishing an urban service area boundary beyond the city limits. The urban service area boundary is established in coordination with planned growth areas identified in the Growth Policy as well as the city's capital improvement plan. This tool helps a city plan for future growth outside the city limits and puts property owners outside the city limits on notice of what areas will and will not be supported by the extension of urban services.

Urban Renewal Districts

The establishment of urban renewal districts facilitates redevelopment of specifically selected areas in the city. Title 7, Chapter 15, Part 42 of the MCA gives municipalities authority to establish urban renewal districts in areas that meet the statutory definition of "blighted" areas and authorizes the municipality to expend funds in the area to stimulate private investment.

Tax increment finance (TIF) districts are often used to recapture the city's expenditure of funds for public improvements in the redevelopment area. TIF districts use the incremental increase in tax collections as blighted areas are redeveloped or other improvements are made to properties within the district. It is this increment that is used to retire debt to install the additional or new capital infrastructure.

Municipalities are required to prepare and adopt an urban renewal plan prior to establishing an urban renewal district. For more information see the TIF Section under Government Finance Tools.

Government Finance Tools

Capital Improvement Programs

City and county governments often program capital improvements on an annual basis. This is a reasonable practice for communities experiencing minimal or no growth activity. However, the use of a multi-year capital improvement program is an important tool to plan for public expenditures when communities are experiencing or anticipating high levels of growth. In such cases, a local government may establish a five-year capital improvement program. As noted above, a multi-year capital improvement program can support the establishment of urban service areas and facilitate negotiation of an annexation agreement.

Fee Incentives

The reduction or full waiver of municipal fees can be utilized to support implementation of specific growth policy goals and objectives. Often the financial incentive is used to support affordable housing or redevelopment projects. The tool can also be used to support specific economic development policy.

Impact Fees

An impact fee is a charge on development assessed at the building permit or zoning compliance permit stage of a project to assist the funding of new or expanded facilities that are needed to accommodate the development. Impact fees are used by communities anticipating or experiencing high levels of growth and are intended to maintain existing or minimum levels of service with minimal costs to existing property owners.

Impact fees can be assessed for a wide range of community services including but not limited to public safety (EMS, police and fire), public works (sewer, water, transportation and drainage facilities), recreation, libraries, etc. Citizens who are assessed impact fees need to receive benefit from impact fee expenditures within a reasonable period, which most often is five years.

Local Government Owned Land

Land that is owned by local government, including school districts, is a valuable resource that can be used to implement growth policy goals and objectives. Undeveloped public land may be used to financially leverage private development that meets a community's high demand need. By reducing or eliminating land acquisition costs the jurisdiction provides a significant financial incentive to facilitate development that supports the implementation of land use, housing or economic development policy. When this implementation tool is used the local government should consider entering into a development agreement to ensure the developer provides the desired outcome.

Tax Increment Financing (TIF)

Tax Increment Financing (TIF) was first authorized by the Montana legislature in 1974. It is a locally-driven funding mechanism that allows cities and counties to direct property tax dollars that accrue from new development, within a specifically designed district, to community and economic development activities within that district. It is intended as a tool that can encourage and support investment in areas where growth has been hindered by a lack of infrastructure and/or the presence of blight.

TIF does not increase property taxes for individuals and businesses located within a designated district. It only affects the way that taxes are distributed after they have been collected. A base taxable value is determined upon the establishment of a TIF district, and any additional tax revenue that accrues due to new development over a specified time frame is used to finance a variety of district improvements.

Eligible improvement activities include:

- Land acquisition
- Rehabilitation and renovation
- Demolition and removal of structures
- Planning, marketing, and analysis
- General redevelopment activities
- Constructing, improving, and connecting to infrastructure

Education Tools

Planning Studies and Data Collection

The Growth Policy provides significant information and data on the community's various characteristics. It also provides an extensive list of policies and strategies to implement growth policy objectives. In most cases the information and data contained in the growth policy will be enough to justify and implement the policies and strategies.

However, there may be cases where the community will need to conduct more detailed follow-up planning studies and collect additional information to support an implementation activity. Establishing impact fees or urban renewal districts are examples of implementation measures requiring additional study. As discussed below, ongoing collection of data will support Growth Policy monitoring.

Growth Policy Monitoring

The recommended policies and strategies contained in the Growth Policy are based on an assessment of current information and data. Policies and strategies remain relevant so long as conditions in the community are aligned with current trends. However, unanticipated circumstances or opportunities are likely to arise that will warrant a re-evaluation of policies or strategies whether they have been implemented or not. To support a re-evaluation of policies or strategies, data that is applicable to planning topics should be collected and reported on an annual basis. This data will, in effect, provide community indicator information allowing the community to identify the emergence of new trends.

It is recommended that the City consider preparation of an annual community indicator report that can be used to support an evaluation of the level of success in achieving community goals and objectives, and an assessment of the need to implement or revise selected policies and strategies contained in the Growth Policy. Annual community Indicator reports also provide valuation information that can be used in the next update of the Growth Policy. The reports can also be used to justify need when requests for outside funding are made.

Community indicator reports should provide information that can be compared to information contained in the Growth Policy, so change can be measured. Annual community indicator reports should include, but are not limited to an assessment and review of the following information:

- Building permits for new housing
- Volume of sales of residential property (Laurel Real Estate MLS Service)
- Crime statistics (Laurel Police Department)
- Client caseloads for senior citizen programs (Yellowstone County Council on Aging)

- Number and type of new or expanded businesses
- Number and type of new jobs created (Montana Department of Labor and Industry)
- Tax revenue
- School enrollment
- Levels of participation in recreational programs
- Remaining capacity of sewer treatment facilities
- Remaining capacity of the landfill
- Updated population projections prepared by the Montana Department of Commerce
- Annual departmental budget reports/requests
- Medical Facility programming/services

Coordination Tools

Intra-Governmental Coordination

The functions of local government are logically divided into departments. The departmentalization of local government services tends to discourage the sharing of information and coordination between departments. Too often synthesizing information from the various departments to get a holistic view of the community is solely the responsibility of the elected officials and most often occurs during preparation of annual budgets. It is recommended that Laurel consider the timely sharing of department reports with staff members responsible for overseeing implementation of the Growth Policy.
In addition, the City might consider assigning individual departments the task of implementing or evaluating the need to implement recommended policies and strategies that most clearly impact those individual departments. This is an excellent way to spread ownership of the Growth Policy. Annual department reports can provide information on the status of recommended implementation activities. The City might consider including a Growth Policy Implementation section into each department budget, to institutionalize the community's commitment to Growth Policy implementation.

Intra-governmental coordination is also an effective tool to more efficiently deliver services. When leaders of each department meet periodically to share information and service delivery challenges, there is more opportunity to enhance coordination between departments and identify ways that staff, equipment and other departmental resources might be shared to mitigate service delivery challenges.

Inter-Governmental Coordination

The same principles discussed in the previous section apply to coordination between local governments and between local governments and regional, tribal, state and federal agencies. Inter-governmental coordination provides an opportunity to regularly share information about plans and programs and enhance working relationships.

The City might consider establishing a semi-annual meeting schedule with regional, state and federal agencies and a quarterly meeting schedule for local governments within the county. Individual County Commissioners and City Council members can be designated as the liaison for each agency and/or local government. The intangible benefits of this coordination are often the maintaining of open lines of communication and a greater mutual understanding of the perspectives and needs of the larger region and state.

Evaluation of Yellowstone County/Laurel Subdivision Regulations

An evaluation of the administration and standards contained in the Laurel Subdivision Regulations is required as part of the Growth Policy. There are three items that need to be evaluated per Title 76, Chapter 1, Part 6, 76-1-601(3)(h), MCA. 1).

1. How local government defines the various impacts assessments as specified in 76-3-608(3)(a),
2. How local government makes decisions with respect to the impact assessments as made, and
3. How public hearings for proposed subdivisions are conducted.

Impact Assessments: Definitions and Evaluation Factors

Local government subdivision regulations are required to review proposed subdivisions in accordance with the following criteria provided in 76-3-608(3)(a):

- The effect on agriculture
- The effect on agricultural water user's facilities
- The effect on local services
- The effect on the natural environment
- The effect on wildlife and wildlife habitat
- The effect on public health and safety

For each of the above criteria, applicable definitions and evaluative provisions contained in the subdivision regulations must be identified.

Effect on Agriculture

Agriculture is defined as all aspects of farming or ranching including the cultivation or tilling of soil; dairying; the production, cultivation, growing, harvesting of agricultural or horticultural commodities; raising of livestock, bees, fur-bearing animals or poultry; and any practices including forestry or lumbering operations, including preparation for market or delivery to storage, to market, or to carriers for transportation to market. The effect on agriculture is evaluated utilizing the following provisions:

1. Is the proposed subdivision or associated improvements located on or near prime farmland or farmland of statewide importance as defined by the Natural Resource Conservation Service? If so, identify each area on a copy of the preliminary plat.
2. Is the proposed subdivision going to result in removal of any agricultural or timber land from production? If so, describe.
3. Are there any possible conflicts with nearby agricultural operations (e.g., residential development creating problems for moving livestock, operating farm machinery, maintaining water supplies, controlling weeds or applying pesticides; agricultural operations suffering from vandalism, uncontrolled pets or damaged fences)? If so, describe.
4. Are there any possible nuisance problems which may arise from locating a subdivision near agricultural or timber lands? If so, describe.
5. What effects would the subdivision have on the value of nearby agricultural lands?

Effect on Agricultural Water User Facilities

Agricultural water user facilities are defined as those facilities which provide water for irrigation or stock watering to agricultural lands to produce agricultural products. These facilities include, but are not

limited to, ditches, head gates, pipes and other water conveying facilities. The effect on agricultural water user facilities is evaluated by the following provisions:

1. Are there any conflicts the subdivision would create with agricultural water user facilities (e.g. residential development creating problems for operating and maintaining irrigation systems) or would agricultural water user facilities be more subject to vandalism or damage because of the subdivision? Describe.
2. Are there any possible nuisance problems which the subdivision would generate regarding agricultural water user facilities (e.g. safety hazards to residents or water problems from irrigation ditches, head gates, siphons, sprinkler systems or other agricultural water user facilities)? Describe.

Effect on Local Services

Local services are defined as any and all services that local governments, public or private utilities are authorized to provide for the benefit of their citizens. The effect on local services is evaluated by the following provisions:

1. Are there any additional or expanded public services and facilities that would be demanded of local government or special districts to serve the subdivision? Describe.
2. Are there any additional costs which would result for services such as roads, bridges, law enforcement, parks and recreation, fire protection, water, sewer and solid waste systems, ambulance service, schools or busing, (including additional personnel, construction and maintenance costs)? Describe.
3. Who would bear these costs (e.g. all taxpayers within the jurisdiction, people within special taxing districts, or users of a service)?
4. Can service providers meet the additional costs given legal or other constraints (e.g. statutory ceilings on mill levies or bonded indebtedness)?
5. Are there off-site costs or costs to other jurisdictions that may be incurred (e.g. development of water sources or construction of a sewage treatment plant; costs borne by a nearby municipality)? Describe.
6. How does the subdivision allow existing services, through expanded use, to operate more efficiently, or makes the installation or improvement of services feasible (e.g. allow installation of a central water system or upgrading a country road)?
7. What are the present tax revenues received from the un-subdivided land?
    a. By the County $ _____
    b. By the municipality, if applicable, $ _____
    c. By the school(s) $ _____
8. What are the approximate revenues received by each above taxing authority if the lots are reclassified, and when the lots are all improved and built upon? Describe any other taxes that would be paid by the subdivision and into what funds (e.g. personal property taxes on mobile/manufactured homes are paid into the County general fund).
9. Would new taxes generated from the subdivision cover additional public costs?
10. How many special improvement districts would be created which would obligate local government fiscally or administratively? Are any bonding plans proposed which would affect the local government's bonded indebtedness?

Effect on Natural Environment

Natural environment is defined as the physical conditions which exist within a given area, including land, air, water, mineral, flora, fauna, sound, light and objects of historic and aesthetic significance. The effect on the natural environment is evaluated by the following provisions:

1. What are the known or possible historic, paleontological, archaeological or cultural sites, structures or objects which may be affected by the proposed subdivision? Describe and locate on a plat overlay or sketch map.
2. How would the subdivision affect surface and groundwater, soils, slopes, vegetation, historical or archaeological features within the subdivision or on adjacent land? Describe plans to protect these sites.
3. Would any stream banks or lake shorelines be altered, streams re-channeled or any surface water contaminated from sewage treatment systems, run-off carrying sedimentation, or concentration of pesticides or fertilizers?
4. Would groundwater supply likely be contaminated or depleted as a result of the subdivision?
5. Would construction of roads or building sites require cuts and fills on steep slopes or cause erosion on unstable, erodible soils? Would soils be contaminated by sewage treatment systems? Explain
6. What are the impacts that removal of vegetation would have on soil erosion, bank or shoreline instability?
7. Would the value of significant historical, visual or open space features be reduced or eliminated?
8. Are there any natural hazards the subdivision could be subject to (such as flooding, rock, snow or landslides, high winds, severe wildfires, or difficulties such as shallow bedrock, high water table, unstable or expansive soils, or excessive slopes?
9. How would the subdivision affect visual features within the subdivision or on adjacent land? Describe efforts to visually blend the proposed development with the existing environment (e.g. use of appropriate building materials, colors, road design, underground utilities and re-vegetation of earthworks).

Effect on Wildlife and Wildlife Habitat

Wildlife is defined as those animals that are not domesticated or tamed, or as may be defined in a Growth Policy. Wildlife habitat is defined as the place or area where wildlife naturally lives or travels through. The effect on wildlife and wildlife habitat are evaluated by the following provisions:

1. What impacts would the subdivision or associated improvements have on wildlife areas such as big game wintering range, migration routes, nesting areas, wetlands or important habitat for rare or endangered species?
2. What effect would pet, or human activity have on wildlife?

Effect on Public Health and Safety

Public health and safety are defined as the prevailing healthful, sanitary condition of wellbeing for the community at large. Conditions relating to public health and safety include but are not limited to: disease control and prevention; emergency services; environmental health; flooding, fire or wildfire hazards, rock falls or landslides, unstable soils, steep slopes and other natural hazards; high voltage lines or high pressure gas lines; and air or vehicular traffic safety hazards. The effect on public health and safety is evaluated by the following provisions:

1. Are there any health or safety hazards on or near the subdivision, such as: natural hazards, lack of water, drainage problems, heavy traffic, dilapidated structures, high pressure gas lines, high voltage power lines or irrigation ditches? These conditions, proposed or existing, should be accurately described with their origin and location identified on a copy of the preliminary plat.
2. Would the subdivision be subject to hazardous conditions due to high voltage lines, airports, highways, railroads, dilapidated structures, high pressure gas lines, irrigation ditches and adjacent industrial or mining uses?
3. How will the subdivision affect the adjacent land use? Identify existing uses such as feed lots, processing plants, airports or industrial firms which could be subject to lawsuits or complaints from residents of the subdivision.
4. What public health or safety hazards, such as dangerous traffic, fire conditions or contamination of water supplies would be created by the subdivision?

In addition to the above factors, the subdivision regulations also require preparation of a community impact report on the following public services and facilities.

1. Education and busing
2. Roads and maintenance
3. Water, sewage, and solid waste facilities
4. Fire and police protection
5. Payment for extension of capital facilities

Public Hearing Requirements and Procedures

The subdivision regulations contain several sections that specify the procedural requirements for the following types of subdivision applications.

1. Divisions of land exempt from subdivision review
2. Review and approval procedures for minor subdivisions
3. Review and approval procedures for major subdivisions, including review and approval of preliminary and final plats
4. Expedited review of a first minor subdivision

The subdivision regulations apply to all jurisdictions within the county. The County is in the process of updating the subdivision regulations for consistency with all applicable enacted amendments to the MCA during the last three Montana legislative sessions. All procedural provisions, including those applicable to public hearings, are consistent with the current statutory provisions contained in the MCA.

Objectives, Policies and Strategies

A growth policy is a foundational document. It is intended to provide an overview of the community in terms of guidance for future planning. As a guiding document, the growth policy should encourage as many “finer point” studies and documents as possible to encourage refining of larger scope ideas.

Items outlined in the following tables are only options, and do not in any way obligate the governing body to pursue, fund or prioritize any given option or opportunity. Instead, the following are the recommended objectives and policies and strategies for each topic of the Growth Policy. For each policy and strategy, the entity responsible for implementation is identified and a recommended time frame for

implementation is provided. The entity listed first for each policy and strategy (in italicized type) is assigned the primary responsibility to initiate and follow-through with implementation measures. In a few cases, multiple entitles are assigned the primary responsibility for implementation. Other listed entities for recommended policies and strategies are responsible for supporting the implementation measures. Four implementation time frames are provided:

1. Immediate (defined as within a year after adoption of the Growth Policy)
2. Short-term (defined as not later than two years after adoption of the Growth Policy)
3. Mid-term (defined as between two and four years after adoption of the Growth Policy)
4. Long-term (defined as prior to the future update of the Growth Policy in 5 years (2025)

Land Use Goals and Objectives

Goal 1: Conserve Open Space and Traditional Land Uses		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Encourage cluster developments to incorporate open space into new developments	Planning Dept City Council County Commission	Mid-term
Provide options for landowners for conserving portions of their land	Planning Dept City Council County Commission	Immediate
Study and Implement strategies to create an interconnected system of parks and greenways and open space that are accessible to area residents	Public Works Planning City Council County Commission	Mid-term Long-term

Goal 2: Develop downtown Laurel into a vibrant place to live, work, and play		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Encourage mixed uses for living, working, and shopping local	Planning Board ~~County Commission~~ City Council	Short-term
Identify priority parcels for infill development	Planning Board LURA	Mid-term
Implement Placemaking projects to create a more livable and enjoyable downtown	Planning Dept Chamber of Commerce LURA Public Works	Short-term Mid-term
Partner with local groups to support community businesses, events, and gatherings	City Council Planning Chamber of Commerce	Immediate
Connect with regional agencies to access project funding, receive technical support, and boost the visibility of Laurel development opportunities	City Council County Commission Planning Dept BSEDA	Long-term

Goal 3: Update Subdivision Code to meet the needs of Laurel and the surrounding area		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Provide clear and consistent standards	Planning Dept Zoning Commission Public Works Dept	Short-term
Ensure the proper scale and scope of regulations	Planning Dept Planning Board ~~Zoning Commission~~	Mid-term
Include trails, open space, and greenway considerations in parkland subdivision review	Planning Dept Planning Board	Mid-term Long-term
Regularly review and update the Subdivision Code as needed to remain current	Planning Board City Council County Commission	Long -term

Goal 4: Update Zoning Code to provide for greater flexibility of allowable uses, clearer requirements, and more efficient land use		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Study the inclusion of different types of housing within residential districts	Planning Dept Planning Board	Mid-term
Update Overlay Districts, Parking Requirements, and the Sign Code to better fit the City's needs and character	Planning Dept Planning Board Public Works LURA	Short-term Mid-term
Allow mixed-use live/work opportunities in commercial areas	Planning Dept Planning Board	Short-term
Enable property owners to use their land more effectively and efficiently	Planning Board Planning Dept	Mid-term

Goal 5: Use long term planning documents to identify funding and address priority needs for infrastructure and development		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Establish an Annexation Plan to develop priority growth areas and strategies	City Council Planning Dept Public Works	Mid-term
Develop a Capital Improvement Plan for vital infrastructure to support the City as it grows	Public Works Planning Dept	Short-term

Goal 5: Use long term planning documents to identify funding and address priority needs for infrastructure and development		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Prepare a Commercial and Industrial Development Study for land adjacent to major transportation routes in the Laurel area	Planning Dept City Council County Commission	Mid-term

Annexation Goals and Objectives

Goal 1: Adopt a long-range view for the growth of the City		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Establish a growth-conscious set of policies to expand the City and its services	Planning Board City Council	Mid-term Long-term
Create priority growth areas for extension of services	Planning Board City Council	Immediate
Develop and approve an Annexation Plan for the Laurel Planning Jurisdiction	Planning Dept City Council BSEDA Beartooth RC&D	Short-term Mid-term

Goal 2: Mange fiscal responsibility with established and proposed annexation standards		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Ensure that the established standards are right and proper for the City of Laurel	Planning Board ~~County Commission~~ City Council	Short-term
Ease the burden for developers to annex into the City while meeting established standards	Planning Board City Council	Mid-term
Allow greater flexibility in development patterns	Planning Board Planning Dept	Short-term Mid-term
Determine the cost and benefits of annexation	Clerk-Treasurer City Council Planning Dept Public Works	Mid-term

Housing Goals and Objectives

Goal 1: Encourage a mixture of housing types to meet the demand of all market sectors		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Maintain a diverse array of housing and affordability levels	Planning Dept	Immediate
Promote higher density housing types in the downtown area and adjacent to major transportation corridors	Planning Dept	Mid-term
Study mixed-use housing and other alternative housing types and styles	Planning Dept	Mid-term Long-term
Provide options for a full spectrum of housing from rentals to retirement housing	Planning Dept	Long-term

Goal 2: Provide information on housing-related grants, loans, and ownership programs		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Develop a list of resources for renters and homeowners	Planning Dept Montana Housing	Short-term
Collect information on federal, state, local, and philanthropic rental and homeownership programs	Planning Dept Montana Housing HUD	Short-term Mid-term
Advise Laurel area residents as to available support for housing, rent, and homeownership	Planning Dept	Immediate

Infrastructure Goals and Objectives

Goal 1: Maintain an effective and efficient public infrastructure system that adequately serves the needs of the City and County		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Develop a data-driven infrastructure maintenance schedule	City/County Public Works	Short-term
Determine any existing gaps in services and other infrastructure deficiencies within the City	City/County Public Works Planning	Short-term Mid-term
Adopt up-to-date infrastructure standards that are appropriate for the needs of the City	City/County Public Works	Short-term
Study using public spaces within floodplains, watercourses, and wetlands to be used as passive recreation areas such as parks and	Planning Dept Planning Board	Mid-term Long-term
Study the feasibility of recycling programs and other means to reduce solid waste	City/County Public Works Planning Dept	Mid-term
Incorporate stormwater system planning into roadway and other infrastructure planning processes	Planning Dept City/County Public Works	Mid-term Long-term

Goal 2: Establish the long-term capital and infrastructure needs for the City and County		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Develop a Capital Improvement Plan for the improvement and expansion of infrastructure	City/County Public Works City Council County Commission	Mid-term
Prepare a Water System Master Plan	Public Works Planning Dept	Mid-term Long-term
Create a Wastewater System Master Plan	Public Works Planning Dept	Mid-term Long-term
Complete a Stormwater Management Plan	City/County Public Works	Mid-term Long-term
Ensure infrastructure planning documents are routinely updated.	City/County Public Works	Long-term
Confirm that the established infrastructure priorities are adequate	City/County Public Works Planning City Council County Commission	Mid-term

Goal 3: Seek out possible funding sources for the expansion and improvement of infrastructure and essential community services		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Study the physical and financial needs for the extension of infrastructure to priority growth areas	Planning Dept Public Works	Mid-term
Collaborate with Montana agencies on major projects and studies	City Council County Commissioners	Immediate
Explore federal, state, and philanthropic infrastructure grant opportunities	City/County Public Works Planning Dept	Short-term
Determine positive impacts from the expansion and improvement of infrastructure	City/ County Public Works Planning Dept	Mid-term
Apply for funding opportunities that are appropriate for city and county priorities and projects and assist in keeping user fees reasonable	Public Works Planning Dept Clerk-Treasurer	Mid-term Long-term

Infrastructure Funding Opportunities:

Montana Department of Environmental Quality, Drinking Water State Revolving Fund Loan Program

The Montana Legislature established the Drinking Water State Revolving Fund (DWSRF) Loan Program for Drinking Water projects. The program provides at or below market interest rate loans to eligible Montana entities. The Department of Environmental Quality (DEQ) is the administering agency and assures the technical, financial and programmatic requirements of the program are met.

Eligible water projects include acquisition of land that is integral to the project, consolidating water supplies, engineering, new sources, treatment, source water protection, storage and distribution.

Eligible applicants are municipalities, public or private community water systems and non-profit, non-community water systems. The current interest rate for loans is 3.75 percent with payment schedules not to exceed 20 years. Drinking Water Projects qualifying as disadvantaged may extend the term up to 30 years.

Applications are accepted year-round. Preliminary engineering analysis must be reviewed prior to submittal of application.

Montana Department of Environmental Quality, Water Pollution Control State Revolving Fund Loan Program

The Montana Legislature established the Water Pollution Control State Revolving Fund (WPCSRF) Loan Program for water pollution control projects. The program provides at or below market interest rate loans to eligible Montana entities. Cooperatively, DEQ and DNRC administer the Water Pollution Control State Revolving Fund Loan Program.

Eligible water quality projects include wastewater treatment plant improvements, interceptors, collectors and lift stations, lagoon construction and rehabilitation, engineering and project inspection, and land used for disposal purposes. All projects must be included in a project priority list and intended use plan for the fiscal year in which funding is anticipated, and the ability to repay loan funding must be demonstrated.

Eligible applicants are municipalities for wastewater projects as well as municipalities and private entities for nonpoint source projects. The current interest rate for loans is 3.75 percent with payment schedules not to exceed 20 years. Water Pollution Control projects qualifying as disadvantaged may extend the payment term up to 30 years. Applications are accepted year-round. Preliminary engineering analysis must be reviewed prior to submittal of application.

Montana Department of Commerce, Treasure State Endowment Program Construction Grants (TSEP)

The Treasure State Endowment Program (TSEP) awards matching grants to local governments for construction of local infrastructure projects. TSEP construction grants provide help in financing infrastructure projects throughout Montana. Eligible applicants include incorporated cities and towns, counties, consolidated governments, Tribal governments and county or multi-county water, sewer or solid waste districts.

A dollar-for-dollar match is required, but in cases of extreme financial hardship where the public's health and safety are seriously affected, grants up to 75 percent of the project costs may be awarded. Matching funds can be public or private funds. Construction grant applications are limited to a maximum of $750,000. Applications are typically due the first week of May on even numbered years.

US Department of Agriculture, Water and Environmental Load and Grant Program (WEP)

Water and Environmental Programs (WEP) loans and grants provide funding for drinking water, sanitary sewer, solid waste and storm drainage facility projects in rural areas and cities and towns of 10,000 or less. WEP also makes grants to nonprofit organizations to provide technical assistance and training to assist rural communities with their water, wastewater and solid waste problems. Eligible projects include construction, repair and expansion of water, wastewater, storm water and solid waste systems.

Public bodies, non-profit organizations and recognized Indian Tribes are all eligible applicants for the program. This funding opportunity is capped at 75 percent of total project costs. Applications are accepted on a continual basis.

Economic Development Administration, Public Works Grant Program

The Economic Development Administration (EDA) provides public works investments to support construction or rehabilitation of essential public infrastructure and facilities to help communities and regions leverage their resources and strengths to create new and better jobs, drive innovation, become centers of competition in the global economy and ensure resilient economies.

Eligible projects are those pertaining to water and wastewater systems that address national strategic priorities, assist economically distressed and underserved communities, demonstrate a good return on EDA's investment through job creation or retention, demonstrate or support regional collaboration and employ public-private partnerships to use both public and private resources and/or leverage complementary investments.

Eligible applicants include municipalities, counties, and Indian Tribes. The maximum award attainable is 75 percent of project cost. Application deadlines are variable and would need to be determined at the time of application.

US Department of Interior, Water Grant Program System Optimization Review Grant

The Water Program focuses on improving water conservation, sustainability and helping water resource managers make sound decisions about water use. It identifies strategies to ensure present and future generations will have enough clean water for drinking, economic activities, recreation and ecosystem health. The program also identifies adaptive measures to address climate change and its impact on future water demands.

Eligible projects include any plan of action that focuses on improving efficiency and operations on a regional or basin perspective. Eligible applicants include the state, Indian Tribes, irrigation districts, water districts or other organizations with water or power delivery authority.
A 50 percent match is required for this funding opportunity and the maximum award attainable is $300,000.

Transportation Goals and Objectives

Goal 1: Preserve, maintain, and improve the existing transportation system		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Update the Long-Range Transportation Plan (LRTP)	Planning Dept City Council County Commission	Mid-term
Establish a systematic approach for the maintenance and repair of the road network.	City/County Public Works City Council County Commission	Short-term
Develop a Capital Improvement Plan to identify and prioritize significant transportation projects	City Council County Commission City/County Public Works	Short-term Mid-term
Establish a road network master plan to ensure street continuity, traffic flow, and neighborhood connectivity	Planning Dept Planning Board City/ County Public	Mid-term Long-term
Promote fiscal responsibility and high return on investment	Clerk-Treasurer City-Council County Commission City/ County Public Works	Immediate
Coordinate roadway improvement projects to coincide with underground infrastructure improvements	Public Works Planning Dept MDT	Immediate

Goal 2: Improve the mobility, safety, and accessibility of all users and modes of travel		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Implement bicycle and pedestrian improvements and traffic calming measures to transform the downtown area into a pedestrian-friendly place	Planning Dept City/County Public Works MDT	Mid-term Long-term
Create a looping bicycle/pedestrian trail and street system that connects different areas of Laurel	Planning Dept Planning Board	Long-term
Adopt pedestrian and multi-modal friendly transportation standards and safety measures	Planning Board Public Works City Council	Short-term Mid-term

Explore options to improve and expand the Laurel Transit program and strategies to create other multi-modal transportation	Planning Dept Clerk-Treasurer	Mid-term Long-term
Partner with local, regional, and statewide groups to further integrate Laurel into the more comprehensive passenger transportation network	Planning Dept Planning Board City Council	Long-term

Goal 3: Connect transportation decisions to land-use decisions		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Integrate land-use planning and transportation planning to manage better and develop the transportation network.	Planning Dept Public Works MDT City Council	Short-term
Utilize transportation projects to encourage intensive development patterns along significant routes and existing areas of the City	Planning Dept Public Works	Short-term
Adopt and implement consistent system policies and maintenance standards	Public Works City Council	Short-term
Ensure the development of a sustainable transportation system that minimizes environmental impacts	Planning Dept Planning Board City Council	Long-term

Economic Development Goals and Objectives

Goal 1: Develop downtown Laurel as a destination to live, work, and play		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Institute placemaking projects to further enhance district character	Planning Dept LURA Chamber of Commerce	Short-term
Increase live-work opportunities for current and future residents and businesses	Planning Dept	Long-term
Apply Tax Increment Financing (TIF) funding to beautification, blight removal, and public improvement projects	LURA Planning Dept City Council	Mid-term Long-term
Identify and find solutions for unused or underused parcels as candidates for development	Planning Dept LURA	Mid-term

Goal 2: Create a resilient local economy		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Strengthen core businesses and industries through communication and connections with technical support	Planning Dept Chamber of Commerce BSEDA	Immediate
Ensure that local economic activities are inclusive and accessible to all stakeholders	Chamber of Commerce BSEDA	Immediate
Implement policies that create stable and sustainable economic growth	Planning Dept City Council County Commission	Long-term
Work to highlight the shared benefits of working together as a community with local businesses stakeholders, and developers	Planning Dept Chamber of Commerce BSEDA	Immediate
Provide an economic ecosystem that allows for a wide array of businesses, industries, and developments to thrive	Planning Dept Chamber of Commerce Big Sky EDA Beartooth RC&D City Council County Commission	Mid-term Long-term

Study and implement policies to enhance local business demand and alternative strategies for value creation for the community	Chamber of Commerce BSEDA Beartooth RC&D	Long-term

Goal 3: Collaborate with area organizations to support economic growth and local employment and training opportunities		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Communicate with local groups to determine any needs and assistance	Planning Dept BSEDA Beartooth RC&D	Immediate
Create partnerships with local and regional groups to fill local service gaps and create needed programming	City Council City/County Departments County Commission	Mid-term
Take part in events and workshops to support local business initiatives and activities	Planning Dept Chamber of Commerce City Council County Commission	Immediate Short-term
Establish common ground with local and regional groups to provide resources and assistance	BSEDA Planning Dept	Mid-term Long-term
Connect residents and businesses with like-minded economic, financial, and entrepreneurship resources and opportunities	Planning Dept BSEDA Chamber of Commerce	Mid-term Long-term

Goal 4: Study options for new commercial and industrial properties in anticipated high-growth areas		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Create a Corridor Master Plan for growth in and around the intersection with Old Route 10 and the West Laurel Interchange	Planning Dept City Council County Commission	Mid-term
Study options and determine priorities for the possible establishment of Tax Increment Financing Districts (TIFs) and Targeted Economic Development Districts (TEDDs)	City Council County Commission Planning Dept BSEDA Beartooth RC&D	Short-term Mid-term

Review and pursue opportunities for clustered commercial or industrial parks	Planning Dept BSEDA Beartooth RC&D City Council County Commission Chamber of Commerce	Short-term Mid-term
Develop funding strategies to provide services for priority growth areas.	Planning Dept City/County Public Works Clerk-Treasurer	Short-term Mid-term

Economic Development Funding Opportunities

Community Development Block Grant Program

Each year the US Entity of Housing and Urban Development (HUD) allocates grant funding to the Montana Department of Commerce for the Community Development Block Grant (CDBG) program. Funds are intended to benefit low or moderate-income persons, aid in prevention or elimination of slums or meet urgent community development needs. CDBG is broken into five different funding categories: Planning, Public Facilities, Housing and Neighborhood Renewal, Neighborhood Stabilization Program and Economic Development.

Eligible applicants include counties, incorporated cities and towns, and consolidated city-county governments. Deadlines are staggered throughout the year with planning grants being offered one year and construction grants the following year generally.

Montana Department of Commerce, Montana Main Street Program

The mission of the Montana Department of Commerce Main Street program is to be a coordinating resource for communities seeking to revitalize their historic downtown or core commercial districts and to provide technical assistance to communities of all sizes. The underlying premise of the Montana Main Street Program is to encourage economic development within the context of historic preservation.

In 2011, the project began gearing toward community development. The Montana Main Street Program was awarded a Preserve America sub grant from the Montana State Historic Preservation Office (SHPO) in 2011. The purpose of the grant was to focus on core and downtown planning and to build capacity under the Main Street program. It was this sub grant that focused the program toward community development.

Public Facilities and Services Goals and Objectives

Goal 1: Provide consistent and high-quality public services to the community		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Develop standard operating procedures to ensure consistency for city and county departments	City Council County Commission City/County Public Works Planning Dept EMS Fire Dept ~~Police Dept~~ Law Enforcement	Mid-term Long-term
Develop maintenance procedures for parks, facilities, and public areas.	City/County Public Works	Mid-term
Study current facilities and services to identify gaps and determine projected needs in services	City Council County Commission City/County Public Works	Mid-term

Goal 2: Respond to the changing nature of the community		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Plan for the expansion of public facilities in priority growth areas	Planning Dept City Council County Commission City/County Departments	Short-term Mid-term
Invest in public facilities that are accessible to everyone in the community	City/County Public Works	Long-term
Study how to improve city services to boost the quality of life for residents, businesses, and institutions	Planning Dept Public Works	Long-term

Goal 3: Work with city and county departments and local stakeholders to determine the priority expansion of public facilities and services		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Open lines of communication between city/county departments and local stakeholders to gather input on major projects	City/County Departments MDT County Commission City Council Chamber of Commerce	Immediate
Consider the public service requirements of large-scale projects before their approval and implementation	Planning Dept Public Works	Immediate
Develop plans for the expansion of Fire, ~~Police~~ Law Enforcement, and EMS facilities	Planning Dept City /County Public Works Fire Dept Police Dept Sheriff Dept EMS	Short-term Mid-term

Recreation Goals and Objectives

Goal 1: Develop parkland as an essential and enjoyable amenity for residents		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Ensure new developments have appropriate park space for recreation and general use	Planning Dept Public Works County Parks Board City Council County Commission	Immediate Short-term
Study how existing parks can be improved through new facilities, changed layouts, or additions	Public Works County Parks Board Planning Dept	Mid-term Long-term
Review current park infrastructure and determine if improvements are necessary to serve the needs of the surrounding area better	Public Works County Parks Board Planning Dept	Long-term

Goal 2: Promote Riverside Park as a vital historic, civic, and recreation resource for residents and visitors		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Adhere to the projects and strategies presented in the 2018 Riverside Park Master Plan	Planning Dept Public Works City Council	Immediate

Seek grant funding for structural and site improvements	Planning Dept City Council	Immediate
Develop historic markers for Riverside Park and its historic structures	Planning Dept YC Historic Pres. Board Western Heritage Center	Mid-term
Study options for connecting Riverside Park to the city proper through infrastructure improvements, civic engagement, or other means	Planning Department Public Works City Council	Long-term
Establish signage and marketing for the assets and resources of Riverside Park to area residents and visitors	Planning Dept YC Historic Pres. Board Western Heritage Center	Mid-term

Goal 3: Create an interconnected system of parks, greenspace, and trails that are accessible to all		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Create a city-wide Park System Master Plan to develop project priorities	Planning Dept Park Board	Mid-term
Consider the creation of a City Parks Department to oversee park operations and maintenance	Public Works Park Board City Council	Long-term
Identify unused land that can be transformed into green space or trails for use by the public	Park Board Public Works Planning Dept	Mid-term Long-term
Update the zoning and development codes to encourage the creation of bicycle and pedestrian trail corridors	Planning Dept	Short-term Mid-term

Natural Resource Goals and Objectives

Goal 1: Protect Laurel's planning jurisdiction and natural resources and traditional environment		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Provide options for landowners for conserving portions of their land while developing others	Planning Dept Planning Board City Council County Commission	Short-term Immediate
Achieve a balanced pattern of growth to ensure environmental concerns are considered during the development	Planning Dept	Long-term
Manage the local water resources as a healthy, integrated system that provides long-term benefits from enhanced environmental quality	Planning Dept Public Works Montana DEQ Montana DNRC	Immediate

Goal 2: Incorporate sustainable development patterns in the Laurel subdivision and land use codes		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Review and update existing zoning and subdivision regulations to ensure environmental preservation and conservation are addressed	Planning Board Planning Dept City Council County Commission	Short-term
Review and update landscaping ordinances as needed to best suit Laurel's natural environment	Planning Board	Mid-term
Manage rivers, floodplains, wetlands, and other water resources for multiple uses, including flood and erosion protection, wildlife habitat, recreational use, open space, and water supply	Planning Dept Planning Board City/County Departments	Immediate

Goal 3: Connect with local, regional, and state agencies and stakeholders to improve the natural environment in and around Laurel		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Sponsor environmental cleanup and rehabilitation programs that include the City, County, school district, community organizations, and residents	City Council County Commission	Mid-term
Participate in regional watershed studies to achieve adequate long-term flood protection	Planning Board City/County Departments	Long-term
Explore the possibility of creating a conservation corridor along the Yellowstone River	Planning Dept County Park Board County Commission	Long-term

Intergovernmental Coordination Goals and Objectives

Goal 1: Establish lines of communication with local, county, and state partners		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Create an accurate directory of government representatives and staff	~~Clerk-Treasurer~~ City Planner	Immediate
Update governmental stakeholders regarding ongoing projects and work in the Laurel area	City Council County Commission Planning Dept	Short-term
Develop working relationships with legislators, staff, and stakeholders at different levels of government	City Council Department Heads	Immediate

Goal 2: Coordinate with local and regional institutions to support and grow the Laurel community		
OBJECTIVES	RESPONSIBLE ENTITY	TIME FRAME
Work with economic development groups to seize opportunities for business growth	Chamber of Commerce BSEDA Beartooth RC&D City Council	Immediate

Connect area businesses with institutions and governmental groups that can support their mission	Chamber of Commerce BSEDA Beartooth RC&D	Immediate
Communicate with area legislators to provide information on growth patterns and development in the Laurel area.	City Council Planning Dept	Short-term
Maintain open communications with state agencies and the Board of County Commissioners to confirm compliance with statewide codes and operational needs.	City Council Department Heads	Long-term

Ongoing inter-governmental coordination efforts will be maintained. The City of Laurel has inter-local agreements with the School District on cooperative efforts, the shared use of facilities, and other areas of mutual interest. The City interacts with a number of agencies and organizations including but not limited to the Laurel School District, Eastern Montana Drug Task Force (EMDTF), Fish, ~~Widlife~~ Wildlife & Parks (FWP), Department of Environmental Quality, (DEQ), Department of Natural Resources and Conservation (DNRC), and the many departments and shared Yellowstone County jurisdictions.

It will be important to maintain regular communications between City officials and the many local, county, regional, and state groups to discuss ongoing efforts and coordination activities. The County Commissioners have a direct impact on the Laurel area through the four members they appoint to the Laurel City-County Planning Board. This is done due to the mixed city-county make-up of the Laurel planning area that encompasses the city as well as areas within the County jurisdiction. A copy of the 2020 Laurel Growth Management Policy will be submitted to the Yellowstone County Commissioners for review and comment prior to the official adoption by the City Council.

The 2023 update to the Laurel Growth Management Policy is rewritten to rebrand the policy as the Laurel-Yellowstone City-County Planning Jurisdiction Growth Management Policy. Changes to the policy were needed to incorporate properties outside the City of Laurel but within the planning jurisdiction. County departments were added to include the public services that are reflective in the area adjacent to the City of Laurel. The Growth Management Policy 2023 update will serve as a guiding document for the City and County Governments but in no way obligates either entity to strict adherence to this document.

RESOLUTION NO. 2024-01

LAUREL – YELLOWSTONE CITY COUNTY PLANNING BOARD

A resolution of the Laurel - Yellowstone City County Planning Board to recommend adoption of the 2023 Laurel - Yellowstone City County Growth Policy and implementation measures by the City of Laurel and the Yellowstone County Commissioners.

WHEREAS: The Yellowstone County Commission and the City of Laurel City Council tasked the Planning Board with the preparation of a Growth Policy for Laurel - Yellowstone City County Planning Jurisdiction, AND;

WHEREAS: The Planning Board approved an action plan incorporating public input and an approximate timeline for the adoption of an updated Growth Policy for Yellowstone – Laurel Planning Jurisdiction, AND;

WHEREAS: The Planning Board conducted a series of public meetings, surveys and outreach to encourage public participation in the preparation of the Growth Policy, AND;

WHEREAS: The Planning Board considered several strategies and policies that could be adopted by the County Commissioners to implement the Growth Policy, AND;

WHEREAS: The Planning Board encouraged both written and verbal testimony on issues and items of concern related to the future growth and development expected to occur during the life of the new Growth Policy. AND;

WHEREAS: The proposed Growth Policy addresses all of the statutory components of a Growth Policy found in §76-1-601 et. seq. MCA to the extent acceptable to the Planning Board, AND;

WHEREAS: The Planning Board did conduct a public hearings of the Growth Policy on December 20, 2023 and February 21, 2024. AND;

NOW THEREFORE BE IT RESOLVED, by the Laurel - Yellowstone City County Planning Board to recommend that the Governing Bodies of Yellowstone County and the City of Laurel, Montana Adopt the Laurel - Yellowstone City County Growth Policy in accordance with §76-1-604 MCA.

BE IT FURTHER RESOLVED, By the Laurel - Yellowstone City County Planning Board that the following regulations, policies, plans and strategies be considered by the County Commissioners to implement the Growth Policy:

- Subdivision Regulations;
- Design and Development Standards;
- Capital Improvements Planning;
- Economies of scale in the provision of local government services;
- Empower City/Town Governments;
- Comprehensive Economic Development Strategy.
- Zoning Regulations
- Floodplain Hazard Management Regulations.

Dated this 21th day of February 2024.

_____
Laurel - Yellowstone City County Planning Board
Judy Goldsby, President

_____
Kurt Markegard, Executive Secretary

PUBLIC HEARING NOTICE

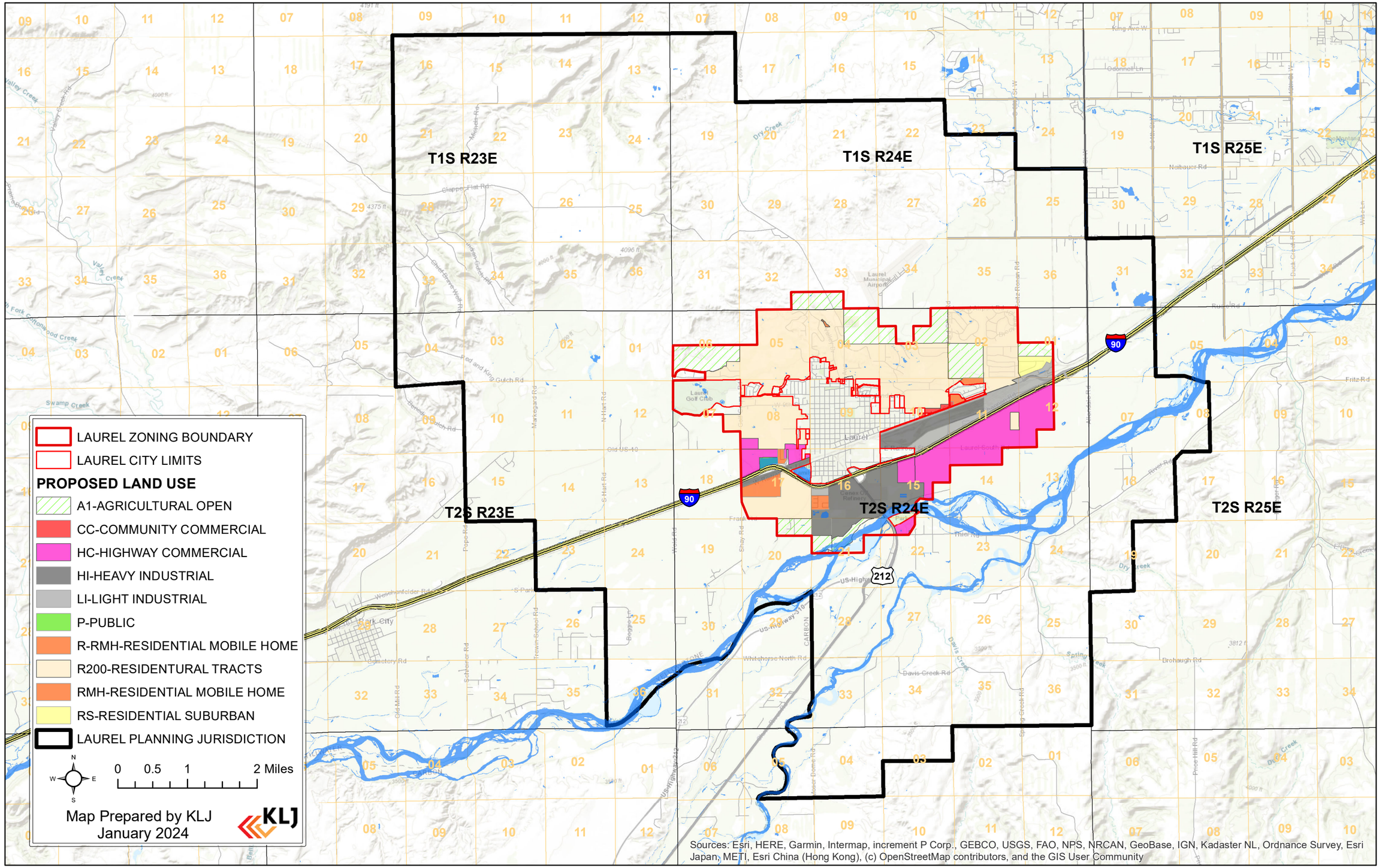
The **Laurel-Yellowstone City-County Planning Board and Laurel's Zoning Commission** will conduct two(2) public hearings on February 21, 2024.

Public Hearing for Laurel-Yellowstone City-County Growth Management Policy 2023 Update

Public Hearing for the annexation into the City of Laurel and assignment of zoning "Public" for the property described as Nutting Bros 2nd Filing -Lots 1 and 2 by the Laurel School District. The property is located southeast of the intersection of East Maryland Lane and Alder Ave and is owned by the Laurel School District.

The hearings are scheduled for **6 P.M., in the Laurel City Council Chambers at City Hall, 115 West 1st Street, Laurel, Montana, on Wednesday, February 21, 2024.**

Public comment is encouraged and can be provided in person at the public hearing on February 21, 2024. Public comments can also be made via email to the Planning Director, or via letter to the Planning Department office at 115 West 1st Street Laurel, MT 59044. **Emails or letters of comments should be received by 2pm MST February 15, 2024 so they can be transmitted to the Planning Board members prior to the meeting.** Copies of the documentation and regulations are available for review upon request at the Planning Department office. Questions regarding these public hearings may be directed to the Planning Director at 406-628-4796 ext. 5305, or via email at cityplanner@laurel.mt.gov.



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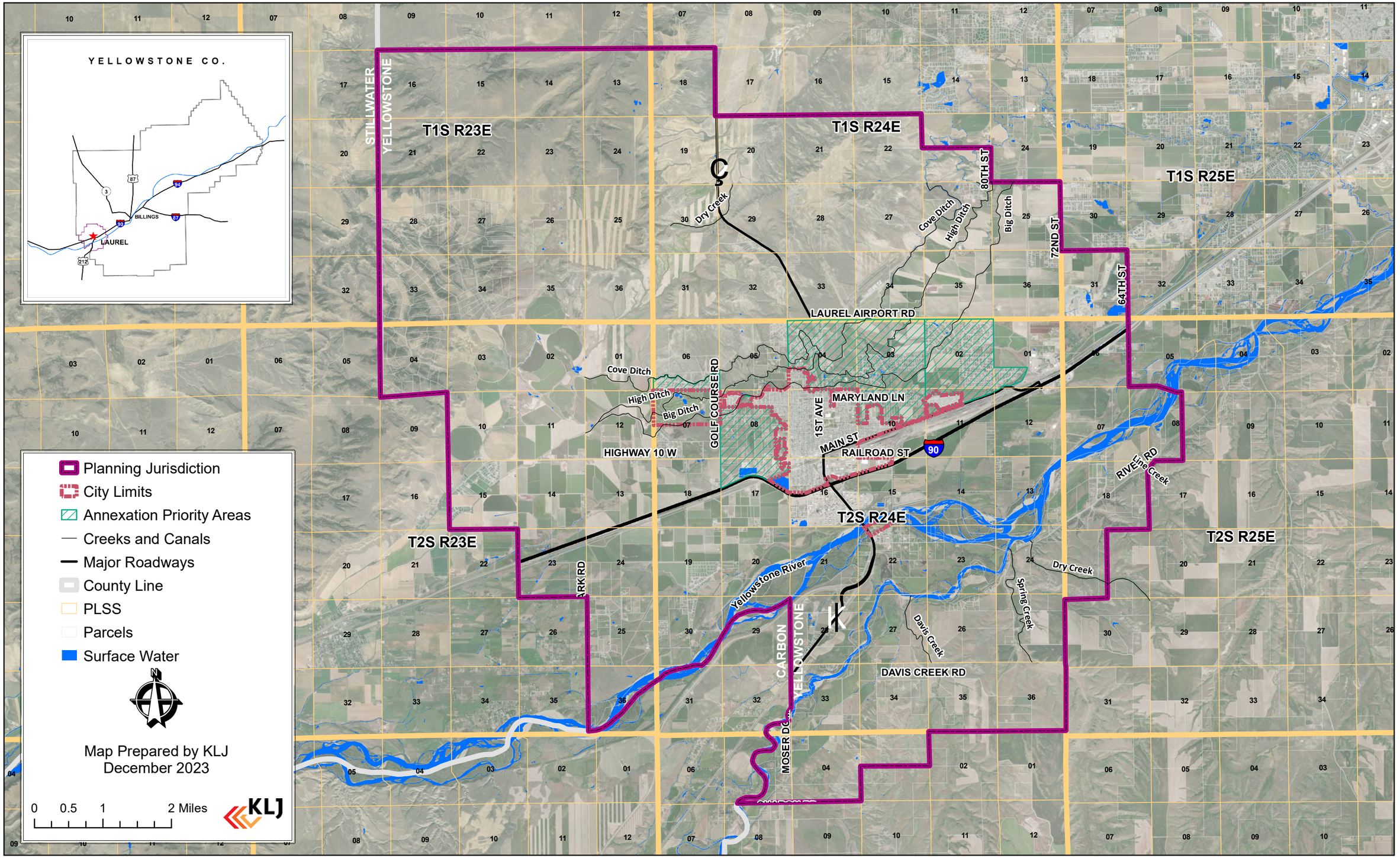
FUTURE LAND USE



PLANNING JURISDICTION

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File Attachments for Item:

9. Resolution - Resolution Of Annexation Of Property Legally Described As The Amended Plat Of Lots 1 & 2 Of Nutting Brothers Subdivision, Second Filing, Lot 1a, Adjacent To The City Of Laurel, As An Addition To The City Of Laurel, Yellowstone County, Montana, With Concurrent Approval Of Zoning Designation Upon Annexation Of The Property.

RESOLUTION NO. R23-_____

RESOLUTION OF ANNEXATION OF PROPERTY LEGALLY DESCRIBED AS THE AMENDED PLAT OF LOTS 1 & 2 OF NUTTING BROTHERS SUBDIVISION, SECOND FILING, LOT 1A, ADJACENT TO THE CITY OF LAUREL, AS AN ADDITION TO THE CITY OF LAUREL, YELLOWSTONE COUNTY, MONTANA, WITH CONCURRENT APPROVAL OF ZONING DESIGNATION UPON ANNEXATION OF THE PROPERTY.

WHEREAS, a Petition for Annexation was submitted to the City of Laurel by the Laurel Public Schools, who is the property owner (hereinafter "Petitioner") of certain real property situated in Yellowstone County, Montana;

WHEREAS, the real property is generally described as the Amended Plat of Lots 1 & 2 of Nutting Brothers Subdivision, Second Filing, Lot 1A, Yellowstone County, Montana. The real property is generally reflected on the Exhibits to the Petition for Annexation, which is incorporated by reference herein, and it includes all contiguous roadways and rights-of-way;

WHEREAS, the property is currently unzoned, and Petitioner intends to utilize the property, if annexed, for a Public Elementary School;

WHEREAS, the property is currently outside of City of Laurel City limits, and Petitioner seeks annexation of the property and a concurrent Zoning Designation as "Public";

WHEREAS, pursuant to the City of Laurel's Annexation Policy, the City Council shall consider various criteria when it receives a written Petition for Annexation, which are fully incorporated by reference herein;

WHEREAS, further pursuant to the City of Laurel's Annexation Policy, the City Council may decide to either condition the approval of the annexation in order to meet the criteria listed in the City of Laurel's Annexation Policy or require an Annexation Agreement;

WHEREAS, Petitioner currently seeks annexation of its property into the City of Laurel, contingent upon completion of the terms of the Annexation Agreement, attached hereto and fully incorporated herein, which identifies required off-site infrastructure improvements and guarantees of those improvements;

WHEREAS, the Laurel City-County Planning Board held a duly advertised public hearing on Petitioner's Petition for Zoning Designation on March 20, 2024. At the conclusion of the hearing, the Planning Board voted to recommend approval to the City Council of the Zoning Designation, conditioned upon approval of the proposed annexation; and

WHEREAS, the City Council held a duly advertised public hearing regarding Petitioner's Petition for Annexation and Concurrent Approval of Zoning Designation on

_____. At the conclusion of the hearing, the City Council determined that approval of the Petition for Annexation and Concurrent Approval of Zoning Designation is in the best interests of the City at this time;

WHEREAS, the annexation of the property and zoning is subject to an Annexation Agreement by and between the City of Laurel and the Petitioner, which will be executed by and between the Petitioner and the City of Laurel and will be attached hereto and fully incorporated as part of this Resolution.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Laurel, Montana, as follows:

1. The owner of record of the territory annexed to the City of Laurel has executed a Petition of Annexation.

2. Pursuant to Mont. Code Ann. § 7-2-46, the incorporated boundaries of the City of Laurel shall be and the same hereby is extended and/or expanded to include the territory described in Petitioner's Petition for Annexation and all attached Exhibits.

3. The following described territory is hereby annexed to the City of Laurel: Amended Plat of Lots 1 & 2 of Nutting Brothers Subdivision, Second Filing, Lot 1A, Yellowstone County, Montana. The real property is generally reflected on the Exhibits to the Petition for Annexation, which is incorporated by reference herein, and it includes all contiguous roadways and rights-of-way.

4. The owner of record of the territory annexed to the City of Laurel and the City of Laurel will execute an Annexation Agreement, which terms and conditions are made a part of this Resolution and the Petition for Annexation.

5. That the approval of the annexation is conditioned as follows:

   A. On all terms, conditions, and requirements of the Annexation Agreement between the City of Laurel and Petitioner.

   B. The Waiver of Right to Protest, a copy of which is attached hereto and incorporated by reference herein, and this Resolution, shall be recorded with the County Clerk and Recorder within ninety (90) days after the adoption of this Resolution.

   C. Connections to the City of Laurel Water and Sewer Systems shall be approved by the City of Laurel's Public Works Department.

D. All improvements and infrastructure connections shall be completed within one calendar year from the date this Resolution is approved.

6. That the approval of the zoning designation is conditioned upon approval of the annexation, and upon approval of the annexation, the property shall be zoned as "Public."

7. This Resolution shall be incorporated into the official minutes of the City Council, and upon said incorporation, the City Clerk-Treasurer shall file a true and correct certified copy of this Resolution and Meeting Minutes with the Yellowstone County Clerk and Recorder.

8. From and after the date that the City Clerk-Treasurer files such certified copy of this Resolution and of the City Council Meeting Minutes with the Yellowstone County Clerk and Recorder, this Annexation of the above-described territory to the City of Laurel shall be deemed complete and final.

9. Annexation and the City's responsibility for providing service to the property shall become null and void upon Petitioner's failure to satisfy the conditions imposed by the City Council by and through this Resolution, the Petition for Annexation, and the Annexation Agreement by and between the City of Laurel and the Petitioner.

Introduced at a regular meeting of the City Council on the _____ day of _____, 2023, by Council Member _____.

PASSED and APPROVED by the City Council of the City of Laurel the _____ day of _____, 2023.

APPROVED by the Mayor the _____ day of _____, 2023.

CITY OF LAUREL

_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

APPROVED AS TO FORM:

_____
Michele L. Braukmann, Civil City Attorney

MOGAN ELEMENTARY SCHOOL
TRAFFIC IMPACT STUDY

23103

Adam Baumgartner, AIA
A&E Design
124 North 29th Street, Suite 100
Billings, MT 59101

Placemaking

Infrastructure Engineering

Surveying + Mapping

Community Planning

Landscape Architecture

Branding + Visualization

October 2023

SANDERSON STEWART

ENDURING COMMUNITY DESIGN

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INTRODUCTION

This traffic impact study (TIS) assesses the traffic-related impacts associated with the proposed Mogan Elementary School located on Alder Avenue in Laurel, Montana on the surrounding transportation system. This report also provides recommendations to mitigate any such impacts. The methodology and analysis procedures used in this study employ the latest technology and nationally accepted standards in the areas of site development and transportation impact assessment. Recommendations made in this report are based on professional judgment and these principles.

SITE LOCATION AND DESCRIPTION

The proposed Mogan Elementary School is located on the northeast quadrant of the intersection of Alder Avenue and East 8th Street in Laurel, Montana. The site is bordered by sports fields and East Maryland Lane to the north, a vacant lot to the east with residences in the southern area, East 8th Street to the south, and Alder Avenue to the west. Figure 1 on the following page depicts the study area.

SITE DEVELOPMENT PLAN

The site development plan proposes construction of a 72,000 square-foot elementary school for 3rd through 5th grades with a total enrollment capacity of 588 students. Site access for visitors and buses is proposed via two one-way movement approaches on the west side of the site from Alder Avenue. Site access for parent drop-off, staff, and deliveries is proposed via two one-way approaches into the parking lot on the south from East 8th Street. The eastern access on East 8th Street is currently proposed to be entrance-only and the western access would be exit-only. Figure 2 on the page three illustrates the current proposed site layout and lot configuration.

EXISTING CONDITIONS

Streets

Figure 3 on page four shows the Montana Department of Transportation (MDT) functional street classifications and speed limits on the study area streets. Alder Avenue has curb and gutter south of East 7th Street but not in the project area. East Maryland Lane does not have curb and gutter. East 6th Street has curb and gutter, and East Main Street has curb and gutter just along the north side of the road. There is a center two-way left-turn lane (TWLTL) on East Main Street, which has a five (5) lane section west of Alder Avenue and a three (3) lane section east of Alder Avenue. There are no turn lanes near the proposed school.

Intersections

Figure 3 also shows the traffic control utilized at each study area intersection. All intersections are stop-controlled or uncontrolled and no intersections in the study area have dedicated turn lanes.

Figure 1: Study Area

Figure 2: Site Layout

Figure 3: Street & Intersection Characteristics

Bicycle/Pedestrian Facilities

There is sidewalk along Alder Avenue from East Main Street to East 6th Street. There is sidewalk on the north and south sides of East 6th Street and along the north side of East Main Street. There are no other bicycle or pedestrian facilities on study area streets.

Traffic Volumes

Weekday AM, After School, and PM peak hour turning movement counts were collected at study intersections on Wednesday, September 20, 2023. The traffic data was collected using Miovision Scout video-based systems. The weekday AM, After School, and PM peak hour periods were found to occur from 7:30 to 8:30 AM, 2:30 to 3:30 PM, and 5:00 to 6:00 PM. Raw count data was adjusted for seasonal variation using MDT seasonal adjustment factors. Figure 4 on page six summarizes the calculated Existing Conditions (2023) peak hour turning movement volumes for the AM, After School, and PM peak hours. Detailed traffic count data worksheets are included in Appendix A.

Intersection Capacity

Intersection capacity calculations for Existing Conditions (2023) were performed for the study area intersections using PTV Vistro 2023 software, which is based on the Highway Capacity Manual, 7th Edition (Transportation Research Board, 2022). Level of service (LOS) is defined as a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. LOS is a qualitative measure of the performance of an intersection with values ranging from LOS A, indicating good operation and low vehicle delays, to LOS F, which indicates congestion and longer vehicle delays. LOS C is generally considered as the minimum acceptable performance level for planning and design purposes.

The results of the Existing Conditions (2023) intersection capacity calculations showed all study area intersections and approaches operate at LOS B or better during the AM, After School, and PM peak hours with minimal 95th percentile queueing. The East 8th Street/Alder Avenue intersection was assumed to operate with westbound stop-control, although there is not currently a stop sign present at this intersection. Figure 4 also shows the Existing Conditions (2023) LOS results at each intersection. A detailed capacity summary table and capacity calculation worksheets for each of the study area intersections can be found in Appendix B.

Crash History

Historical crash data was obtained from MDT for the five-year period from January 1, 2017, through December 31, 2021, for the study area intersections. The data was analyzed for the purposes of calculating intersection crash and severity rates and evaluating collision type trends. Tables 1 and 2 on page seven illustrate the results of that analysis.

Intersection crash rates were calculated on the standard basis of crashes per million vehicles entering (MVE) for each intersection. The MVE metric was estimated based on 2023 peak hour traffic counts and published historical ADT volumes from the MDT website. Crash rates for the study area intersections ranged from 0.00 crashes/MVE to 1.43 crashes/MVE. The highest rate of 1.43 crashes/MVE occurred at the intersection of E Maryland Lane/Alder Avenue.

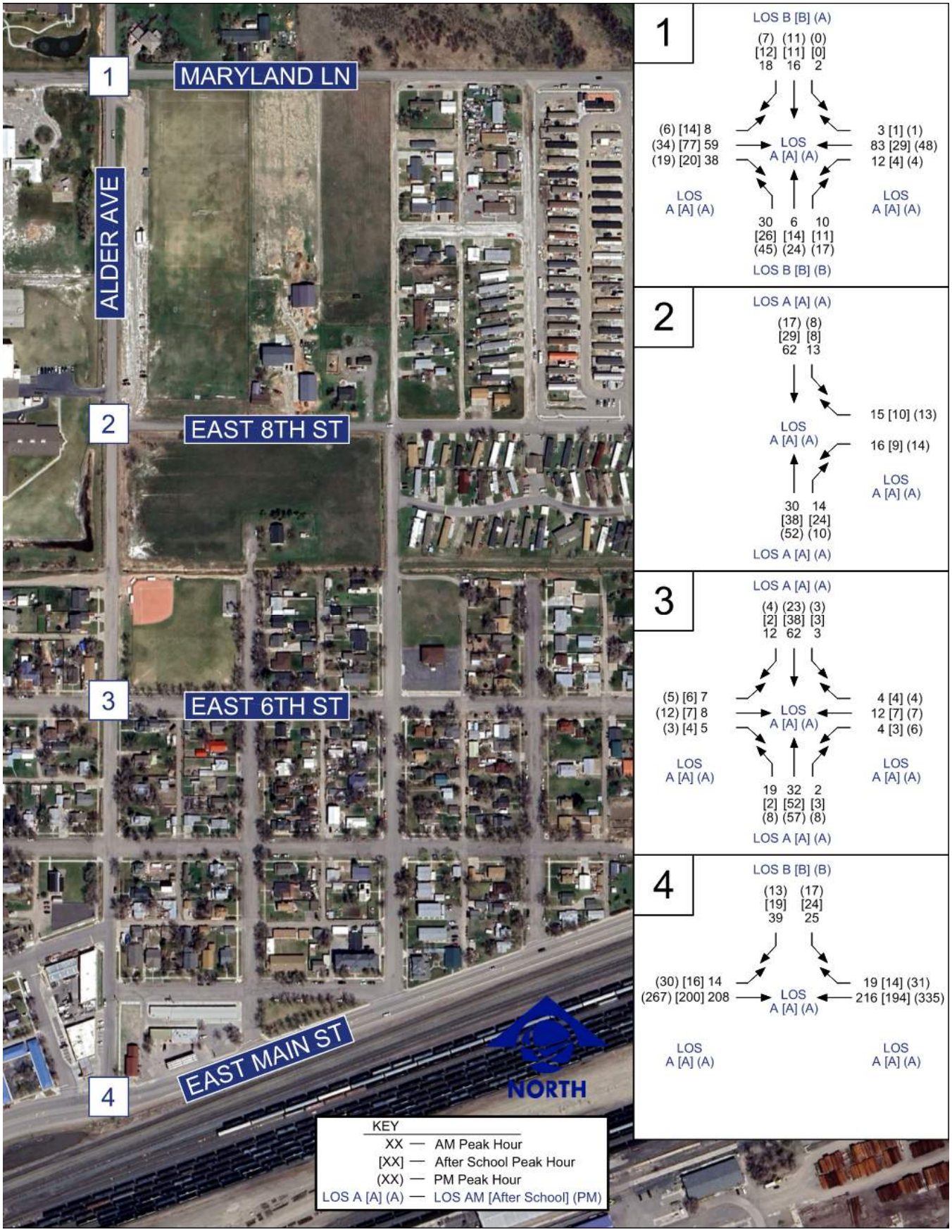


Figure 4: Existing Conditions (2023) Peak Hour Traffic Volumes

Table 1: Crash History - Frequency and Severity Statistics

Intersection	2017-2021 DEV[1]	Reported Crashes[2]	Crash Type			Crash Data[3]			HSM Predictions[4]	
			PDO	Injury	Fatality	Average Crash Frequency (Crash/Yr)	Crash Rate (Crash/ MVE)	Severity Index	Predicted Average Crash Frequency (Crash/Yr)	Predicted Crash Rate (Crash/MVE)
E Maryland Ln/Alder Ave	1273	2	2	0	0	0.40	0.86	0.00	0.39	0.84
E 8th St/Alder Ave	753	0	0	0	0	0.00	0.00	0.00	0.04	0.15
E 6th St/Alder Ave	1058	0	0	0	0	0.00	0.00	0.00	0.12	0.31
E Main St/Alder Ave	5716	1	0	1	0	0.20	0.10	3.00	0.40	0.19

[1] Daily Entering Volume (DEV) estimated from 2023 peak hour counts

[2] Crashes reported from January 1, 2017 to December 31, 2021

[3] Crash rates expressed as crashes per million vehicles entering (MVE)

[4] Rates calculated using Highway Safety Manual (HSM) 1st Edition predictive methodology

As a means of evaluating the historical crash frequency rates, Sanderson Stewart calculated expected rates using the predictive crash rate formulas in the American Association of State Highway Transportation Officials (AASHTO) Highway Safety Manual (HSM). The process involves calculating the number of crashes predicted in a year based on traffic demand (AADTs) and various physical and traffic environment-based conditions, such as lane configurations and traffic control. Sanderson Stewart then back calculated a frequency rate on the basis of one million vehicles entering for the sake of comparison with the actual historical crash rate. The results of the calculations show that the predicted crash rates are greater than or equal to the historical crash rates at all study area intersections. The HSM rate predictions and five-year crash totals for each intersection are summarized in Table 1 above.

Severity indexes were also calculated for the study area intersections. The severity index gives an indication of relative crash severity for a location based on the number of fatal, injury, and property damage only (PDO) crashes. The highest severity index was 3.00 at the intersection of East Main Street/Alder Avenue, which is elevated due to the only crash occurring resulting in an injury. Severity index calculation results are also summarized in Table 1.

Sanderson Stewart also performed an analysis of collision classification to determine if any patterns could be identified. There were no collision trends noted at study area intersections. Table 2 below presents the results of that analysis.

Table 2: Crash History - Collision Type

	Collision Type			
	Right Angle	Left Turn, Opposite Direction	Fixed Object	Total
E Maryland Ln/Alder Ave	1	1		2
E 8th St/Alder Ave				0
E 6th St/Alder Ave				0
E Main St/Alder Ave			1	1

TRIP GENERATION

This study utilized Trip Generation, 11th Edition, published by the Institute of Transportation Engineers (ITE), which is the most widely accepted source in the United States for determining trip generation projections. These projections are used to analyze the impacts of a new development on the surrounding area. For the purposes of this study, Land Use Code 520 – Elementary School was used to estimate trip generation for the proposed Mogan School. Table 3 below illustrates the results of the trip generation calculations for the site.

At full occupancy of 588 students, the school is projected to generate a total of 1,335 gross average weekday trips with 435 trips (235 entering/200 exiting) generated during the AM peak hour and 94 trips (43 entering/51 exiting) generated during the PM peak hour of the adjacent street. During the after school peak hour, the site is projected to generate 265 trips (122 entering/143 exiting).

Trip generation projections provide an estimate of the total number of trips that would be generated by a proposed development. However, to estimate the net number of new trips made by personal vehicles external to the site, adjustments must often be made to account for internal capture trips, pass-by trips, and trips made by alternate modes.

Internal capture (IC) trips are trips that do not have origins or destinations external to a project site and therefore do not have an impact on external traffic operations. IC trips most often occur in mixed-use developments where residential, commercial, and office-related land uses exhibit a high rate of internal trip exchange. It is likely that some form of internal capture would occur between the new Mogan Elementary School and the existing Laurel Middle School across Alder Avenue due to families with children at both schools. However, the main drop-off location and access for the middle school is on the west side of that school facing Washington Avenue, so most trips to both schools will likely still be made via the external street network.

Pass-by trips are trips that are made as intermediate stops on the way from a point of origin to a primary trip destination. Pass-by trips are attracted from traffic "passing by" on an adjacent street that offers direct access to the site. Pass-by trips are primarily attracted by commercial type land uses such as restaurants, convenience markets, and gas stations and were therefore not calculated for Mogan Elementary School.

Trips made by alternate modes (walking, biking, transit) are generally common at schools. However, there is limited sidewalk and other multi-modal facilities along Alder Avenue and other area streets accessing the site. Some multi-modal facilities are anticipated to be installed adjacent to the new school but would not reach beyond the boundary of the school. It is also assumed that the ITE rates include some level of multi-modal trips since the data was collected at existing schools, so any further reduction was not included to be conservative.

Table 3: Trip Generation Summary

Land Use	Independent Variable		Average Weekday			AM Peak Hour			PM Peak Hour			After School Peak		
	Intensity	Units	total	enter	exit	total	enter	exit	total	enter	exit	total	enter	exit
Mogan School[1]	588	Students	1335	668	667	435	235	200	94	43	51	265	122	143
Total New Trips			**1335**	**668**	**667**	**435**	**235**	**200**	**94**	**43**	**51**	**265**	**122**	**143**

(1) Elementary School - Land Use 520* Units = Students

Average Weekday:	Average Rate = 2.27	(50% entering/50% exiting)
Peak Hour of the Adjacent Street, One Hour between 7 and 9 AM:	Average Rate = 0.74	(54% entering/46% exiting)
Peak Hour of the Adjacent Street, One Hour between 4 and 6 PM:	Average Rate = 0.16	(46% entering/54% exiting)
PM Peak Hour of Generator	Average Rate = 0.45	(46% entering/54% exiting)

**Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021

TRIP DISTRIBUTION

Trip distribution is an estimate of site-generated trip routing, which can be determined by several methods, such as computerized travel demand models, calculation of travel time for various available routes, and/or simple inspection of existing traffic patterns within the project area. For this study, distribution percentages were calculated based on existing traffic volumes collected for this study with consideration given to the location of the school in relation to the district enrollment boundary and the greater Laurel area. Figure 5 on page 10 presents the calculated trip distribution scheme for this new development.

TRAFFIC ASSIGNMENT

Traffic assignment is the procedure whereby site-generated vehicle trips are assigned to study area streets, intersections, and site access driveways based on the calculated trip distribution and the physical attributes of the development site. Using this approach, site-generated trips were assigned to the study area street network for the purposes of projecting future traffic volumes for analysis. It was assumed that all trips would be made via the southern parent drop-off area, although some visitor and bus trips are anticipated to occur. The results of the traffic assignment exercise for the AM, After School, and PM peak hours are also illustrated in Figure 5.

TRAFFIC IMPACTS

Traffic Volumes

Based on information provided by the client, a horizon year of 2025 was utilized for the purposes of calculating future traffic projections for this study. It was assumed that full enrollment capacity of the school would be reached in the opening year to be conservative in the Future (2025) analysis. In addition to site-generated trips, background traffic volumes will also likely increase for study area streets and intersections due to general growth on the roadway network. To account for that growth, Sanderson Stewart analyzed historical MDT traffic data at count stations on East Main Street and East Maryland Lane in the vicinity of the study area and determined that an average annual growth rate (AGR) of three (3) percent would be appropriate to apply to existing volumes. Future (2025) volumes were determined by combining the site-generated traffic assignments and existing traffic volumes with anticipated background growth applied. Figure 6 on page 11 illustrates the resulting AM, After School, and PM peak hour traffic volume projections for both scenarios.

Intersection Capacity

Sanderson Stewart performed intersection capacity calculations for the Future (2025) scenario based on the AM, After School, and PM peak hour traffic volume projections presented in Figure 6. Peak hour factors (PHFs) for the design year are typically assumed to be 0.92, per common industry practice and HCM guidelines. However, to match peaking characteristics of the existing street network and adjacent school, existing PHFs were used in the Future (2025) analysis. These values are much lower than 0.92 due to the short duration peaks created by school pick-ups and drop-offs. PHFs at the new site access intersections were obtained by averaging the values at adjacent intersections. Figure 6 also shows the LOS results.

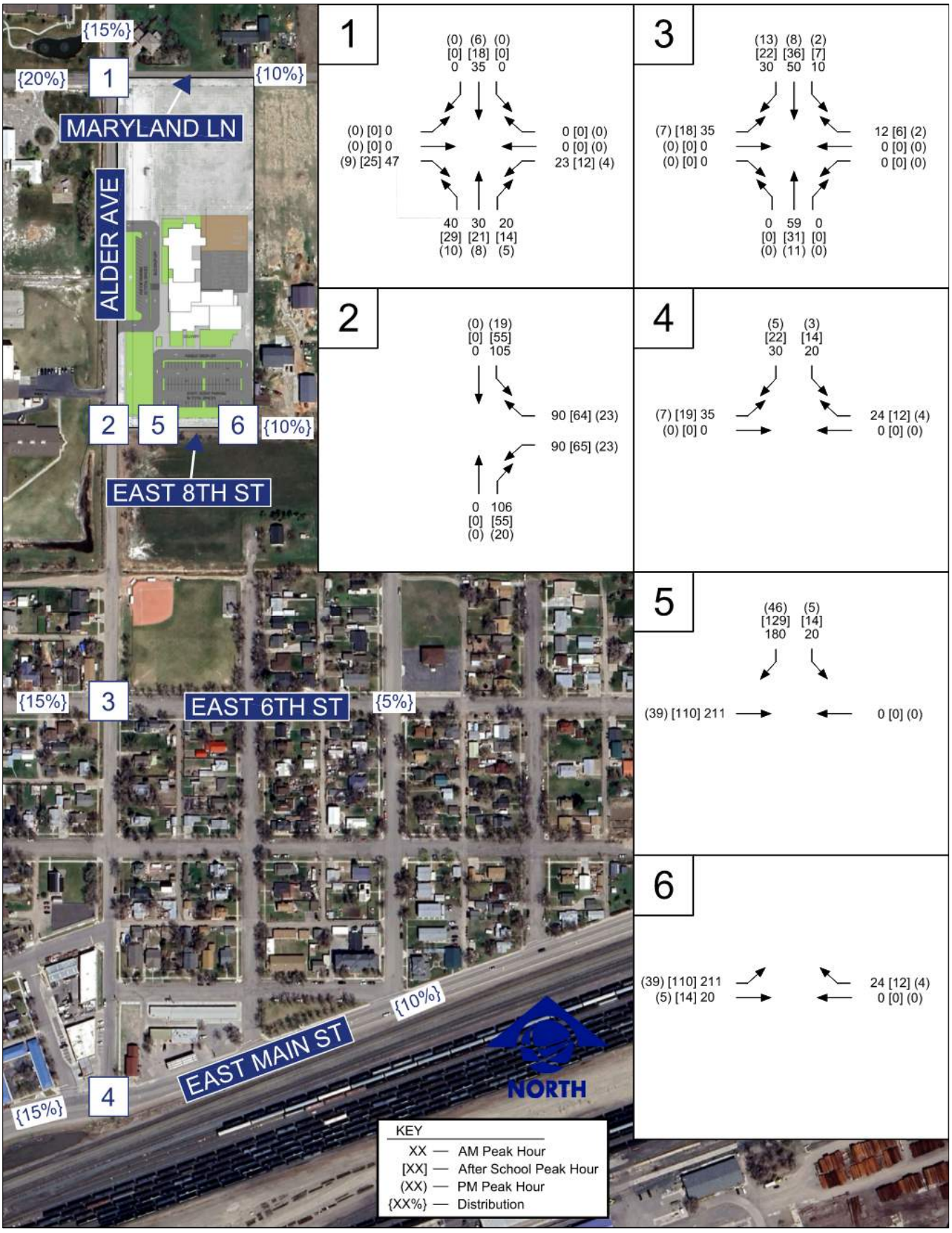


Figure 5: Trip Distribution & Traffic Assignment Summary

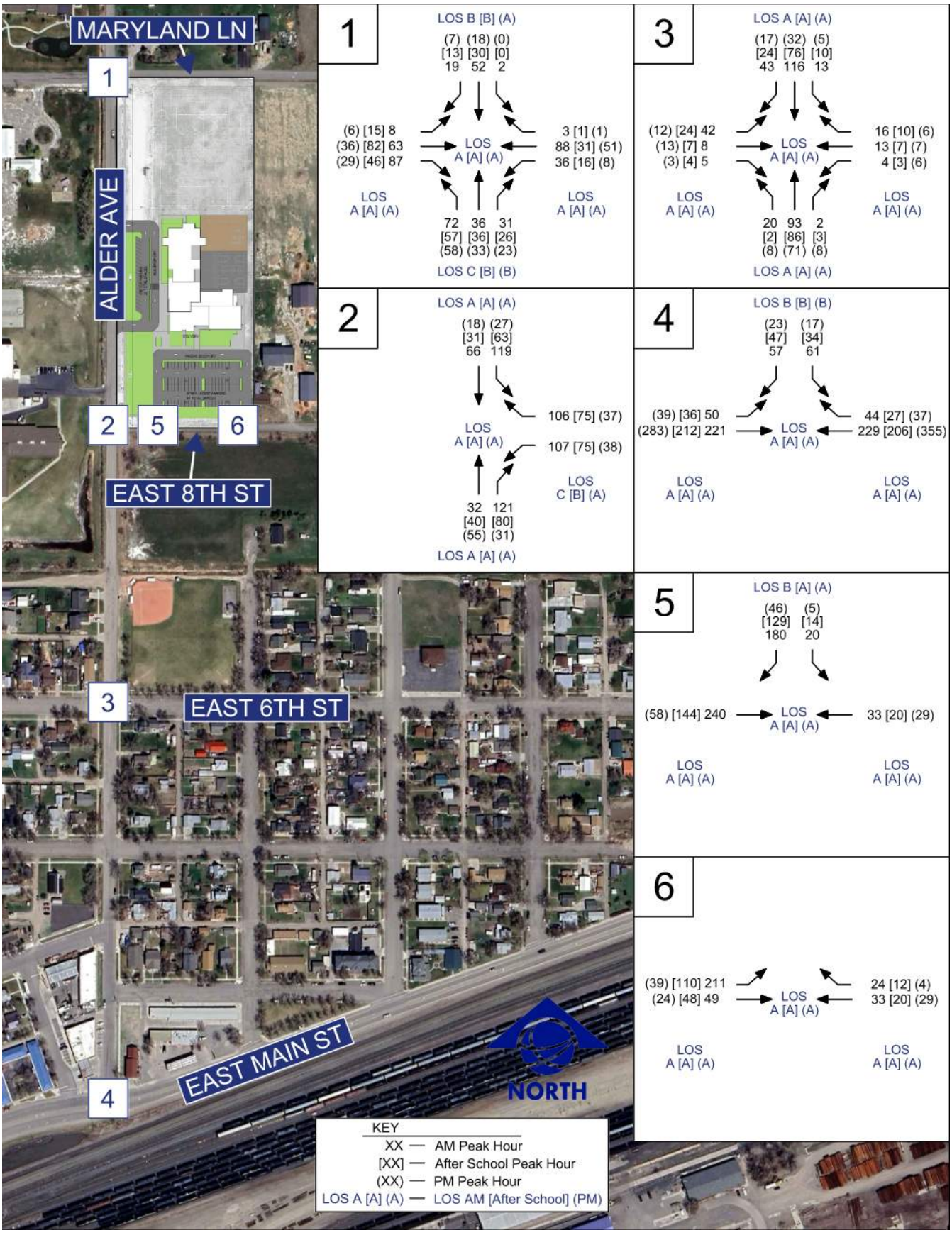


Figure 6: Future (2025) Traffic Projections

Future (2025) capacity results show that all but two intersections are projected to operate at LOS C or better during the AM, After School, and PM peak hours with minimal expected 95th percentile queueing. The northbound approach at the East Maryland Lane/Alder Avenue intersection is projected to operate at LOS D during the AM peak hour, although the delay value is only 0.2 seconds per vehicle over the LOS C threshold. The westbound approach at the East 8th Street/Alder Avenue intersection is projected to operate at LOS F during the AM peak hour with a very lengthy projected 95th percentile queue of 13 vehicles. However, this delay is likely only experienced by vehicles arriving during the peak 15-minute window, with arrivals during the remaining 45 minutes operating at an acceptable LOS of B or better. Additionally, as a majority of the vehicles are anticipated to be parents looping through the site to drop off students at school, these vehicles cannot conflict with themselves so real-world results are likely to be further improved from the projections. Site access intersections are projected to operate at LOS B or better on all approaches. A detailed intersection capacity summary table and capacity calculation worksheets for the Future (2025) traffic projection scenario are included in Appendix C.

Mitigation Alternatives

Potential mitigation options were evaluated based on Existing (2023) and projected Future (2025) volumes to determine if either scenario may warrant improvements to study area streets and intersections.

Auxiliary Turn Lanes

Auxiliary right- and left-turn lane warrants were evaluated based on the methodology outlined in the MDT Traffic Engineering Manual (November 2007) for the Existing Conditions (2023) and Future (2025) analysis scenarios. It was found that a northbound right-turn lane is projected to become warranted at the East 8th Street/Alder Avenue intersection in the Future (2025) scenario due to the volume of projected new trips to the Mogan Elementary School. However, it should be noted that turn lane warrants are generally meant for application on higher speed highway facilities and this lane is not necessary to improve safety nor would it improve the projected capacity deficiencies at the intersection to acceptable levels. Auxiliary turn lane warrant worksheets for the Existing Conditions (2023) and Future (2025) scenarios can be found in Appendix D.

Traffic Signals

Traffic signal warrants were evaluated at the East Main Street/Alder Avenue intersection using criteria outlined in the Manual on Uniform Traffic Control Devices (MUTCD) for the Existing Conditions (2023) and Future (2025) traffic volume scenarios. The MUTCD presents several warrants that can be considered based on traffic volumes, school crossings, crash history, and others. For the purposes of this analysis Warrants 4, 5, and 9 (Pedestrian Volume, School Crossing, and Intersection Near a Grade Crossing) were not evaluated as there is not a crosswalk across East Main Street nor any railroad crossings near the intersection. Additionally, satisfaction of the Peak Hour warrant alone should not be considered as warranting a signal, as it is primarily meant for application at office complexes, manufacturing plants, or other high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

No signal warrants are currently met or projected to be met in the Future (2025) scenario at the East Main Street/Alder Avenue intersection. Traffic signal warrant worksheets for the Existing Conditions (2023) and Future (2025) scenarios can be found in Appendix D.

Improved Intersection Capacity

East 8th Street/Alder Avenue intersection: Conversion of this intersection to all-way stop-control operation is projected to improve delay to LOS C or better during all peak hours. With the addition of Mogan Elementary School on East 8th Street, volumes on all three approaches at this intersection are projected to be relatively balanced, providing appropriate conditions for installation of all-way stop-control. Introducing stop-control on Alder Avenue at this intersection would be consistent within the existing network, as the East 6th Street/Alder Avenue intersection already operates with all-way stop-control and Alder Avenue is currently stop-controlled at its intersection with East Maryland Avenue.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The preceding analysis has shown that the proposed Mogan Elementary School in Laurel, Montana will generate a moderate amount of increased traffic demand on area streets and intersections. It is estimated that approximately 1,335 gross trips could be generated by the school daily.

An evaluation of Existing Conditions (2023) intersection capacity showed that all study area intersections operate at LOS B or better during all three peak hours with minimal 95th percentile queuing.

A crash history analysis found that all historical crash rates for study intersections are equal to or less than the predicted crash rates. There were no crash type trends that were noted.

Intersection capacity analysis results for the Future (2025) scenario are projected to operate at LOS C or better at all but two intersections. The northbound approach at the East Maryland Lane/Alder Avenue intersection is projected to operate just above the LOS C cutoff during the AM peak hour, and the westbound approach at the East 8th Street/Alder Avenue intersection is projected to operate at LOS F during the AM peak hour. However, due to peaking characteristics at schools, this delay value is likely to last for only a short 15-minute period, with the remainder of the hour operating with acceptable LOS. The new site access intersections on the south side of the site are projected to operate at LOS B or better on all approaches with all trips assigned to the southern accesses only and not the bus/visitor loop.

It was found that a northbound right-turn lane is projected to be warranted in the Future (2025) scenario, although the MDT turn lane warrants are primarily meant for application on higher speed facilities and this lane is not needed as a safety improvement or projected to improve capacity deficiencies. No traffic signal warrants are projected to be met for either the Existing Conditions (2023) or Future (2025) scenarios.

It was found that implementation of all-way stop-control at the East 8th Street/Alder Avenue intersection is projected to improve operations to LOS C or better during all scenarios. This change in intersection control would be consistent with other configurations along Alder Avenue and may help improve safety for any children crossing Alder Avenue by introducing another required stopping point adjacent to the school.

Recommendations

The following list of recommendations is based on the analysis results from this study and the professional judgment of the author:

- Stop (R1-1) signs should be installed on the westbound approach at the East 8th Street/Alder Avenue intersection and at all new site access driveways that allow egress movements.
- Implementation of all-way stop-control should be considered at the East 8th Street/Alder Avenue intersection to improve capacity. Operations should be monitored at the intersection to determine if and when this change should be installed.
- All transportation-related improvements shall be designed in accordance with City of Laurel, Yellowstone County, and/or MDT standards (where applicable) and the Manual on Uniform Traffic Control Devices (MUTCD).

TRAFFIC VOLUME DATA

APPENDIX A

ENDURING COMMUNITY DESIGN

SANDERSON STEWART

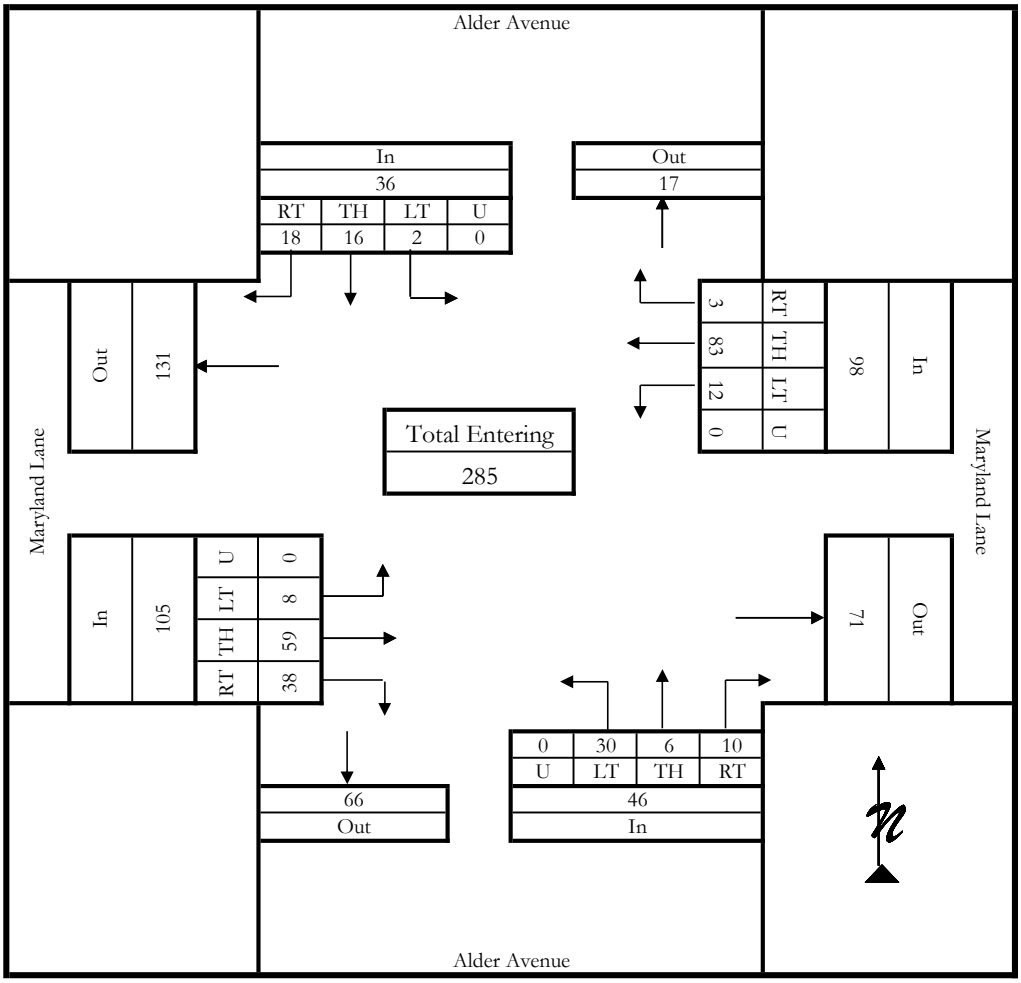
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & Maryland Lane
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	AM Peak Hour (7:30 - 8:30 AM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	Maryland Lane

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					Maryland Lane Eastbound					Maryland Lane Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.84	0.84	0.84	0.84		0.84	0.84	0.84	0.84		
7:30 AM	2	4	1	0	7	1	1	6	0	8	5	14	3	0	22	0	25	1	0	26	63
7:45 AM	7	7	0	0	14	3	3	15	0	21	23	23	1	0	47	1	32	7	0	40	122
8:00 AM	6	2	0	0	8	5	0	5	0	10	9	13	3	0	25	2	20	3	0	25	68
8:15 AM	3	3	1	0	7	1	2	4	0	7	1	9	1	0	11	0	6	1	0	7	32
Grand Total	18	16	2	0	36	10	6	30	0	46	38	59	8	0	105	3	83	12	0	98	285
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	1.7	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	
Total %	6.3	5.6	0.7	0.0	12.6	3.5	2.1	10.5	0.0	16.1	13.3	20.7	2.8	0.0	36.8	1.1	29.1	4.2	0.0	34.4	100.0
PHF	0.64	0.64	0.64			0.55	0.55	0.55			0.56	0.56	0.56			0.61	0.61	0.61			0.58



1300 North Transtech Way | Billings, Montana 59102 | Phone 406.656.5255 | Fax 406.656.0967 | www.sandersonstewart.com

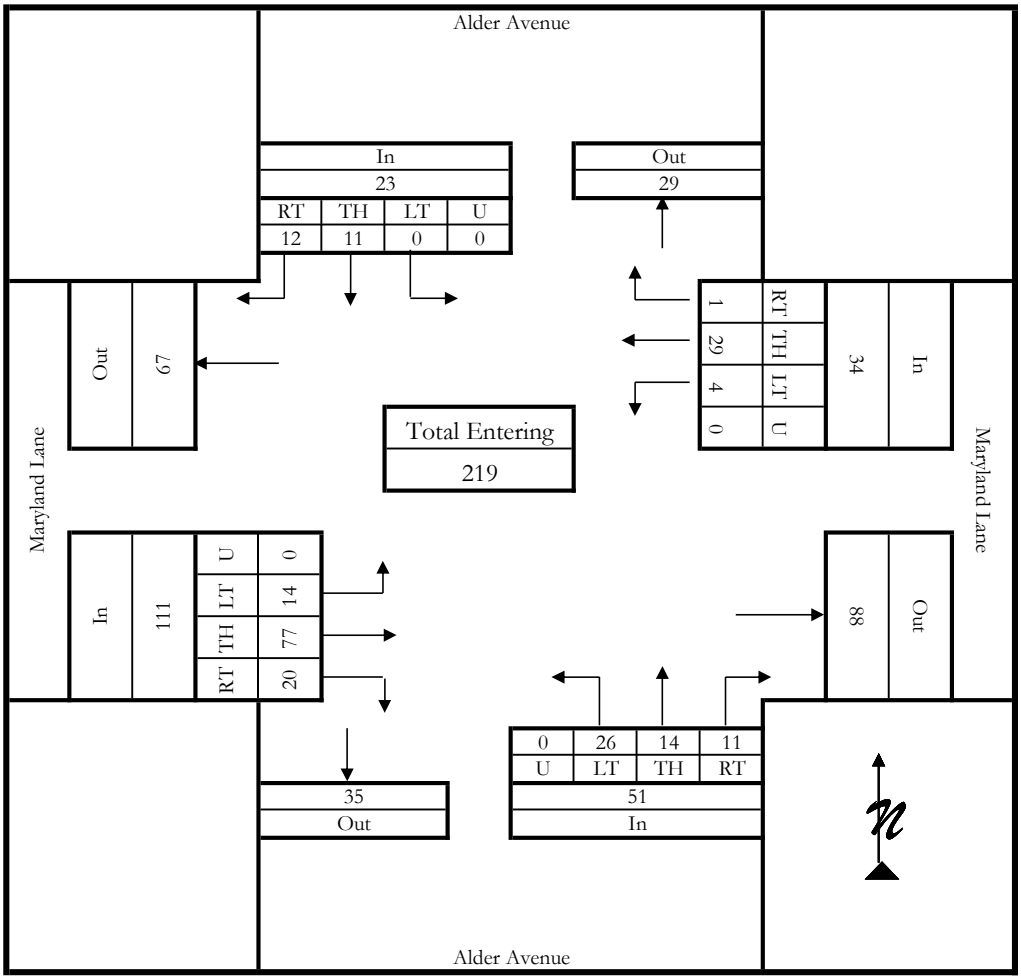
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & Maryland Lane
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	After School Peak Hour (2:30 - 3:30 PM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	Maryland Lane

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					Maryland Lane Eastbound					Maryland Lane Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.84	0.84	0.84	0.84		0.84	0.84	0.84	0.84		
2:30 PM	4	5	0	0	9	6	6	13	0	25	15	55	7	0	77	0	11	0	0	11	122
2:45 PM	1	2	0	0	3	2	3	4	0	9	1	12	2	0	15	0	9	1	0	10	37
3:00 PM	1	4	0	0	5	2	2	2	0	6	2	7	2	0	11	1	4	2	0	7	29
3:15 PM	6	0	0	0	6	1	3	7	0	11	2	3	3	0	8	0	5	1	0	6	31
Grand Total	12	11	0	0	23	11	14	26	0	51	20	77	14	0	111	1	29	4	0	34	219
Medium Truck %	8.3	0.0	0.0	0.0	4.3	0.0	14.3	0.0	0.0	3.9	0.0	2.6	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	8.3	0.0	0.0	0.0	4.3	0.0	14.3	0.0	0.0	3.9	0.0	2.6	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	
Total %	5.5	5.0	0.0	0.0	10.5	5.0	6.4	11.9	0.0	23.3	9.1	35.2	6.4	0.0	50.7	0.5	13.2	1.8	0.0	15.5	100.0
PHF	0.64	0.64	0.64			0.51	0.51	0.51			0.35	0.35	0.35			0.77	0.77	0.77			0.44



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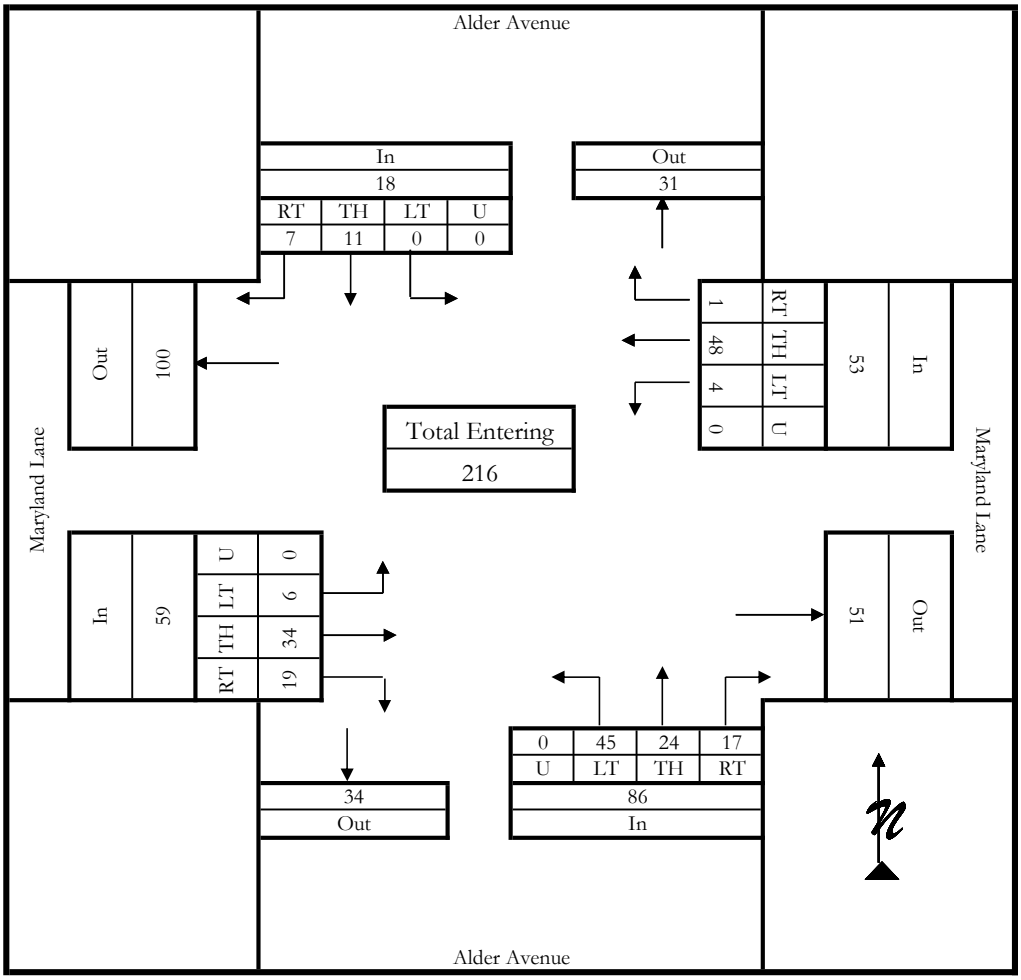
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & Maryland Lane
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	PM Peak Hour (5:00 - 6:00 PM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	Maryland Lane

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					Maryland Lane Eastbound					Maryland Lane Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.84	0.84	0.84	0.84		0.84	0.84	0.84	0.84		
5:00 PM	1	3	0	0	4	2	4	5	0	11	2	10	3	0	15	0	10	1	0	11	41
5:15 PM	0	3	0	0	3	0	5	15	0	20	8	11	1	0	20	0	9	2	0	11	54
5:30 PM	2	2	0	0	4	4	7	6	0	17	7	5	1	0	13	1	8	0	0	9	43
5:45 PM	4	3	0	0	7	11	8	19	0	38	2	8	1	0	11	0	21	1	0	22	78
Grand Total	7	11	0	0	18	17	24	45	0	86	19	34	6	0	59	1	48	4	0	53	216
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	3.2	5.1	0.0	0.0	8.3	7.9	11.1	20.8	0.0	39.8	8.8	15.7	2.8	0.0	27.3	0.5	22.2	1.9	0.0	24.5	100.0
PHF	0.64	0.64	0.64			0.57	0.57	0.57			1.00	1.00	1.00			0.60	0.60	0.60			0.70



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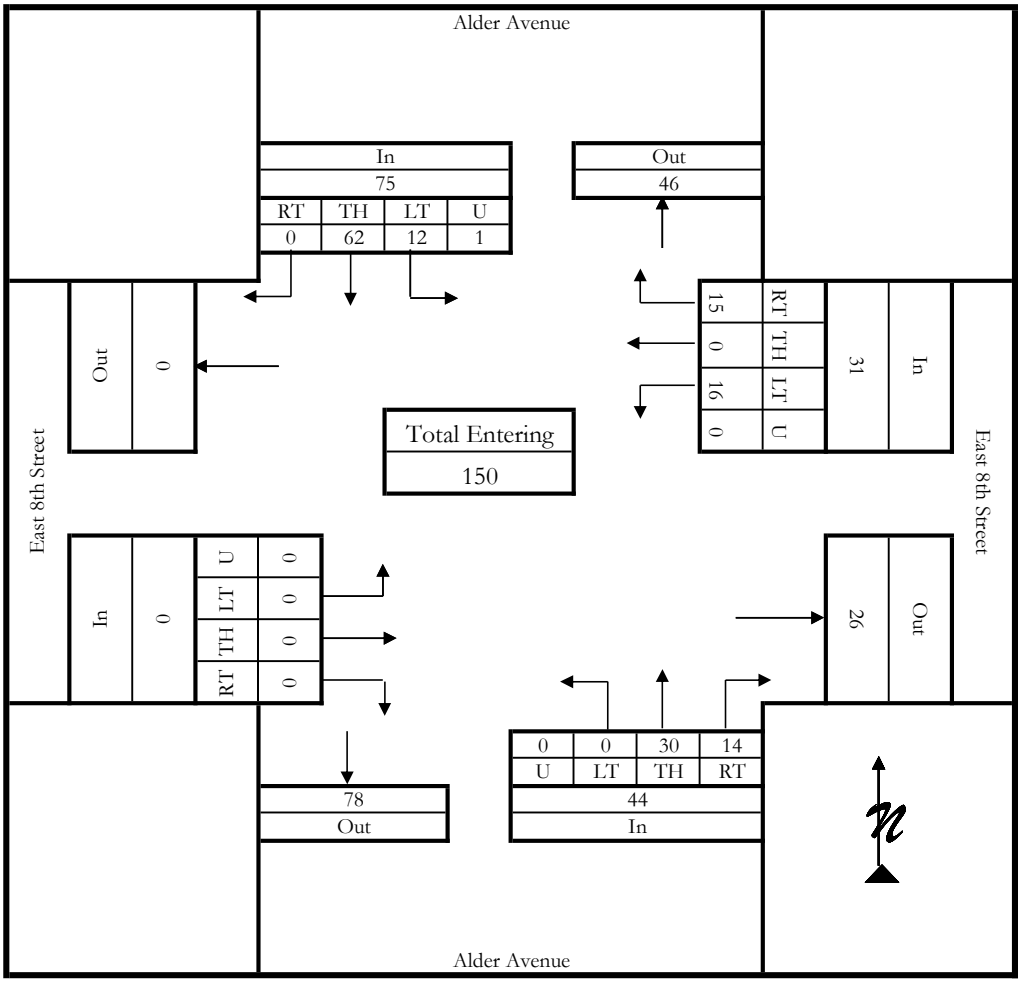
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East 8th Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	AM Peak Hour (7:30 - 8:30 AM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East 8th Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East 8th Street Eastbound					East 8th Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:30 AM	0	9	2	0	11	4	5	0	0	9	0	0	0	0	0	4	0	3	0	7	27
7:45 AM	0	36	7	1	44	6	14	0	0	20	0	0	0	0	0	8	0	6	0	14	78
8:00 AM	0	13	3	0	16	1	6	0	0	7	0	0	0	0	0	1	0	5	0	6	29
8:15 AM	0	4	0	0	4	3	5	0	0	8	0	0	0	0	0	2	0	2	0	4	16
Grand Total	0	62	12	1	75	14	30	0	0	44	0	0	0	0	0	15	0	16	0	31	150
Medium Truck %	0.0	1.6	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	1.6	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	41.3	8.0	0.7	50.0	9.3	20.0	0.0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	10.0	0.0	10.7	0.0	20.7	100.0
PHF	0.43	0.43	0.43			0.55	0.55	0.55			1.00	1.00	1.00			0.55	0.55	0.55			0.48



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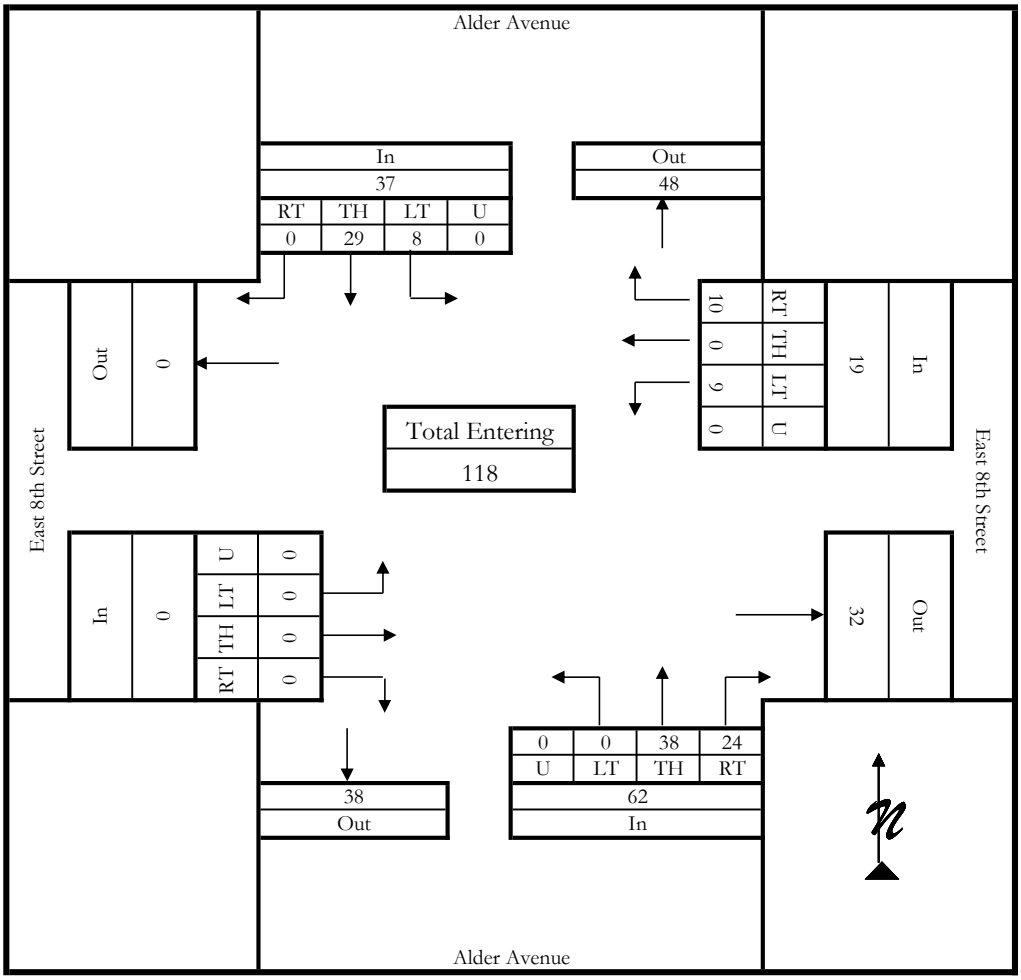
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East 8th Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	After School Peak Hour (2:30 - 3:30 PM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East 8th Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East 8th Street Eastbound					East 8th Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
2:30 PM	0	21	4	0	25	7	18	0	0	25	0	0	0	0	0	3	0	4	0	7	57
2:45 PM	0	4	0	0	4	7	6	0	0	13	0	0	0	0	0	3	0	1	0	4	21
3:00 PM	0	4	2	0	6	7	5	0	0	12	0	0	0	0	0	2	0	3	0	5	23
3:15 PM	0	0	2	0	2	3	9	0	0	12	0	0	0	0	0	2	0	1	0	3	17
Grand Total	0	29	8	0	37	24	38	0	0	62	0	0	0	0	0	10	0	9	0	19	118
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	24.6	6.8	0.0	31.4	20.3	32.2	0.0	0.0	52.5	0.0	0.0	0.0	0.0	0.0	8.5	0.0	7.6	0.0	16.1	100.0
PHF	0.37	0.37	0.37			0.62	0.62	0.62			1.00	1.00	1.00			0.68	0.68	0.68			0.52



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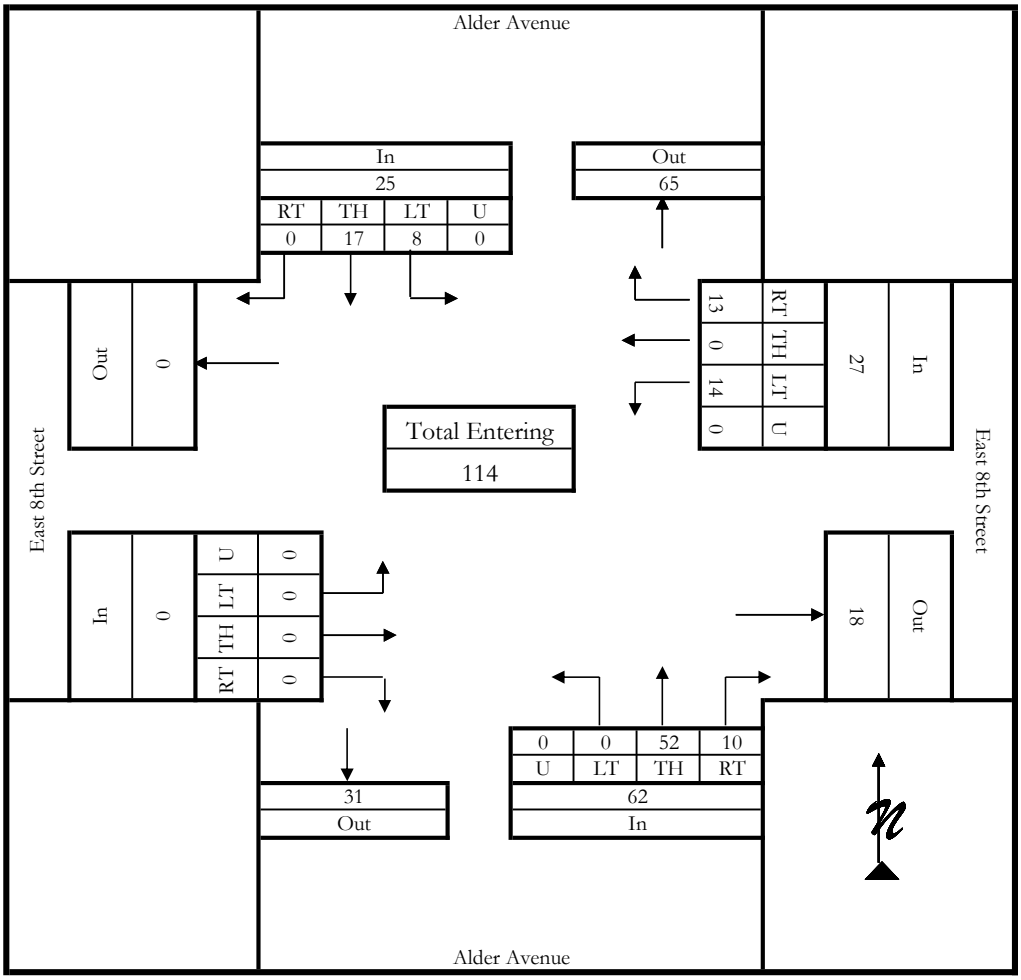
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East 8th Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	PM Peak Hour (5:00 - 6:00 PM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East 8th Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East 8th Street Eastbound					East 8th Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
5:00 PM	0	3	1	0	4	2	8	0	0	10	0	0	0	0	0	1	0	2	0	3	17
5:15 PM	0	3	4	0	7	2	16	0	0	18	0	0	0	0	0	6	0	1	0	7	32
5:30 PM	0	5	2	0	7	3	11	0	0	14	0	0	0	0	0	5	0	5	0	10	31
5:45 PM	0	6	1	0	7	3	17	0	0	20	0	0	0	0	0	1	0	6	0	7	34
Grand Total	0	17	8	0	25	10	52	0	0	62	0	0	0	0	0	13	0	14	0	27	114
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	14.9	7.0	0.0	21.9	8.8	45.6	0.0	0.0	54.4	0.0	0.0	0.0	0.0	0.0	11.4	0.0	12.3	0.0	23.7	100.0
PHF	0.89	0.89	0.89			0.78	0.78	0.78			1.00	1.00	1.00			0.96	0.96	0.96			0.84



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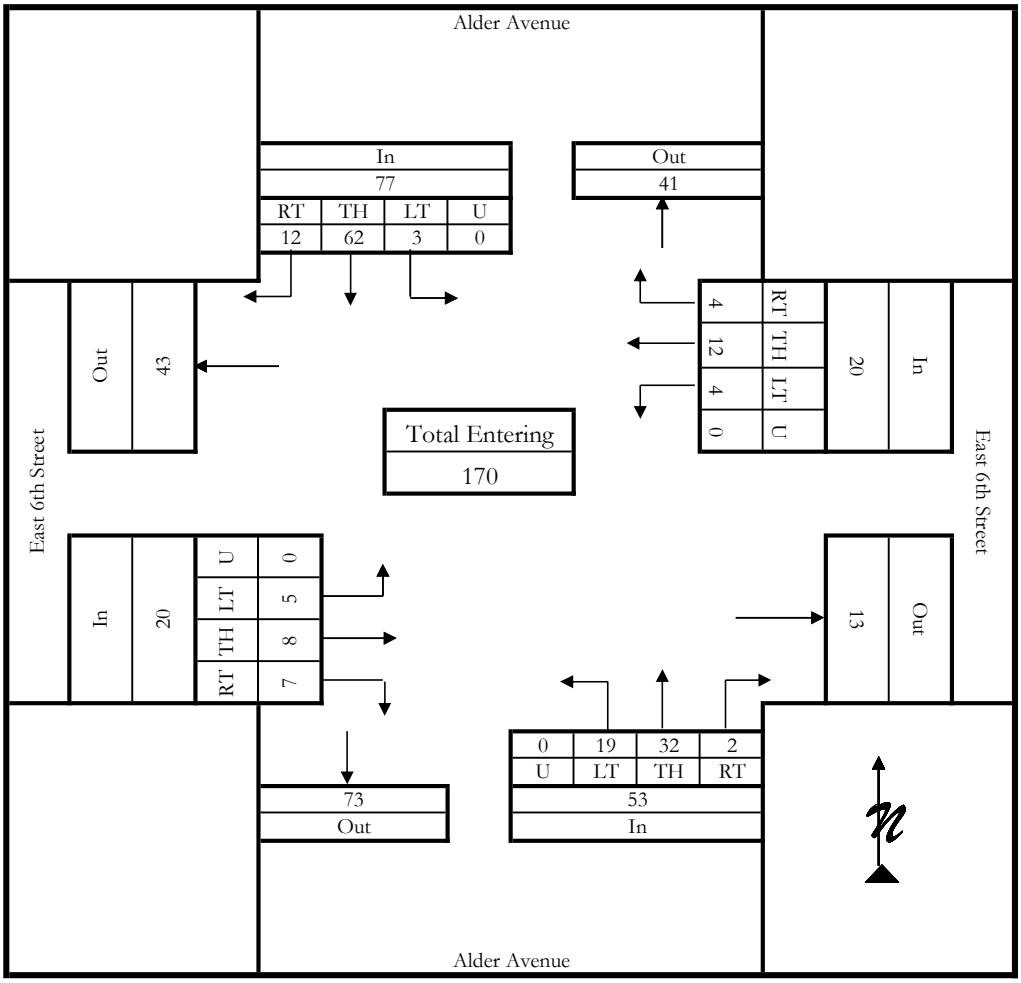
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East 6th Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	AM Peak Hour (7:30 - 8:30 AM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East 6th Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East 6th Street Eastbound					East 6th Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.84	0.84	0.84	0.84		0.84	0.84	0.84	0.84		
7:30 AM	3	8	0	0	11	0	8	6	0	14	2	1	0	0	3	1	3	2	0	6	34
7:45 AM	6	34	1	0	41	0	15	11	0	26	2	3	3	0	8	1	5	2	0	8	83
8:00 AM	2	14	2	0	18	1	3	1	0	5	2	1	2	0	5	0	3	0	0	3	31
8:15 AM	1	6	0	0	7	1	6	1	0	8	1	3	0	0	4	2	1	0	0	3	22
Grand Total	12	62	3	0	77	2	32	19	0	53	7	8	5	0	20	4	12	4	0	20	170
Medium Truck %	0.0	1.6	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	25.0	0.0	15.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	1.6	0.0	0.0	1.3	0.0	0.0	10.5	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	16.7	25.0	0.0	15.0	
Total %	7.1	36.5	1.8	0.0	45.3	1.2	18.8	11.2	0.0	31.2	4.1	4.7	2.9	0.0	11.8	2.4	7.1	2.4	0.0	11.8	100.0
PHF	0.47	0.47	0.47			0.51	0.51	0.51			0.58	0.58	0.58			0.61	0.61	0.61			0.51



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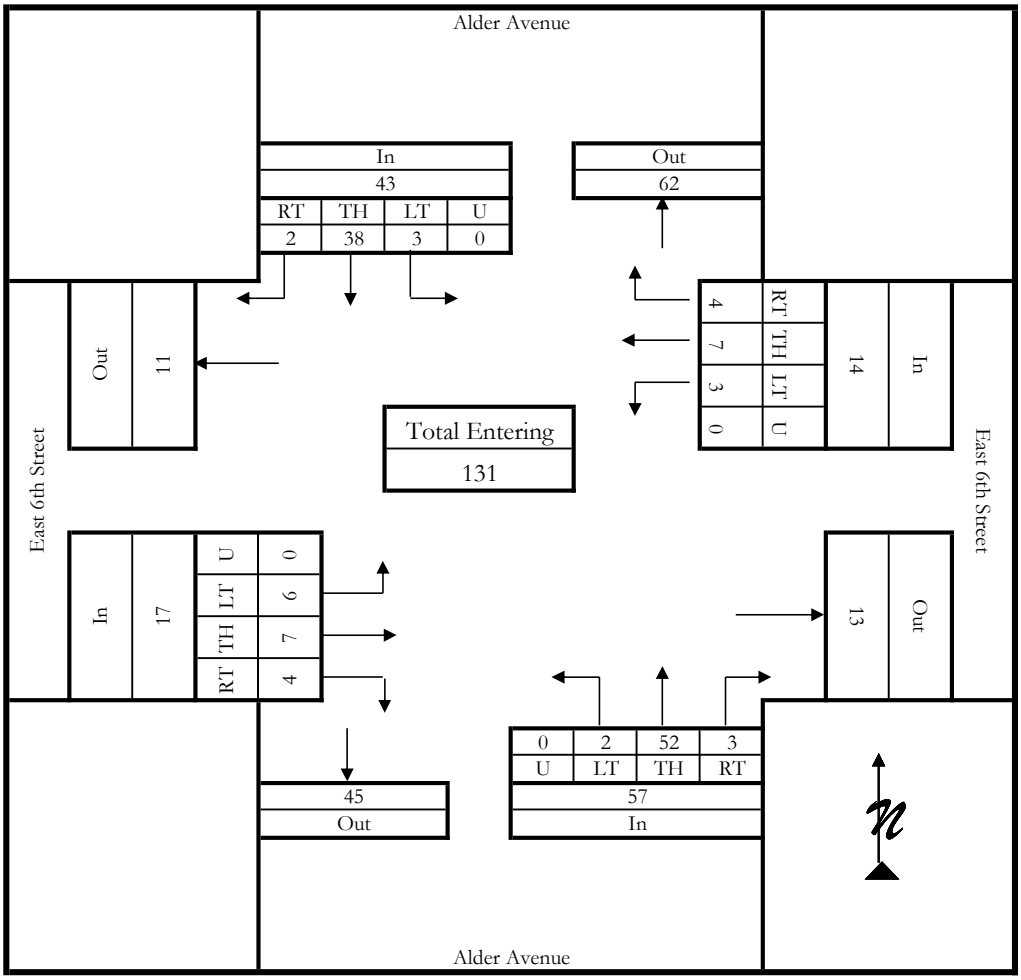
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East 6th Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	After School Peak Hour (2:30 - 3:30 PM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East 6th Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East 6th Street Eastbound					East 6th Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.84	0.84	0.84	0.84		0.84	0.84	0.84	0.84		
2:30 PM	0	26	3	0	29	1	17	1	0	19	2	5	5	0	12	2	1	1	0	4	64
2:45 PM	2	3	0	0	5	2	10	0	0	12	0	1	1	0	2	0	2	2	0	4	23
3:00 PM	0	7	0	0	7	0	11	0	0	11	2	1	0	0	3	1	1	0	0	2	23
3:15 PM	0	2	0	0	2	0	14	1	0	15	0	0	0	0	0	1	3	0	0	4	21
Grand Total	2	38	3	0	43	3	52	2	0	57	4	7	6	0	17	4	7	3	0	14	131
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	7.1	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	7.1	
Total %	1.5	29.0	2.3	0.0	32.8	2.3	39.7	1.5	0.0	43.5	3.1	5.3	4.6	0.0	13.0	3.1	5.3	2.3	0.0	10.7	100.0
PHF	0.37	0.37	0.37			0.75	0.75	0.75			0.34	0.34	0.34			0.88	0.88	0.88			0.50



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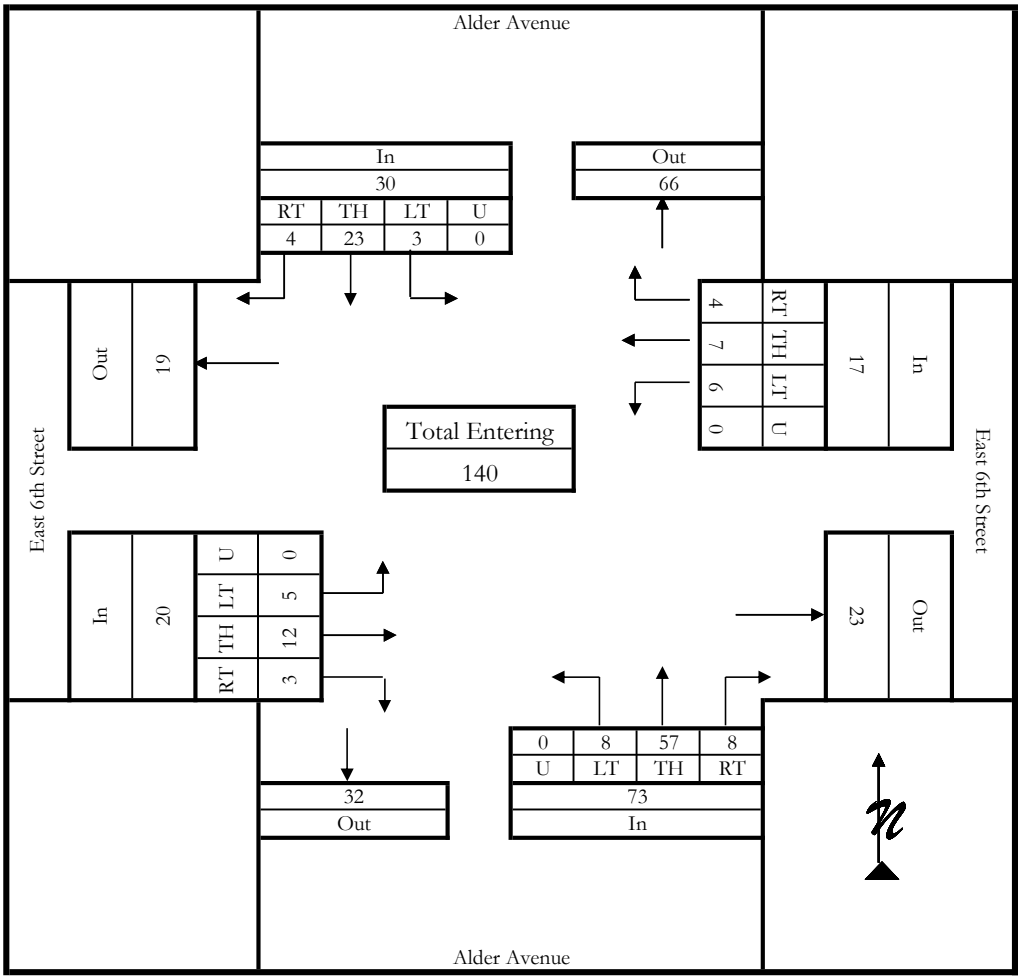
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East 6th Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	PM Peak Hour (5:00 - 6:00 PM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East 6th Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East 6th Street Eastbound					East 6th Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.84	0.84	0.84	0.84		0.84	0.84	0.84	0.84		
5:00 PM	1	2	1	0	4	5	8	2	0	15	1	4	1	0	6	1	1	2	0	4	29
5:15 PM	0	5	0	0	5	1	17	1	0	19	0	2	0	0	2	0	2	2	0	4	30
5:30 PM	1	9	0	0	10	2	14	3	0	19	2	3	0	0	5	0	0	1	0	1	35
5:45 PM	2	7	2	0	11	0	18	2	0	20	0	3	4	0	7	3	4	1	0	8	46
Grand Total	4	23	3	0	30	8	57	8	0	73	3	12	5	0	20	4	7	6	0	17	140
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	5.9	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	5.9	
Total %	2.9	16.4	2.1	0.0	21.4	5.7	40.7	5.7	0.0	52.1	2.1	8.6	3.6	0.0	14.3	2.9	5.0	4.3	0.0	12.1	100.0
PHF	0.68	0.68	0.68			0.91	0.91	0.91			0.69	0.69	0.69			0.50	0.50	0.50			0.74



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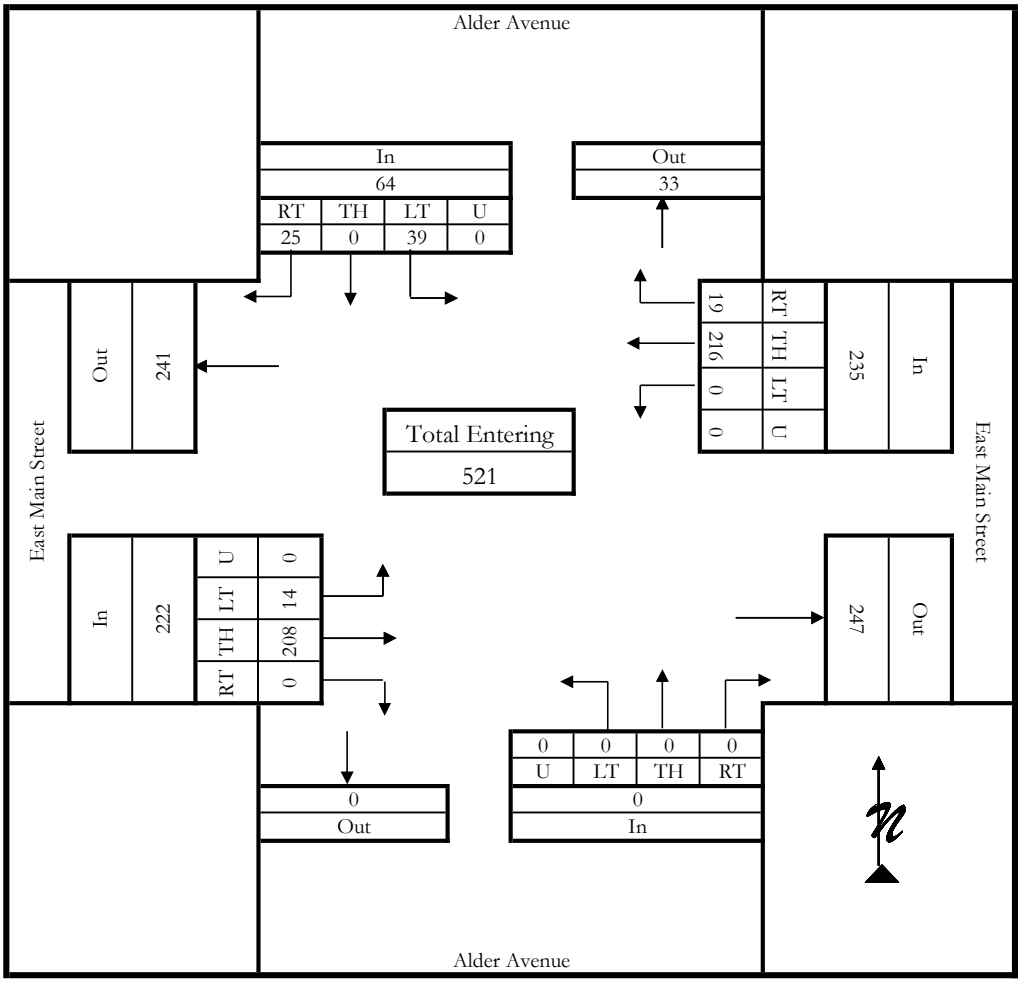
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East Main Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	AM Peak Hour (7:30 - 8:30 AM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East Main Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East Main Street Eastbound					East Main Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.88	0.88	0.88	0.88		0.88	0.88	0.88	0.88		
7:30 AM	2	0	6	0	8	0	0	0	0	0	0	53	3	0	56	7	50	0	0	57	121
7:45 AM	15	0	16	0	31	0	0	0	0	0	0	49	6	0	55	8	79	0	0	87	173
8:00 AM	7	0	11	0	18	0	0	0	0	0	0	53	1	0	54	2	48	0	0	50	122
8:15 AM	1	0	6	0	7	0	0	0	0	0	0	53	4	0	57	2	39	0	0	41	105
Grand Total	25	0	39	0	64	0	0	0	0	0	0	208	14	0	222	19	216	0	0	235	521
Medium Truck %	4.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.4	
Heavy Truck %	0.0	0.0	2.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.7	5.3	5.1	0.0	0.0	5.1	
Total Truck %	4.0	0.0	2.6	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.7	5.3	5.6	0.0	0.0	5.5	
Total %	4.8	0.0	7.5	0.0	12.3	0.0	0.0	0.0	0.0	0.0	0.0	39.9	2.7	0.0	42.6	3.6	41.5	0.0	0.0	45.1	100.0
PHF	0.52	0.52	0.52			1.00	1.00	1.00			1.00	1.00	1.00			0.67	0.67	0.67			0.75



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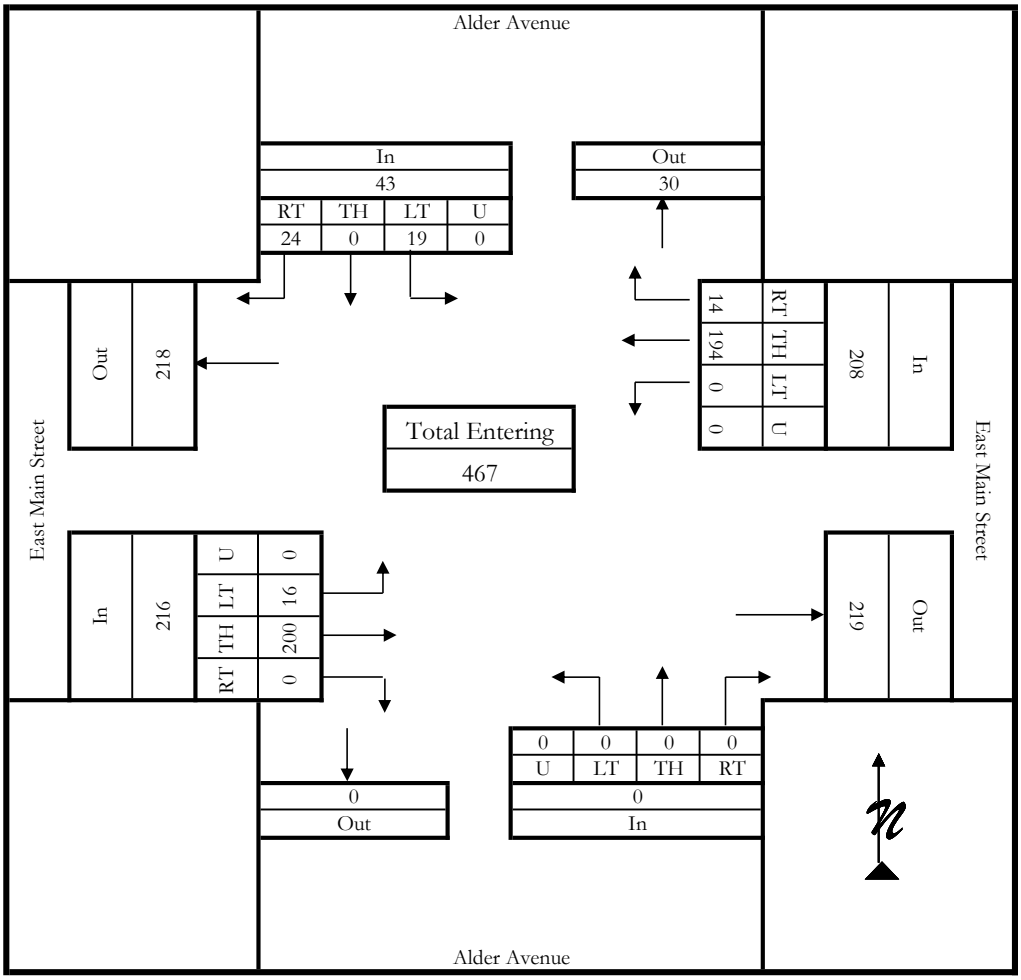
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East Main Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	After School Peak Hour (2:30 - 3:30 PM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East Main Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East Main Street Eastbound					East Main Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.88	0.88	0.88	0.88		0.88	0.88	0.88	0.88		
2:30 PM	13	0	11	0	24	0	0	0	0	0	0	61	4	0	65	6	46	0	0	52	141
2:45 PM	3	0	4	0	7	0	0	0	0	0	0	55	3	0	58	3	47	0	0	50	115
3:00 PM	4	0	4	0	8	0	0	0	0	0	0	47	4	0	51	0	52	0	0	52	111
3:15 PM	4	0	0	0	4	0	0	0	0	0	0	37	5	0	42	5	49	0	0	54	100
Grand Total	24	0	19	0	43	0	0	0	0	0	0	200	16	0	216	14	194	0	0	208	467
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.9	0.0	1.5	0.0	0.0	1.4	
Heavy Truck %	4.2	0.0	5.3	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.2	0.0	5.2	0.0	0.0	4.8	
Total Truck %	4.2	0.0	5.3	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	4.2	0.0	6.7	0.0	0.0	6.3	
Total %	5.1	0.0	4.1	0.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0	42.8	3.4	0.0	46.3	3.0	41.5	0.0	0.0	44.5	100.0
PHF	0.45	0.45	0.45			1.00	1.00	1.00			0.83	0.83	0.83			1.00	1.00	1.00			0.84



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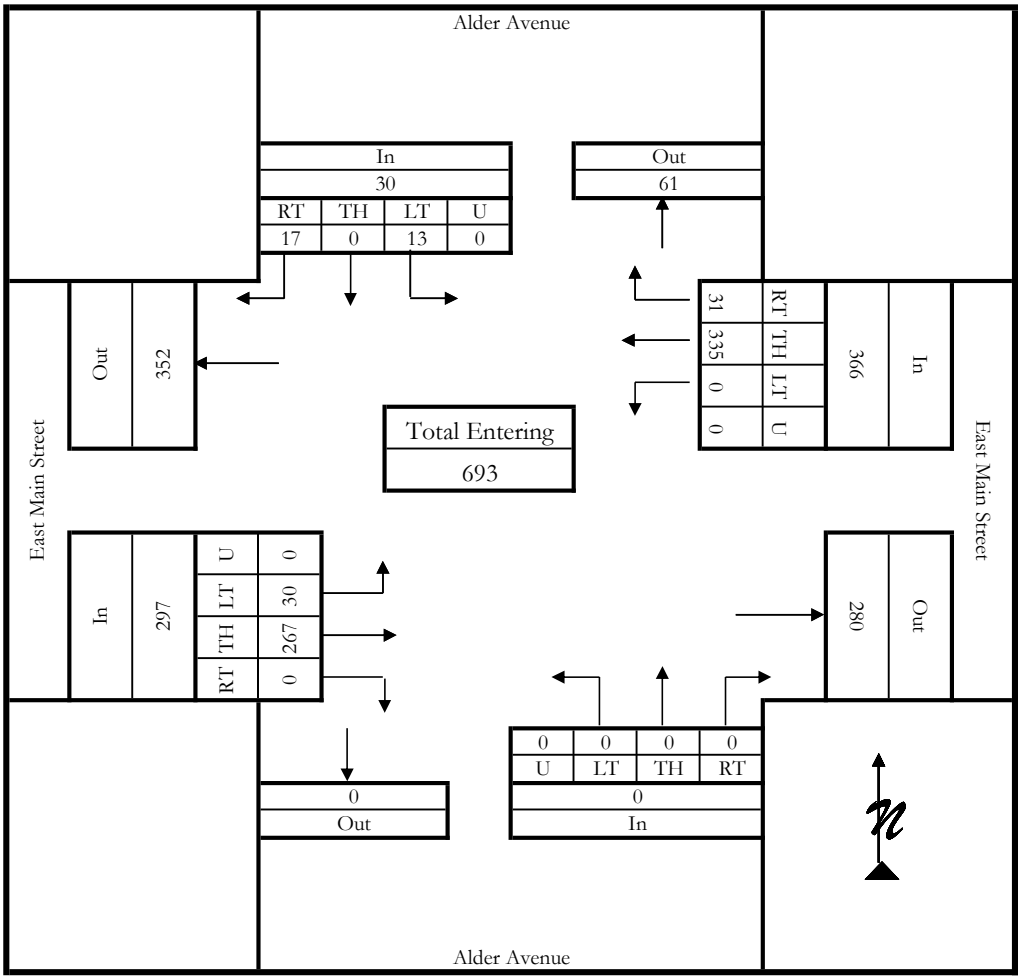
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Connor Scoles	Intersection:	Alder Avenue & East Main Street
Agency/Company:	Sanderson Stewart		
Date Performed:	Wednesday, September 20, 2023	Jurisdiction:	Laurel, MT
Count Time Period:	PM Peak Hour (5:00 - 6:00 PM)		
Project Number:	23103	Project Description:	Laurel - New 3rd-5th Elementary School
North/South Street:	Alder Avenue	East/West Street:	East Main Street

Vehicle Volumes and Adjustments

	Alder Avenue Southbound					Alder Avenue Northbound					East Main Street Eastbound					East Main Street Westbound					Int.
Start Time	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Total
Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		0.88	0.88	0.88	0.88		0.88	0.88	0.88	0.88		
5:00 PM	3	0	4	0	7	0	0	0	0	0	0	90	2	0	92	7	90	0	0	97	196
5:15 PM	3	0	2	0	5	0	0	0	0	0	0	57	8	0	65	9	87	0	0	96	166
5:30 PM	6	0	5	0	11	0	0	0	0	0	0	75	9	0	84	10	83	0	0	93	188
5:45 PM	5	0	2	0	7	0	0	0	0	0	0	45	11	0	56	5	75	0	0	80	143
Grand Total	17	0	13	0	30	0	0	0	0	0	0	267	30	0	297	31	335	0	0	366	693
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.3	0.0	0.0	0.3	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.6	0.0	0.0	0.5	
Total %	2.5	0.0	1.9	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	38.5	4.3	0.0	42.9	4.5	48.3	0.0	0.0	52.8	100.0
PHF	1.00	1.00	1.00			1.00	1.00	1.00			0.81	0.81	0.81			0.94	0.94	0.94			0.88



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CAPACITY CALCULATIONS – EXISTING CONDITIONS (2023)

APPENDIX B

ENDURING COMMUNITY DESIGN

SANDERSON STEWART

Intersection	Approach	Existing (2023)								
		AM Peak			After School Peak			PM Peak		
		Avg Delay (s/veh)	LOS	95th % Queue (veh)	Avg Delay (s/veh)	LOS	95th % Queue (veh)	Avg Delay (s/veh)	LOS	95th % Queue (veh)
Intersection Control		*Two-Way Stop-Control (NB/SB)*								
E Maryland Lane & Alder Avenue	NB	12.1	B	1	12.8	B	1	10.5	B	1
	SB	10.8	B	1	10.4	B	1	9.6	A	1
	EB	0.6	A	1	0.9	A	1	0.8	A	1
	WB	0.9	A	1	0.9	A	1	0.6	A	1
	Intersection	3.9	A	--	4.0	A	--	6.0	A	--
Intersection Control		*One-Way Stop-Control (WB)*								
E 8th Street & Alder Avenue	SB	0.0	A	0	0.0	A	0	0.0	A	0
	EB	2.4	A	1	1.6	A	1	2.4	A	1
	WB	9.0	A	1	9.2	A	1	9.0	A	1
	Intersection	3.4	A	--	1.9	A	--	2.4	A	--
Intersection Control		*All-Way Stop-Control*								
E 6th Street & Alder Avenue	NB	7.4	A	1	7.5	A	1	7.4	A	1
	SB	7.4	A	1	7.8	A	1	7.3	A	1
	EB	7.3	A	1	7.5	A	1	7.3	A	1
	WB	7.3	A	1	7.4	A	1	7.4	A	1
	Intersection	7.4	A	--	7.6	A	--	7.4	A	--
Intersection Control		*One-Way Stop-Control (SB)*								
E Main Street & Alder Avenue	NB	10.8	B	1	10.8	B	1	11.7	B	1
	EB	0.5	A	1	0.6	A	1	0.8	A	1
	WB	0.0	A	0	0.0	A	0	0.0	A	0
	Intersection	1.5	A	--	2.1	A	--	0.8	A	--

Intersection Level Of Service Report
Intersection 1: Alder Avenue & Maryland Lane

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.104

Intersection Setup

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Base Volume Input [veh/h]	30	6	10	2	16	18	8	59	38	12	83	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	2.60	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	6	10	2	16	18	8	59	38	12	83	3
Peak Hour Factor	0.5500	0.5500	0.5500	0.6400	0.6400	0.6400	0.5600	0.5600	0.5600	0.6100	0.6100	0.6100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	3	5	1	6	7	4	26	17	5	34	1
Total Analysis Volume [veh/h]	55	11	18	3	25	28	14	105	68	20	136	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.02	0.02	0.01	0.05	0.03	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.80	12.40	9.95	11.88	12.12	9.41	7.49	0.00	0.00	7.57	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.50	0.50	0.50	0.27	0.27	0.27	0.03	0.03	0.03	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	12.40	12.40	12.40	6.69	6.69	6.69	0.63	0.63	0.63	0.85	0.85	0.85
d_A, Approach Delay [s/veh]	12.14			10.75			0.56			0.94		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	3.85											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 2: Alder Avenue & E 8th Street

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Alder Avenue		Alder Avenue		E 8th Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Alder Avenue		Alder Avenue		E 8th Street	
Base Volume Input [veh/h]	30	14	13	62	16	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	14	13	62	16	15
Peak Hour Factor	1.0000	1.0000	0.4300	1.0000	1.0000	0.5500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	4	8	16	4	7
Total Analysis Volume [veh/h]	30	14	30	62	16	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.32	0.00	9.60	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.14	0.14
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.27	1.27	3.57	3.57
d_A, Approach Delay [s/veh]	0.00		2.39		9.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.39					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Alder Avenue & E 6th Street

Control Type:	All-way stop	Delay (sec / veh):	7.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.085

Intersection Setup

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Base Volume Input [veh/h]	19	32	2	3	62	12	7	8	5	4	12	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	32	2	3	62	12	7	8	5	4	12	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	8	1	1	16	3	2	2	1	1	3	1
Total Analysis Volume [veh/h]	19	32	2	3	62	12	7	8	5	4	12	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	869	903	867	867
Degree of Utilization, x	0.06	0.09	0.02	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19	0.28	0.07	0.07
95th-Percentile Queue Length [ft]	4.86	6.97	1.77	1.77
Approach Delay [s/veh]	7.41	7.36	7.25	7.25
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.35			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Alder Avenue & E Main Street

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.063

Intersection Setup

Name	Alder Avenue		E Main Street		E Main Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Alder Avenue		E Main Street		E Main Street	
Base Volume Input [veh/h]	39	25	14	208	216	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	25	14	208	216	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	6	4	52	54	5
Total Analysis Volume [veh/h]	39	25	14	208	216	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	1	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.03	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.36	9.97	7.73	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.31	0.31	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.73	7.73	0.80	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.82		0.49		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.54					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Alder Avenue & Maryland Lane

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Base Volume Input [veh/h]	26	14	11	0	11	12	14	77	20	4	29	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	14.30	0.00	0.00	0.00	8.30	0.00	2.60	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	14	11	0	11	12	14	77	20	4	29	1
Peak Hour Factor	0.5100	0.5100	0.5100	0.6400	0.6400	0.6400	0.3500	0.3500	0.3500	0.7700	0.7700	0.7700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	7	5	0	4	5	10	55	14	1	9	0
Total Analysis Volume [veh/h]	51	27	22	0	17	19	40	220	57	5	38	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.05	0.03	0.00	0.03	0.02	0.03	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.28	13.34	10.90	12.45	12.21	8.82	7.32	0.00	0.00	7.78	0.00	0.00
Movement LOS	B	B	B	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.64	0.64	0.64	0.16	0.16	0.16	0.07	0.07	0.07	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	16.02	16.02	16.02	4.06	4.06	4.06	1.78	1.78	1.78	0.21	0.21	0.21
d_A, Approach Delay [s/veh]	12.77			10.42			0.92			0.88		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	3.99											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 2: Alder Avenue & E 8th Street

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Alder Avenue		Alder Avenue		E 8th Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Alder Avenue		Alder Avenue		E 8th Street	
Base Volume Input [veh/h]	38	24	8	29	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	24	8	29	9	10
Peak Hour Factor	0.6200	0.6200	0.3700	0.3700	0.6800	0.6800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	10	5	20	3	4
Total Analysis Volume [veh/h]	61	39	22	78	13	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.42	0.00	9.76	8.79
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.93	0.93	2.47	2.47
d_A, Approach Delay [s/veh]	0.00		1.63		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.85					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Alder Avenue & E 6th Street

Control Type:	All-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.133

Intersection Setup

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Base Volume Input [veh/h]	2	52	3	3	38	2	6	7	4	3	7	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.30	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	52	3	3	38	2	6	7	4	3	7	4
Peak Hour Factor	0.7500	0.7500	0.7500	0.3700	0.3700	0.3700	0.3400	0.3400	0.3400	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	17	1	2	26	1	4	5	3	1	2	1
Total Analysis Volume [veh/h]	3	69	4	8	103	5	18	21	12	3	8	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	869	875	844	829
Degree of Utilization, x	0.09	0.13	0.06	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.29	0.46	0.19	0.06
95th-Percentile Queue Length [ft]	7.17	11.41	4.81	1.48
Approach Delay [s/veh]	7.54	7.75	7.54	7.43
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.63			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Alder Avenue & E Main Street

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Alder Avenue		E Main Street		E Main Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Alder Avenue		E Main Street		E Main Street	
Base Volume Input [veh/h]	19	24	16	200	194	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.30	4.20	0.00	4.50	6.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	24	16	200	194	14
Peak Hour Factor	0.4500	0.4500	0.8300	0.8300	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	13	5	60	49	4
Total Analysis Volume [veh/h]	42	53	19	241	194	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	1	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.06	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.79	10.09	7.65	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.46	0.46	0.04	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.50	11.50	1.05	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.84		0.56		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Alder Avenue & Maryland Lane

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Base Volume Input [veh/h]	45	24	17	0	11	7	6	34	19	4	48	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	24	17	0	11	7	6	34	19	4	48	1
Peak Hour Factor	0.5700	0.5700	0.5700	0.6400	0.6400	0.6400	1.0000	1.0000	1.0000	0.6000	0.6000	0.6000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	11	7	0	4	3	2	9	5	2	20	0
Total Analysis Volume [veh/h]	79	42	30	0	17	11	6	34	19	7	80	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.06	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.71	10.92	9.53	10.25	10.09	8.81	7.36	0.00	0.00	7.31	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.69	0.69	0.69	0.11	0.11	0.11	0.01	0.01	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	17.28	17.28	17.28	2.68	2.68	2.68	0.27	0.27	0.27	0.29	0.29	0.29
d_A, Approach Delay [s/veh]	10.54			9.59			0.75			0.57		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	5.98											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 2: Alder Avenue & E 8th Street

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Alder Avenue		Alder Avenue		E 8th Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Alder Avenue		Alder Avenue		E 8th Street	
Base Volume Input [veh/h]	52	10	8	17	14	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	10	8	17	14	13
Peak Hour Factor	0.7800	0.7800	0.8900	0.8900	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	3	2	5	4	3
Total Analysis Volume [veh/h]	67	13	9	19	15	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.36	0.00	9.19	8.75
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.38	0.38	2.40	2.40
d_A, Approach Delay [s/veh]	0.00		2.37		8.97	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.38					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Alder Avenue & E 6th Street

Control Type:	All-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.091

Intersection Setup

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Base Volume Input [veh/h]	8	57	8	3	23	4	5	12	3	6	7	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	57	8	3	23	4	5	12	3	6	7	4
Peak Hour Factor	0.9100	0.9100	0.9100	0.6800	0.6800	0.6800	0.6900	0.6900	0.6900	0.5000	0.5000	0.5000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	16	2	1	8	1	2	4	1	3	4	2
Total Analysis Volume [veh/h]	9	63	9	4	34	6	7	17	4	12	14	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	892	889	864	853
Degree of Utilization, x	0.09	0.05	0.03	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.30	0.16	0.10	0.12
95th-Percentile Queue Length [ft]	7.47	3.90	2.51	3.11
Approach Delay [s/veh]	7.44	7.26	7.30	7.40
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.37			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Alder Avenue & E Main Street

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Alder Avenue		E Main Street		E Main Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Alder Avenue		E Main Street		E Main Street	
Base Volume Input [veh/h]	13	17	30	267	335	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.70	0.60	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	17	30	267	335	31
Peak Hour Factor	1.0000	1.0000	0.8100	0.8100	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	9	82	89	8
Total Analysis Volume [veh/h]	13	17	37	330	356	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	1	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.03	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.97	10.66	8.15	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.10	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.15	4.15	2.43	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.66		0.82		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.83					
Intersection LOS	B					

CAPACITY CALCULATIONS – FUTURE (2025)

APPENDIX C

ENDURING COMMUNITY DESIGN

SANDERSON STEWART

Intersection	Approach	Future (2025)								
		AM Peak			After School Peak			PM Peak		
		Avg Delay (s/veh)	LOS	95th % Queue (veh)	Avg Delay (s/veh)	LOS	95th % Queue (veh)	Avg Delay (s/veh)	LOS	95th % Queue (veh)
Intersection Control		*Two-Way Stop-Control (NB/SB)*								
E Maryland Lane & Alder Avenue	NB	25.2	D	4	20.4	C	3	11.4	B	2
	SB	14.8	B	1	12.9	B	1	10.0	A	1
	EB	0.4	A	1	0.8	A	1	0.6	A	1
	WB	2.2	A	1	2.7	A	1	1.0	A	1
	Intersection	10.1	B	--	7.9	A	--	6.8	A	--
Intersection Control		*One-Way Stop-Control (WB)*								
E 8th Street & Alder Avenue	NB	0.0	A	0	0.0	A	0	0.0	A	0
	SB	5.3	A	1	5.2	A	1	4.5	A	1
	WB	84.4	F	13	17.8	B	2	9.5	A	1
	Intersection	32.0	D	--	6.9	A	--	4.1	A	--
Intersection Control		*All-Way Stop-Control*								
E 6th Street & Alder Avenue	NB	9.8	A	2	8.4	A	1	7.6	A	1
	SB	11.2	B	3	9.5	A	2	7.4	A	1
	EB	9.4	A	1	8.8	A	1	7.6	A	1
	WB	8.7	A	1	8.0	A	1	7.5	A	1
	Intersection	10.4	B	--	9.1	A	--	7.5	A	--
Intersection Control		*One-Way Stop-Control (SB)*								
E Main Street & Alder Avenue	SB	15.5	C	2	12.2	B	2	12.1	B	1
	EB	1.5	A	1	1.1	A	1	1.0	A	1
	WB	0.0	A	0	0.0	A	0	0.0	A	0
	Intersection	4.3	A	--	3.6	A	--	1.0	A	--
Intersection Control		*One-Way Stop-Control (SB)*								
E 8th Street & School Exit	SB	11.4	B	2	9.9	A	2	8.8	A	1
	EB	0.0	A	0	0.0	A	0	0.0	A	0
	WB	0.0	A	0	0.0	A	0	0.0	A	0
	Intersection	4.8	A	--	4.6	A	--	3.3	A	--
Intersection Control		*One-Way Stop-Control (SB)*								
E 8th Street & School Entrance	EB	6.5	A	1	5.3	A	1	4.6	A	1
	WB	0.0	A	0	0.0	A	0	0.0	A	0
	Intersection	5.3	A	--	4.4	A	--	3.0	A	--

Intersection Level Of Service Report
Intersection 1: Alder Avenue & Maryland Lane

Control Type:	Two-way stop	Delay (sec / veh):	27.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Base Volume Input [veh/h]	72	36	31	2	52	19	8	63	87	36	88	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	2.60	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	36	31	2	52	19	8	63	87	36	88	3
Peak Hour Factor	0.5500	0.5500	0.5500	0.6400	0.6400	0.6400	0.5600	0.5600	0.5600	0.6100	0.6100	0.6100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	16	14	1	20	7	4	28	39	15	36	1
Total Analysis Volume [veh/h]	131	65	56	3	81	30	14	112	155	59	144	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.14	0.07	0.01	0.20	0.03	0.01	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	27.38	24.63	20.94	17.76	16.03	11.30	7.51	0.00	0.00	7.82	0.00	0.00
Movement LOS	D	C	C	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.75	3.75	3.75	0.92	0.92	0.92	0.03	0.03	0.03	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	93.80	93.80	93.80	22.92	22.92	22.92	0.66	0.66	0.66	2.56	2.56	2.56
d_A, Approach Delay [s/veh]	25.24			14.83			0.37			2.22		
Approach LOS	D			B			A			A		
d_I, Intersection Delay [s/veh]	10.08											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 2: Alder Avenue & E 8th Street

Control Type:	Two-way stop	Delay (sec / veh):	89.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name	Alder Avenue		Alder Avenue		E 8th Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Alder Avenue		Alder Avenue		E 8th Street	
Base Volume Input [veh/h]	32	121	119	66	107	106
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	121	119	66	107	106
Peak Hour Factor	0.5500	0.5500	0.4300	0.4300	0.5500	0.5500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	55	69	38	49	48
Total Analysis Volume [veh/h]	58	220	277	153	195	193
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.22	0.00	0.80	0.22
d_M, Delay for Movement [s/veh]	0.00	0.00	8.17	0.00	89.70	79.08
Movement LOS	A	A	A	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.54	0.54	12.50	12.50
95th-Percentile Queue Length [ft/ln]	0.00	0.00	13.60	13.60	312.51	312.51
d_A, Approach Delay [s/veh]	0.00		5.26		84.42	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	31.95					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Alder Avenue & E 6th Street

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Base Volume Input [veh/h]	20	93	2	13	116	43	42	8	5	4	13	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	93	2	13	116	43	42	8	5	4	13	16
Peak Hour Factor	0.5100	0.5100	0.5100	0.4700	0.4700	0.4700	0.5800	0.5800	0.5800	0.6100	0.6100	0.6100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	46	1	7	62	23	18	3	2	2	5	7
Total Analysis Volume [veh/h]	39	182	4	28	247	91	72	14	9	7	21	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	750	801	655	690
Degree of Utilization, x	0.30	0.46	0.14	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.26	2.42	0.50	0.25
95th-Percentile Queue Length [ft]	31.54	60.45	12.62	6.35
Approach Delay [s/veh]	9.84	11.22	9.42	8.66
Approach LOS	A	B	A	A
Intersection Delay [s/veh]	10.39			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 4: Alder Avenue & E Main Street

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.235

Intersection Setup

Name	Alder Avenue		E Main Street		E Main Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Alder Avenue		E Main Street		E Main Street	
Base Volume Input [veh/h]	61	57	50	221	229	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	57	50	221	229	44
Peak Hour Factor	0.5200	0.5200	1.0000	1.0000	0.6700	0.6700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	27	13	55	85	16
Total Analysis Volume [veh/h]	117	110	50	221	342	66
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	1	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.16	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	16.39	14.51	8.27	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.91	1.91	0.14	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	47.71	47.71	3.40	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.48		1.53		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	4.33					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 7: E 8th Street & School Exit

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.068

Intersection Setup

Name	School Exit		E 8th Street		E 8th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	School Exit		E 8th Street		E 8th Street	
Base Volume Input [veh/h]	20	180	0	240	33	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	180	0	240	33	0
Peak Hour Factor	0.5500	0.5500	0.7500	0.5500	0.5500	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	82	0	109	15	0
Total Analysis Volume [veh/h]	36	327	0	436	60	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.33	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.25	11.08	0.00	0.00	0.00	0.00
Movement LOS	B	B		A	A	
95th-Percentile Queue Length [veh/ln]	1.89	1.89	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	47.24	47.24	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.39		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: E 8th Street & School Entrance

Control Type:	Two-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.258

Intersection Setup

Name	School Entrance		E 8th Street		E 8th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	School Entrance		E 8th Street		E 8th Street	
Base Volume Input [veh/h]	0	0	211	49	33	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	211	49	33	24
Peak Hour Factor	0.7500	0.7500	0.5500	0.5500	0.5500	0.5500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	96	22	15	11
Total Analysis Volume [veh/h]	0	0	384	89	60	44
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.26	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.00	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.84	0.84	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	21.11	21.11	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		6.50		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.33					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Alder Avenue & Maryland Lane

Control Type:	Two-way stop	Delay (sec / veh):	21.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.278

Intersection Setup

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Base Volume Input [veh/h]	57	36	26	0	30	13	15	82	46	16	31	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	14.30	0.00	0.00	0.00	8.30	0.00	2.60	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	57	36	26	0	30	13	15	82	46	16	31	1
Peak Hour Factor	0.5100	0.5100	0.5100	0.6400	0.6400	0.6400	0.3500	0.3500	0.3500	0.7700	0.7700	0.7700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	18	13	0	12	5	11	59	33	5	10	0
Total Analysis Volume [veh/h]	112	71	51	0	47	20	43	234	131	21	40	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.16	0.07	0.00	0.11	0.02	0.03	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	21.58	20.64	17.47	16.37	14.36	9.57	7.33	0.00	0.00	8.01	0.00	0.00
Movement LOS	C	C	C	C	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.78	2.78	2.78	0.44	0.44	0.44	0.08	0.08	0.08	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	69.60	69.60	69.60	10.99	10.99	10.99	1.97	1.97	1.97	0.89	0.89	0.89
d_A, Approach Delay [s/veh]	20.40			12.93			0.77			2.71		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	7.94											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: Alder Avenue & E 8th Street

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.256

Intersection Setup

Name	Alder Avenue		Alder Avenue		E 8th Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Alder Avenue		Alder Avenue		E 8th Street	
Base Volume Input [veh/h]	40	80	63	31	75	75
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	0.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	80	63	31	75	75
Peak Hour Factor	0.6200	0.6200	0.3700	0.3700	0.6800	0.6800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	32	43	21	28	28
Total Analysis Volume [veh/h]	65	129	170	84	110	110
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.00	0.26	0.12
d_M, Delay for Movement [s/veh]	0.00	0.00	7.82	0.00	17.02	12.56
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.31	0.31	1.74	1.74
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.81	7.81	43.43	43.43
d_A, Approach Delay [s/veh]	0.00		5.23		14.79	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.86					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Alder Avenue & E 6th Street

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.351

Intersection Setup

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Base Volume Input [veh/h]	2	86	3	10	76	24	24	7	4	3	7	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.30	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	86	3	10	76	24	24	7	4	3	7	10
Peak Hour Factor	0.7500	0.7500	0.7500	0.3700	0.3700	0.3700	0.3400	0.3400	0.3400	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	29	1	7	51	16	18	5	3	1	2	3
Total Analysis Volume [veh/h]	3	115	4	27	205	65	71	21	12	3	8	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	795	847	729	749
Degree of Utilization, x	0.15	0.35	0.14	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.54	1.58	0.50	0.09
95th-Percentile Queue Length [ft]	13.51	39.62	12.40	2.27
Approach Delay [s/veh]	8.35	9.53	8.76	7.95
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.06			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Alder Avenue & E Main Street

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.138

Intersection Setup

Name	Alder Avenue		E Main Street		E Main Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Alder Avenue		E Main Street		E Main Street	
Base Volume Input [veh/h]	34	47	36	212	206	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.30	4.20	0.00	4.50	6.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	47	36	212	206	27
Peak Hour Factor	0.4500	0.4500	0.8300	0.8300	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	26	11	64	52	7
Total Analysis Volume [veh/h]	76	104	43	255	206	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	1	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.13	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.46	11.33	7.76	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.07	1.07	0.10	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	26.70	26.70	2.47	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.23		1.12		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.57					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: E 8th Street & School Exit

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name	School Exit		E 8th Street		E 8th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	School Exit		E 8th Street		E 8th Street	
Base Volume Input [veh/h]	14	129	0	144	20	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	129	0	144	20	0
Peak Hour Factor	0.5700	0.5700	0.7500	0.5700	0.5700	0.7500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	57	0	63	9	0
Total Analysis Volume [veh/h]	25	226	0	253	35	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.22	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.35	9.70	0.00	0.00	0.00	0.00
Movement LOS	B	A		A	A	
95th-Percentile Queue Length [veh/ln]	1.01	1.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	25.17	25.17	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.86		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.59					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: E 8th Street & School Entrance

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.125

Intersection Setup

Name	School Entrance		E 8th Street		E 8th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	School Entrance		E 8th Street		E 8th Street	
Base Volume Input [veh/h]	0	0	110	48	20	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	110	48	20	12
Peak Hour Factor	0.7500	0.7500	0.5700	0.5700	0.5700	0.5700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	48	21	9	5
Total Analysis Volume [veh/h]	0	0	193	84	35	21
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.56	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.36	0.36	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	8.99	8.99	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		5.27		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.38					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Alder Avenue & Maryland Lane

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alder Avenue			Alder Avenue			E Maryland Lane			E Maryland Lane		
Base Volume Input [veh/h]	58	33	23	0	18	7	6	36	29	8	51	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	33	23	0	18	7	6	36	29	8	51	1
Peak Hour Factor	0.5700	0.5700	0.5700	0.6400	0.6400	0.6400	1.0000	1.0000	1.0000	0.6000	0.6000	0.6000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	14	10	0	7	3	2	9	7	3	21	0
Total Analysis Volume [veh/h]	102	58	40	0	28	11	6	36	29	13	85	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.08	0.04	0.00	0.04	0.01	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	11.65	11.72	10.18	10.86	10.40	8.94	7.37	0.00	0.00	7.34	0.00	0.00
Movement LOS	B	B	B	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.05	1.05	1.05	0.16	0.16	0.16	0.01	0.01	0.01	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	26.22	26.22	26.22	4.04	4.04	4.04	0.27	0.27	0.27	0.55	0.55	0.55
d_A, Approach Delay [s/veh]	11.38			9.98			0.62			0.95		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	6.84											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 2: Alder Avenue & E 8th Street

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name	Alder Avenue		Alder Avenue		E 8th Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Alder Avenue		Alder Avenue		E 8th Street	
Base Volume Input [veh/h]	55	31	27	18	38	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	0.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	31	27	18	38	37
Peak Hour Factor	0.7800	0.7800	0.8900	0.8900	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	10	8	5	10	10
Total Analysis Volume [veh/h]	71	40	30	20	40	39
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.05	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	7.47	0.00	9.89	9.13
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.27	1.27	7.41	7.41
d_A, Approach Delay [s/veh]	0.00		4.48		9.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.07					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Alder Avenue & E 6th Street

Control Type:	All-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.110

Intersection Setup

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			15.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Alder Avenue			Alder Avenue			E 6th Street			E 6th Street		
Base Volume Input [veh/h]	8	71	8	5	32	17	12	13	3	6	7	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	71	8	5	32	17	12	13	3	6	7	6
Peak Hour Factor	0.9100	0.9100	0.9100	0.6800	0.6800	0.6800	0.6900	0.6900	0.6900	0.5000	0.5000	0.5000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	20	2	2	12	6	4	5	1	3	4	3
Total Analysis Volume [veh/h]	9	78	9	7	47	25	17	19	4	12	14	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	875	901	830	833
Degree of Utilization, x	0.11	0.09	0.05	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.37	0.29	0.15	0.14
95th-Percentile Queue Length [ft]	9.21	7.19	3.79	3.58
Approach Delay [s/veh]	7.62	7.38	7.56	7.53
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.52			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 4: Alder Avenue & E Main Street

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Alder Avenue		E Main Street		E Main Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Alder Avenue		E Main Street		E Main Street	
Base Volume Input [veh/h]	17	23	39	283	355	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.70	0.60	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	23	39	283	355	37
Peak Hour Factor	1.0000	1.0000	0.8100	0.8100	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	6	12	87	94	10
Total Analysis Volume [veh/h]	17	23	48	349	378	39
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	1	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.04	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.63	11.01	8.26	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.24	0.24	0.13	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.91	5.91	3.26	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.12		1.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.03					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: E 8th Street & School Exit

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	School Exit		E 8th Street		E 8th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	School Exit		E 8th Street		E 8th Street	
Base Volume Input [veh/h]	5	46	0	58	29	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	46	0	58	29	0
Peak Hour Factor	0.7200	0.7200	0.9200	0.7200	0.7200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	16	0	20	10	0
Total Analysis Volume [veh/h]	7	64	0	81	40	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.06	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.38	8.76	0.00	0.00	0.00	0.00
Movement LOS	A	A		A	A	
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.64	5.64	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.82		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.26					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: E 8th Street & School Entrance

Control Type:	Two-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

Intersection Setup

Name	School Entrance		E 8th Street		E 8th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		15.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	School Entrance		E 8th Street		E 8th Street	
Base Volume Input [veh/h]	0	0	39	24	29	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	39	24	29	4
Peak Hour Factor	0.9200	0.9200	0.7200	0.7200	0.7200	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	14	8	10	1
Total Analysis Volume [veh/h]	0	0	54	33	40	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.37	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.32	2.32	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		4.57		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.99					
Intersection LOS	A					

AUXILIARY TURN LANE &
TRAFFIC SIGNAL WARRANT WORKSHEETS

APPENDIX D

ENDURING COMMUNITY DESIGN

SANDERSON STEWART

TURN LANE WARRANTS		East Maryland Lane & Alder Avenue			East 8th Street & Alder Avenue			East Main Street & Alder Avenue			East 8th Street & Site Entrance		
		AM	School	PM	AM	School	PM	AM	School	PM	AM	School	PM
2023	NB Right-Turn Lane				NO	NO	NO						
	NB Left-Turn Lane												
	SB Right-Turn Lane												
	SB Left-Turn Lane				NO	NO	NO						
	EB Right-Turn Lane	NO	NO	NO									
	EB Left-Turn Lane	NO	NO	NO									
	WB Right-Turn Lane	NO	NO	NO				NO	NO	NO			
	WB Left-Turn Lane	NO	NO	NO									
2025	NB Right-Turn Lane				YES	NO	NO						
	NB Left-Turn Lane												
	SB Right-Turn Lane												
	SB Left-Turn Lane				NO	NO	NO						
	EB Right-Turn Lane	NO	NO	NO									
	EB Left-Turn Lane	NO	NO	NO							NO	NO	NO
	WB Right-Turn Lane	NO	NO	NO				NO	NO	NO	NO	NO	NO
	WB Left-Turn Lane	NO	NO	NO									

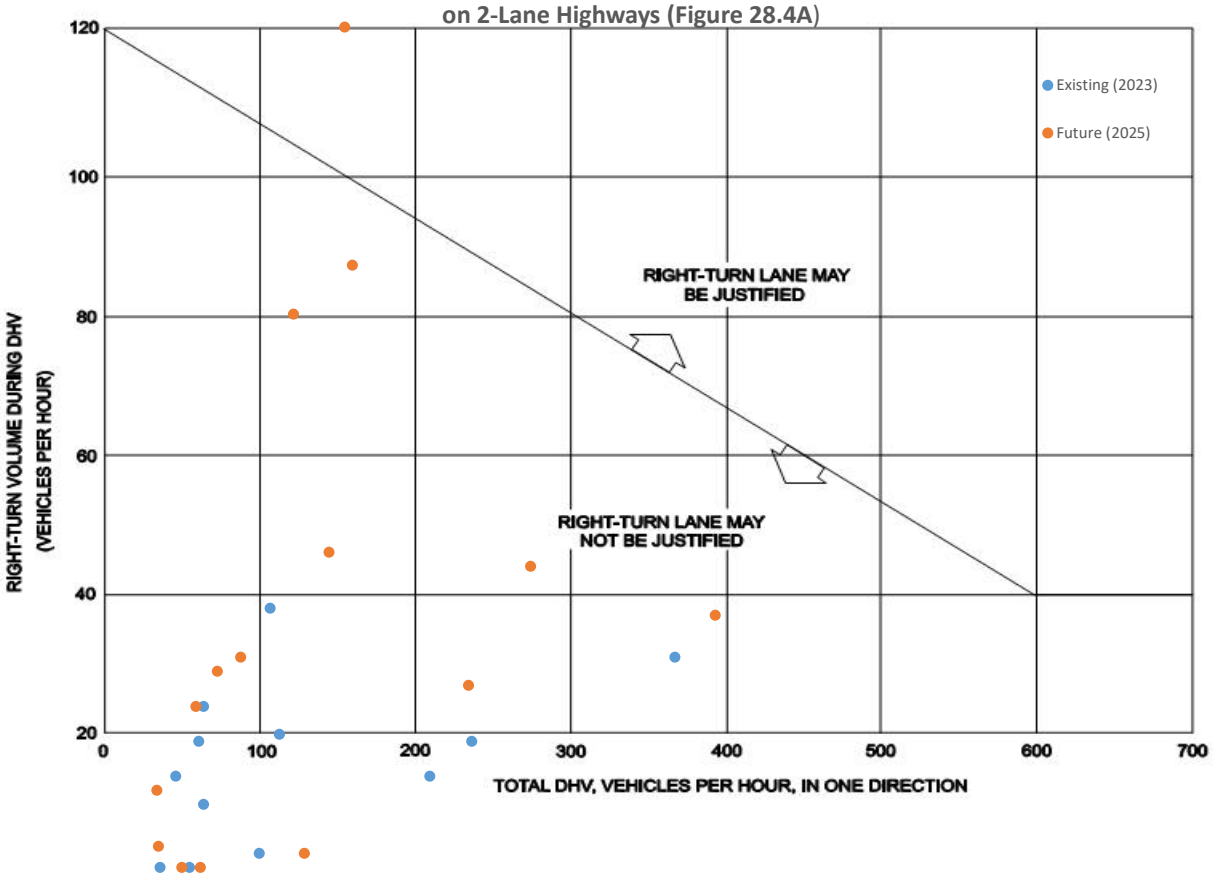
Existing Traffic Volumes (2023) - Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

Approach	Time	Total DHV (veh/hr)	Right-Turn Volume During DHV (veh/hr, one direction)	Required Right-Turn Volume for Warranted Lane	Warranted Right-Turn Lane? (Y/N)	Speed Limit at Approach	Adjustment
Alder & Maryland EB	AM weekday	105	38	106	N	25	0
	School weekday	111	20	105	N	25	0
	PM weekday	59	19	112	N	25	0
Alder & Maryland WB	AM weekday	98	3	107	N	25	0
	School weekday	34	1	115	N	25	0
	PM weekday	53	1	113	N	25	0
8th & Alder NB	AM weekday	44	14	114	N	25	0
	School weekday	62	24	112	N	25	0
	PM weekday	62	10	112	N	25	0
Main & Alder WB	AM weekday	235	19	89	N	35	0
	School weekday	208	14	92	N	35	0
	PM weekday	366	31	71	N	35	0

Future Traffic Volumes (2025) - Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

Approach	Time	Total DHV (veh/hr)	Right-Turn Volume During DHV (veh/hr, one direction)	Required Right-Turn Volume for Warranted Lane	Warranted Right-Turn Lane? (Y/N)	Speed Limit at Approach	Adjustment
Alder & Maryland EB	AM weekday	158	87	119	N	25	20
	School weekday	143	46	121	N	25	20
	PM weekday	71	29	111	N	25	0
Alder & Maryland WB	AM weekday	127	3	103	N	25	0
	School weekday	48	1	114	N	25	0
	PM weekday	60	1	112	N	25	0
8th & Alder NB	AM weekday	153	121	120	Y	25	20
	School weekday	120	80	124	N	25	20
	PM weekday	86	31	109	N	25	0
Main & Alder WB	AM weekday	273	44	104	N	35	20
	School weekday	233	27	89	N	35	0
	PM weekday	392	37	68	N	35	0
8th & Site WB	AM weekday	57	24	112	N	25	0
	School weekday	32	12	116	N	25	0
	PM weekday	33	4	116	N	25	0

Guidelines for Right-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (Figure 28.4A)



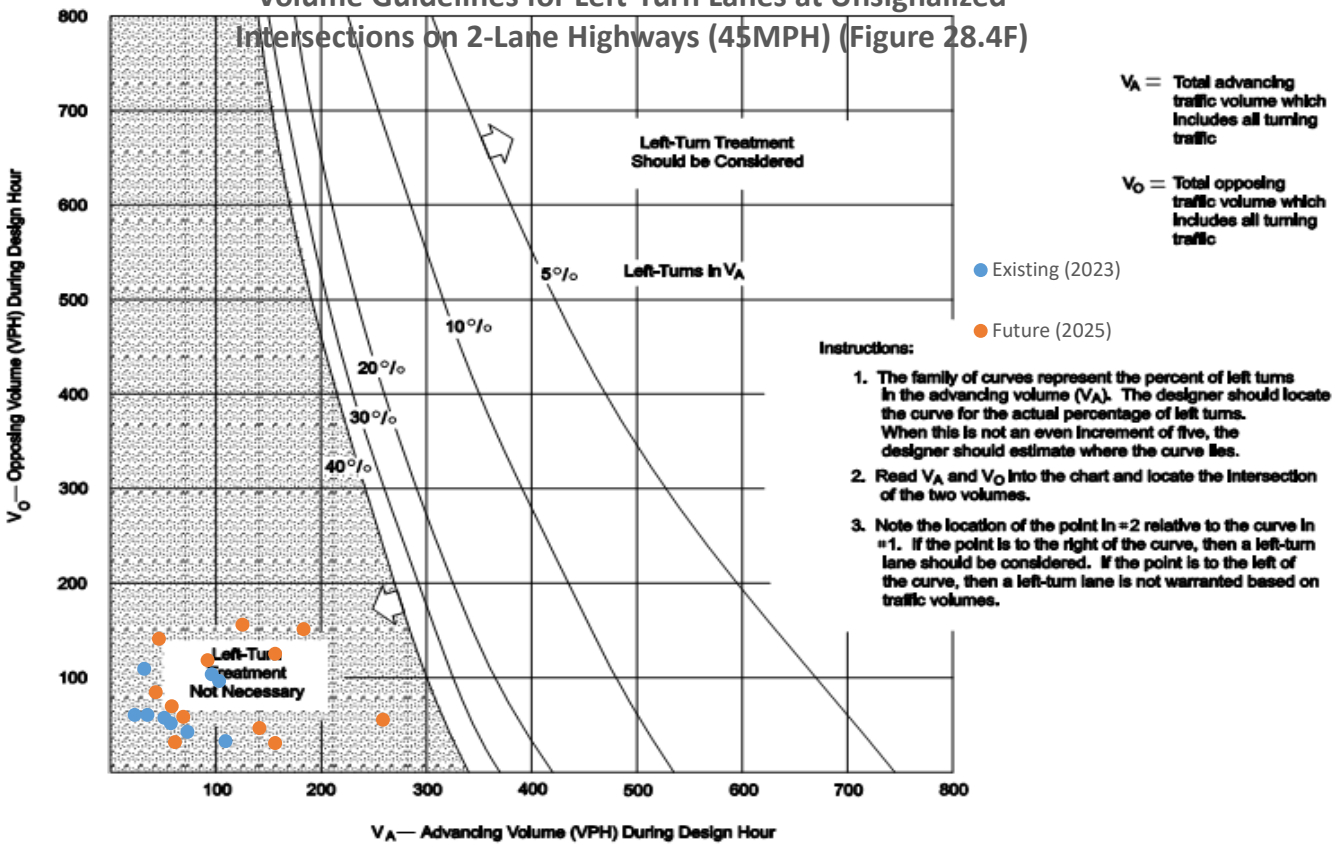
Existing Traffic Volumes (2023) - Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

Approach	Time	Va = Total advancing traffic volume	Val = Total left-turn volume in advancing traffic	Percent left-turns in Va	Vo = Total opposing traffic volume	Warranted Left-Turn Lane? (Y/N)	Speed Limit at Approach
Alder & Maryland EB	AM weekday	105	8	7.6%	98	N	25
	School weekday	111	14	12.6%	34	N	25
	PM weekday	59	6	10.2%	53	N	25
Alder & Maryland WB	AM weekday	98	12	12.2%	105	N	25
	School weekday	34	4	11.8%	111	N	25
	PM weekday	53	4	7.5%	59	N	25
8th & Alder SB	AM weekday	75	13	17.3%	44	N	25
	School weekday	37	8	21.6%	62	N	25
	PM weekday	25	8	32.0%	62	N	25

Future Traffic Volumes (2025) - Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways

Approach	Time	Va = Total advancing traffic volume	Val = Total left-turn volume in advancing traffic	Percent left-turns in Va	Vo = Total opposing traffic volume	Warranted Left-Turn Lane? (Y/N)	Speed Limit at Approach
Alder & Maryland EB	AM weekday	158	8	5.1%	127	N	25
	School weekday	143	15	10.5%	48	N	25
	PM weekday	71	6	8.5%	60	N	25
Alder & Maryland WB	AM weekday	127	36	28.3%	158	N	25
	School weekday	48	16	33.3%	143	N	25
	PM weekday	60	8	13.3%	71	N	25
8th & Alder SB	AM weekday	185	119	64.3%	153	N	25
	School weekday	94	63	67.0%	120	N	25
	PM weekday	45	27	60.0%	86	N	25
8th & Site EB	AM weekday	260	211	81.2%	57	N	25
	School weekday	158	110	69.6%	32	N	25
	PM weekday	63	39	61.9%	33	N	25

Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (45MPH) (Figure 28.4F)



TRAFFIC SIGNAL WARRANTS		East Main Street & Alder Avenue	
		Existing Conditions (2023)	Future (2025)
1. Eight-Hour Vehicular Volume		x	x
2. Four-Hour Vehicular Volume		x	x
3. Peak Hour		x	x
4. Pedestrian Volume		--	--
5. School Crossing		--	--
6. Coordinated Signal System		x	x
7. Crash History		x	x
8. Roadway Network		x	x
9. Intersection Near a Grade Crossing		--	--
Signals Warranted	**Yes**		
	No	**x**	**x**

Warrant 1: Eight-Hour Vehicular Volume

General Information

Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Existing (2023)

Hour Begin	Avg. Entering Volume				Major Street Total (Both Approaches)	Higher Volume Minor Approach
	NB	SB	EB	WB		
0:00	0	2	7	12	19	2
1:00	0	0	8	10	18	0
2:00	0	0	7	6	13	0
3:00	0	3	4	16	20	3
4:00	0	7	19	24	43	7
5:00	0	19	28	66	94	19
6:00	0	25	97	103	200	25
7:00	0	55	187	210	397	55
8:00	0	42	192	188	380	42
9:00	0	22	151	167	318	22
10:00	0	33	159	143	302	33
11:00	0	31	172	174	346	31
12:00	0	22	180	196	376	22
13:00	0	27	167	206	373	27
14:00	0	46	199	238	437	46
15:00	0	32	194	241	435	32
16:00	0	28	242	297	539	28
17:00	0	30	296	367	663	30
18:00	0	33	162	243	405	33
19:00	0	21	161	155	316	21
20:00	0	7	114	106	220	7
21:00	0	6	68	76	144	6
22:00	0	4	36	39	75	4
23:00	0	2	18	20	38	2
TOTAL	**0**	**497**	**2868**	**3303**	**6171**	**497**

		Hrs
Condition A - Minimum Vehicular Volume (70% Columns):		
Major Street Total >350 and Higher Minor Street Total > 105 for 8 hours?	**No**	**0**
Condition B - Interruption of Continuous Traffic (70% Columns):		
Major Street Total > 525 and Higher Minor Street Total > 53 for 8 hours?	**No**	**0**
Combination of Conditions A & B (56% Columns):		
Major Street Total > 280 and Higher Minor Street Total > 84 for 8 hours?	**No**	**0**
Major Street Total > 420 and Higher Minor Street Total > 42 for 8 hours?	**No**	**1**
Warrant 1 Satisfied?	**No**	

Warrant 1: Eight-Hour Vehicular Volume

General Information

Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Future (2025)

Hour Begin	Avg. Entering Volume				Major Street Total (Both Approaches)	Higher Volume Minor Approach
	NB	SB	EB	WB		
0:00	0	3	8	13	21	3
1:00	0	0	9	11	20	0
2:00	0	0	8	7	15	0
3:00	0	5	5	18	23	5
4:00	0	12	22	27	49	12
5:00	0	33	32	73	105	33
6:00	0	44	111	114	225	44
7:00	0	96	214	233	447	96
8:00	0	73	220	209	429	73
9:00	0	38	173	185	358	38
10:00	0	58	182	159	341	58
11:00	0	54	197	193	390	54
12:00	0	38	206	218	424	38
13:00	0	47	191	229	420	47
14:00	0	80	228	264	492	80
15:00	0	56	222	268	490	56
16:00	0	49	277	330	607	49
17:00	0	52	339	407	746	52
18:00	0	58	185	270	455	58
19:00	0	37	184	172	356	37
20:00	0	12	130	118	248	12
21:00	0	10	78	84	162	10
22:00	0	7	41	43	84	7
23:00	0	3	21	22	43	3
TOTAL	**0**	**865**	**3283**	**3667**	**6950**	**865**

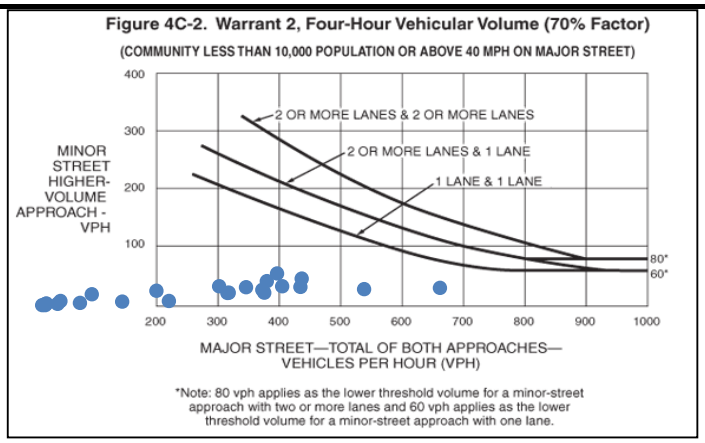
		Hrs
Condition A - Minimum Vehicular Volume (70% Columns):		
Major Street Total >350 and Higher Minor Street Total > 105 for 8 hours?	**No**	**0**
Condition B - Interruption of Continuous Traffic (70% Columns):		
Major Street Total > 525 and Higher Minor Street Total > 53 for 8 hours?	**No**	**0**
Combination of Conditions A & B (56% Columns):		
Major Street Total > 280 and Higher Minor Street Total > 84 for 8 hours?	**No**	**1**
Major Street Total > 420 and Higher Minor Street Total > 42 for 8 hours?	**No**	**7**
Warrant 1 Satisfied?	**No**	

Warrant 2: Four-Hour Vehicular Volume

General Information

Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Existing (2023)

Hour Begin	Avg. Entering Volume				Major Street Total (Both Approaches)	Higher Volume Minor Approach
	NB	SB	EB	WB		
0:00	0	2	7	12	19	2
1:00	0	0	8	10	18	0
2:00	0	0	7	6	13	0
3:00	0	3	4	16	20	3
4:00	0	7	19	24	43	7
5:00	0	19	28	66	94	19
6:00	0	25	97	103	200	25
7:00	0	55	187	210	397	55
8:00	0	42	192	188	380	42
9:00	0	22	151	167	318	22
10:00	0	33	159	143	302	33
11:00	0	31	172	174	346	31
12:00	0	22	180	196	376	22
13:00	0	27	167	206	373	27
14:00	0	46	199	238	437	46
15:00	0	32	194	241	435	32
16:00	0	28	242	297	539	28
17:00	0	30	296	367	663	30
18:00	0	33	162	243	405	33
19:00	0	21	161	155	316	21
20:00	0	7	114	106	220	7
21:00	0	6	68	76	144	6
22:00	0	4	36	39	75	4
23:00	0	2	18	20	38	2
TOTAL	**0**	**497**	**2868**	**3303**	**6171**	**497**



Meets warrant criteria on graph for minimum of 4 hours (100% thresholds)? **No (0 hrs)**

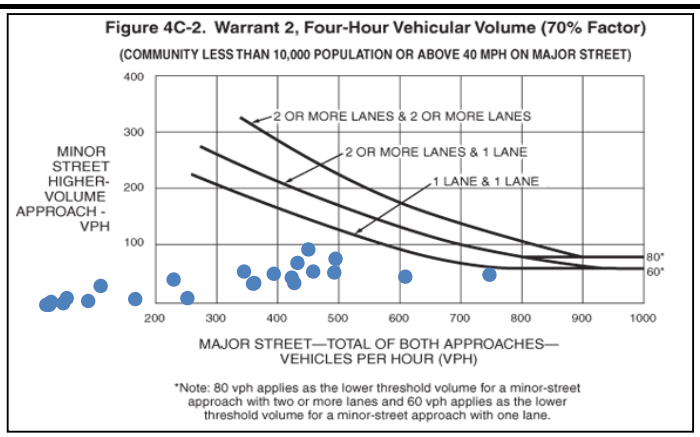
Warrant 2 Satisfied? **No**

Warrant 2: Four-Hour Vehicular Volume

General Information

Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Future (2025)

Hour Begin	Avg. Entering Volume				Major Street Total (Both Approaches)	Higher Volume Minor Approach
	NB	SB	EB	WB		
0:00	0	3	8	13	21	3
1:00	0	0	9	11	20	0
2:00	0	0	8	7	15	0
3:00	0	5	5	18	23	5
4:00	0	12	22	27	49	12
5:00	0	33	32	73	105	33
6:00	0	44	111	114	225	44
7:00	0	96	214	233	447	96
8:00	0	73	220	209	429	73
9:00	0	38	173	185	358	38
10:00	0	58	182	159	341	58
11:00	0	54	197	193	390	54
12:00	0	38	206	218	424	38
13:00	0	47	191	229	420	47
14:00	0	80	228	264	492	80
15:00	0	56	222	268	490	56
16:00	0	49	277	330	607	49
17:00	0	52	339	407	746	52
18:00	0	58	185	270	455	58
19:00	0	37	184	172	356	37
20:00	0	12	130	118	248	12
21:00	0	10	78	84	162	10
22:00	0	7	41	43	84	7
23:00	0	3	21	22	43	3
TOTAL	**0**	**865**	**3283**	**3667**	**6950**	**865**



Meets warrant criteria on graph for minimum of 4 hours (100% thresholds)? **No (0 hrs)**

Warrant 2 Satisfied? **No**

Warrant 3: Peak Hour

General Information

Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Existing (2023)

AM Peak Hour	**7:30 - 8:30 AM**
High Minor Total Stopped Time Delay (hrs)	**0.19**
Total Volume of Major Approaches (vehs)	**457**
High Minor Approach Volume (vehs)	**64**
Total Entering Volume (vehs)	**521**

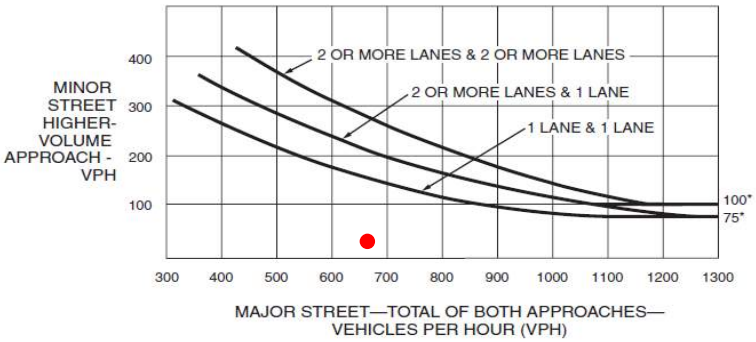
PM Peak Hour	**5:00 - 6:00 PM**
High Minor Total Stopped Time Delay (hrs)	**0.10**
Total Volume of Major Approaches (vehs)	**663**
High Minor Approach Volume (vehs)	**30**
Total Entering Volume (vehs)	**693**

Category A: Peak Period: PM

Total stopped time delay for minor approach > 4 veh-hrs?	**No (0.10)**
High minor approach volume > 100 for peak hour?	**No (30)**
Total entering volume > 650 for peak hour?	**Yes (693)**
Category A warrant satisfied?	**No**

Category B:

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Meets warrant criteria on graph for minimum of one hour (70% thresholds)?	**No**
Warrant 3 Satisfied?	**No**

Warrant 3: Peak Hour

General Information

Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Future (2025)

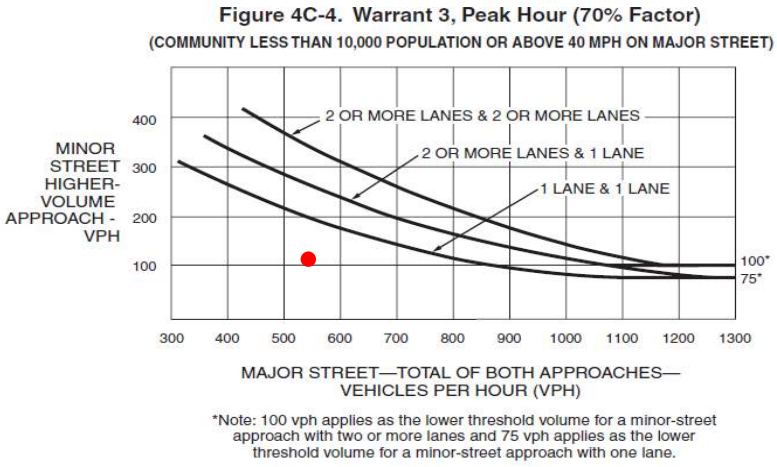
AM Peak Hour	**7:30 - 8:30 AM**
High Minor Total Stopped Time Delay (hrs)	**0.40**
Total Volume of Major Approaches (vehs)	**544**
High Minor Approach Volume (vehs)	**118**
Total Entering Volume (vehs)	**662**

PM Peak Hour	**5:00 - 6:00 PM**
High Minor Total Stopped Time Delay (hrs)	**0.13**
Total Volume of Major Approaches (vehs)	**714**
High Minor Approach Volume (vehs)	**40**
Total Entering Volume (vehs)	**754**

Category A: Peak Period: AM

Total stopped time delay for minor approach > 4 veh-hrs?	**No (0.40)**
High minor approach volume > 100 for peak hour?	**Yes (118)**
Total entering volume > 650 for peak hour?	**Yes (662)**
Category A warrant satisfied?	**No**

Category B:



Meets warrant criteria on graph for minimum of one hour (70% thresholds)?	**No**
Warrant 3 Satisfied?	**No**

Warrant 4: Pedestrian Volume

General Information

Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Future (2025)

This warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Hour Begin	Major Street Total Traffic	Pedestrian Volume Crossing Major Street
0:00	21	0
1:00	20	0
2:00	15	0
3:00	23	0
4:00	49	0
5:00	105	0
6:00	225	0
7:00	447	0
8:00	429	0
9:00	358	0
10:00	341	0
11:00	390	0
12:00	424	0
13:00	420	0
14:00	492	0
15:00	490	0
16:00	607	0
17:00	746	0
18:00	455	0
19:00	356	0
20:00	248	0
21:00	162	0
22:00	84	0
23:00	43	0
TOTAL	**6,950**	**0**

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

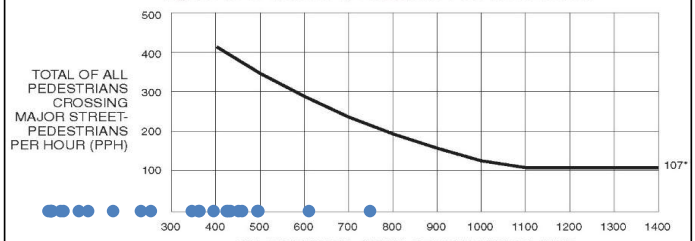
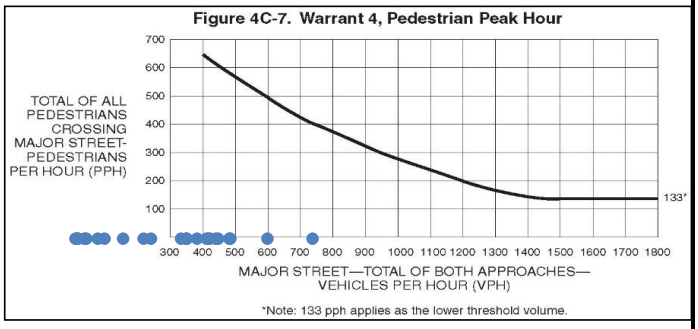


Figure 4C-7. Warrant 4, Pedestrian Peak Hour



For each of any 4 hours of an average day, do the plotted points representing representing the vehicles per hour on the major street and the corresponding pedestrians per hour crossing the major street fall above the curve in Figure 4C-5? **N/A**

For 1 hour of an average day, does the plotted point representing vehicles per hour on the major street and the corresponding pedestrians per hour crossing the major street fall above the curve in Figure 4C-7? **N/A**

Warrant 4 Satisfied? **N/A**

General Information	
Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Existing (2023)

Warrant 5: School Crossing

This warrant is intended for application where the fact that school children (elementary through high school students) cross the major street is the principle reason to consider installing a traffic signal. This warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless it can be shown that the proposed traffic signal would not restrict the progressive movement of traffic.

Is the number of adequate gaps in the major crossing traffic steam during the primary crossing period less than the number of minutes in that crossing period? **N/A**

Do 20 or more students cross at this location during the highest crossing hour? **No**

Warrant 5 Satisfied? **N/A**

Warrant 6: Coordinated Signal System

This warrant is intended for application where installation of a traffic signal would help to provide proper platooning of vehicles and therefore provide progressive movement in a coordinated signal system.

Are any adjacent traffic signals located so far away that they do not provide a necessary degree of platooning and/or progressive operation? **No**

Warrant 6 Satisfied? **No**

Warrant 7: Crash Experience

This warrant is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal

Have adequate trials of alternatives failed to reduce the crash frequency? **N/A**

Have 5 or more crashes, of types susceptible to correction by a signal, occurred within a 12-month period? **No**

Is Condition A criterion met for 56% columns of Warrant 1 met? **No**

Is Condition B criterion met for 56% columns of Warrant 1 met? **No**

Are observed pedestrian volumes equal to or greater than 80% of what is required for Warrant 4? **No**

Warrant 7 Satisfied? **No**

General Information	
Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Future (2025)

Warrant 5: School Crossing

This warrant is intended for application where the fact that school children (elementary through high school students) cross the major street is the principle reason to consider installing a traffic signal. This warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless it can be shown that the proposed traffic signal would not restrict the progressive movement of traffic.

Is the number of adequate gaps in the major crossing traffic steam during the primary crossing period less than the number of minutes in that crossing period? **N/A**

Do 20 or more students cross at this location during the highest crossing hour? **No**

Warrant 5 Satisfied? **N/A**

Warrant 6: Coordinated Signal System

This warrant is intended for application where installation of a traffic signal would help to provide proper platooning of vehicles and therefore provide progressive movement in a coordinated signal system.

Are any adjacent traffic signals located so far away that they do not provide a necessary degree of platooning and/or progressive operation? **No**

Warrant 6 Satisfied? **No**

Warrant 7: Crash Experience

This warrant is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal

Have adequate trials of alternatives failed to reduce the crash frequency? **N/A**

Have 5 or more crashes, of types susceptible to correction by a signal, occurred within a 12-month period? **No**

Is Condition A criterion met for 56% columns of Warrant 1 met? **No**

Is Condition B criterion met for 56% columns of Warrant 1 met? **No**

Are observed pedestrian volumes equal to or greater than 80% of what is required for Warrant 4? **No**

Warrant 7 Satisfied? **No**

General Information	
Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Existing (2023)

Warrant 8: Roadway Network

This warrant is intended for application where installation of a traffic signal could be justified in order to encourage concentration and organization of traffic flow on a roadway network

Do two or more of the intersecting routes at this location have at least one of the following characteristics:

A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or
B. It includes rural or suburban highways outside, entering, or traversing a City; or
C. It appears as a major route on an official plan.

Yes

Does this intersection have an existing or immediately projected total entering volume of a least 1000 vehicles during a weekday typical peak hour and have a 5-year projected traffic volume that meets one or more of Warrants 1, 2, and 3 during an average weekday? **No**

Does this intersection have an existing or immediately projected total entering volume of at least 1000 vph for each of any 5 hours of a Saturday or Sunday? **N/A**

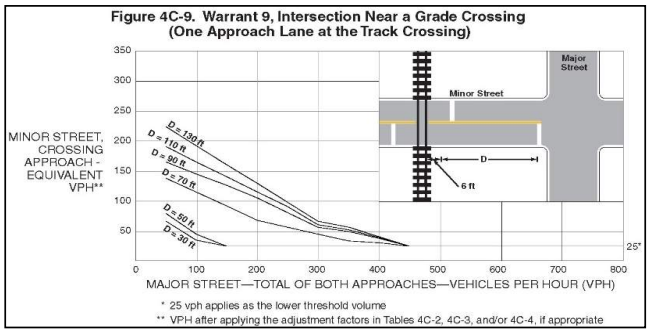
Warrant 8 Satisfied? **No**

Warrant 9: Intersection Near a Grade Crossing

This warrant is intended for application where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic signal.

Does a grade crossing exist on an approach controlled by a STOP or YIELD sign whereby the center of the track nearest to the intersection is within 140 feet of the stop or yield line?

No



During the highest traffic volume hour during which the rail traffic uses the crossing, does the plotted point representing vehicles per hour on the major street and the corresponding vehicles per hour on the minor-street approach that crosses the track fall above the applicable curve in Figure 4C-9 or 4C-10 (whichever is applicable) for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance? **N/A**

Warrant 9 Satisfied? **N/A**

General Information	
Agency/Company:	Sanderson Stewart
Date:	9/20/2023
Project Number:	23103
Project Description:	Laurel - New 3rd-5th Elementary School
Jurisdiction:	City of Laurel/MDT
Major Street Speed Limit:	35 mph
Major Street (Approach Lanes):	East Main St (1 lane)
Minor Street (Approach Lanes):	Alder Ave (1 lane)
Analysis Year/Case:	Future (2025)

Warrant 8: Roadway Network

This warrant is intended for application where installation of a traffic signal could be justified in order to encourage concentration and organization of traffic flow on a roadway network

Do two or more of the intersecting routes at this location have at least one of the following characteristics:

A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or
B. It includes rural or suburban highways outside, entering, or traversing a City; or
C. It appears as a major route on an official plan.

Yes

Does this intersection have an existing or immediately projected total entering volume of a least 1000 vehicles during a weekday typical peak hour and have a 5-year projected traffic volume that meets one or more of Warrants 1, 2, and 3 during an average weekday? **No**

Does this intersection have an existing or immediately projected total entering volume of at least 1000 vph for each of any 5 hours of a Saturday or Sunday? **N/A**

Warrant 8 Satisfied? **No**

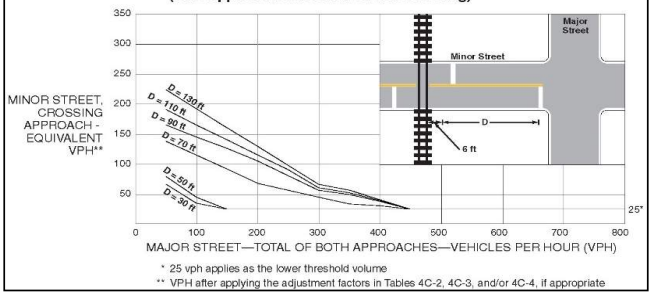
Warrant 9: Intersection Near a Grade Crossing

This warrant is intended for application where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic signal.

Does a grade crossing exist on an approach controlled by a STOP or YIELD sign whereby the center of the track nearest to the intersection is within 140 feet of the stop or yield line?

No

Figure 4C-9. Warrant 9, Intersection Near a Grade Crossing (One Approach Lane at the Track Crossing)



During the highest traffic volume hour during which the rail traffic uses the crossing, does the plotted point representing vehicles per hour on the major street and the corresponding vehicles per hour on the minor-street approach that crosses the track fall above the applicable curve in Figure 4C-9 or 4C-10 (whichever is applicable) for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance? **N/A**

Warrant 9 Satisfied? **N/A**

ENDURING COMMUNITY DESIGN

SANDERSONSTEWART.COM

Recommendation for zoning assignment for the annexation application by the Laurel School District

LAUREL – YELLOWSTONE CITY COUNTY PLANNING BOARD

The Laurel- Yellowstone City – County Planning Board acting as the zoning commission for the City of Laurel voted unanimously on March 20th, 2024, to recommend the assignment for a zoning designation of "Public" (P) if the City Council of Laurel annexes lands owned by the Laurel School District described as a portion of Lots 1 & 2 of Nutting Brothers Subdivision Second Filing which is anticipated to be amended. The amended tract of record will be the Amended Plat of Lots 1 & 2 of Nutting Brothers Subdivision Second Filing in Section 10 Township 2 South Range 24 East. The Planning Board held a public hearing and allowed for written and in person testimony for or against the action to recommend the zoning designation. The planning board considered the written or in person testimony at the public hearing and completed a review of zoning considerations when assigning zoning designations. The Planning Board believes that this assignment of zoning is consistent with the 2020 Laurel Growth Management Policy. The Laurel Yellowstone City- County Planning Board Public Hearing was publicly noticed for at least 15 days in a newspaper of general circulation within Yellowstone County. All property owners within 300 feet of the school district propose lands to be annexed were notified of the date of the public hearing. The planning board moved, seconded, and voted unanimously to recommend to the City Council to approve the zoning designation of "Public" (P) if the City of Laurel completes the annexation.

Dated this 11th day of April 2024.

Laurel – Yellowstone City County Planning Board
Judy Goldsby, President

Kurt Markegard, Executive Secretary

CITY HALL
115 W. 1ST ST.
PUB. WORKS: 628-4796
WATER OFC.: 628-7431
COURT: 628-1964
FAX 628-2241

City Of Laurel

P.O. Box 10
Laurel, Montana 59044

Office of the Planning Director

PLANNING BOARD AND ZONING COMMISSION RECOMMENDATION
Laurel School District
Annexation and Initial Zoning

Applicant:

Laurel School District
410 Colorado Avenue
Laurel MT 59044

The School District represents 100% of the land ownership. Annexation pursuant to §7-2-4601 et. seq. MCA. (Annexation by Petition).

Request:

The Laurel School District representing 100% of the ownership of lands involved, has Petitioned the City of Laurel for Annexation of approximately 4.886 acres of property adjacent to the City of Laurel with an initial Zoning Designation of Public for concurrent review.

The subject property is generally described as that portion of NW 1/4 Section 10, Township 2 South, Range 24 East, P.M.M., Yellowstone County, Montana, for a proposed amended Nutting Brothers Subdivision Second Filing Lot1A. An annexation Exhibit, which is incorporated into this report by reference, has been submitted in support of the Petition and Requested Initial Zoning.

Process:

The annexation petition and requested initial zoning has been scheduled for consideration and a public hearing by the Laurel – Yellowstone City County Planning Board and Zoning Commission for 6 p.m. on Wednesday, March 20, 2024. The City Council will consider the annexation and zoning designation at a future council meeting.

Analysis of the Request

- The Laurel School District represents 100% of the land ownership involved in the petition.
- The Laurel Growth Policy designates the property as a 'growth area' of the city.
- The current use of the property is a sports field that has been used by the school district for many years.
- The requested zone City Laurel "Public" provides for a small number of specific uses and is consistent with the requirements of R-08-22 that lands embraced by the city be assigned R-7500 or greater.
- The subject property was presumed to be zoned County Residential Tracts or is un-zoned Yellowstone County.
- Part 46 annexation requires that the land use designation be 'consistent with the prevailing use of the property, consistent with the prevailing County Zoning Assignment, and/or consistent with the current growth policy'.
- In addition to the extension of urban scale services the City Zoning provides options for development that are not available to rural properties. These options include but are not limited to Planned Unit Developments
- The initial zoning must be considered under City Resolution R-08-22 (Annexation), the Laurel Municipal Code Title 17 (Zoning).
- The question of annexation and initial zoning must be heard by the Laurel – Yellowstone City County Planning Board and Zoning Commission.
- Is the requested annexation and initial zoning in the best interest of the City and Citizens of the City of Laurel.
- The property is situated such that street rights-of-way will need to be annexed with the subject property.

Findings:

- ✓ The subject property is adjacent to the City of Laurel.
- ✓ The City Council is not required to submit the question of annexation to the qualified electors of the area to be annexed as the petition is signed by 100% of the owners.
- ✓ The city may annex the property as 100% of the ownership of same has petitioned the city for annexation.
- ✓ The driver for the annexation request is the building of an elementary school on the property. The only way the development plan works is to extend the City water and sewer systems to the proposed school.
- ✓ The subject property was included as 'institutional" under existing land uses in the Growth Policy adopted by the City of Laurel. Additionally, the property has been identified as an annexation priority area of the Planning Jurisdiction Map in the 2020 Growth Policy. As such, the requested zoning is consistent with the Laurel Growth Policy.
- ✓ The proposed assignment of "Public" meets all the statutory requirements of Part 46 annexation and zoning assignment.
- ✓ The Laurel "Public" Zone is determined to be a "greater than" R-7500 classification density. Zoning assignments for government owned land is not subject to zoning regulations typically required to other applicants. The Laurel School District meets the definition of an "agency" in MCA 76-2-402 and therefore can use their property as they

see fit as long as any changes in use contrary to local zoning regulations that the City Council holds a public hearing.

- ✓ The extension of city services will be at the owner's expense (R-08-22) and in accordance with the Annexation Agreement as approved by the City Council and requirements of the Public Works Department.
- ✓ The city can provide services to the property both existing and proposed if extension of water, sewer, and storm water lines are extended.

12 Point Test for Zoning:

I. Is the zoning in accordance with the growth policy;

- The proposed zoning is consistent with having a public agency own the land and to plan for education for the community.
- The Growth Policy identifies all of the property proposed for annexation as an annexation priority area.
- Resolution R-08-22 requires zoning assignment at annexation at R-7500 or greater.
- The Zone "Public" meets the definition as 'greater than' R-7500.

Finding:

The requested zoning is in accordance with the Growth Policy.

II. Is the zoning designed to lessen congestion in the streets;

- The proposed zoning is consistent with a school zone already in the area just east of this area.
- The proposed zoning along with the annexation agreement will allow development of the property consistent with surrounding uses of property.
- Proposed development that would potentially impact roads and streets would require a traffic impact analysis and associated improvements which has been completed.

Finding:

The requested zoning will have a material impact on congestion in the streets but should be mitigated by the suggestions in the traffic impact analysis.

III. Is the zoning designed to secure safety from fire, panic, and other dangers;

- The Growth Policy identifies this property as institutional in the existing use map.
- Adequate public infrastructure exists or can be readily extended/expanded to serve the property for "public" designation.
- Fire hydrants and water supply should be adequate if they meet the requirements from the Public Works Department.

Finding:

The requested zoning will not have an adverse impact on safety from fire, panic, or other dangers.

IV. Is the zoning designed to promote health and the general welfare;

- The connection of the school building at the time of development to the Laurel municipal water and wastewater systems will have positive impacts to public health and general welfare.
- Education meets the goals of promoting the growth management policy to serve the citizens of the Laurel area.

Finding:

The requested zoning will promote the public health and the general welfare.

V. Is the zoning designed to provide adequate light and air;

- The existing zoning imposes building setbacks, height limits, limits on the number of buildings on a single parcel, and reasonable area limits on new development.
- The proposed "Public" provides restrictions on structure height, setbacks, lot coverage. These standards exist to provide open spaces and adequate light and air.
- The existing development has more than adequate separation from surrounding uses.
- Open spaces are planned to be reserved north of this property that the school district owns.

Finding

The requested zoning will provide adequate light and air.

VI. Is the zoning designed to prevent the overcrowding of land;

- The existing zoning imposes building setbacks, height limits, limits on the number of buildings on a single parcel, and reasonable area limits on new development.

Finding:

The proposed zoning will prevent the overcrowding of land.

VII. Is the zoning designed to avoid undue concentration of population;

- The existing zoning imposes building setbacks, height limits, limits on the number of buildings on a single parcel, and reasonable area limits on new development.
- The subject property is large enough to provide adequate separation from surrounding uses.
- The property is not going to be used for residential development with the "public" designation.

Finding:

The proposed zoning will prevent the undue concentration of population.

VIII. Is the zoning designed to facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements;

- The requested zoning will allow for a school building and will be required to provide for adequate water, sewerage or other public requirements.

Finding:

The requested zoning will facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements. Additionally, as the uses of the property change and the intensity of development changes, the city will be able to plan for and be prepared for the anticipated increased demands on their public systems.

IX. Does the zoning give reasonable consideration to the character of the district and its peculiar suitability for particular uses;

- The requested zoning is consistent with the Growth Policy.
- The property is compatible with surrounding development which is, for the most part, school use just west of the property and would be a consolidation of education facilities within the City of Laurel.
- The water and sewer infrastructure with this annexation is for the intended use of the property and will need final approval from the City of Laurel City Council and the Public Works Department.

Finding:

The requested zoning is consistent with surrounding uses, the Growth Policy and provides for opportunities with suitable uses.

X. Does the zoning give reasonable consideration to the peculiar suitability of the property for its particular uses;

- The requested zoning is consistent with the Growth Policy.
- The property is compatible with surrounding development which is, for the most part, school to the west and low density to north and south of the property.
- The water and sewer infrastructure proposed with the annexation will have to meet infrastructure requirements by the Public Works Department.

Finding:

The requested zoning is in keeping with the character of the development in the area.

XI. Will the zoning conserve the value of buildings;

- The extension and availability of public water and sewer resultant from annexation and initial zoning will add value to buildings as the proposed use is substantially like or complementary to surrounding buildings and uses.
- The requested zoning is consistent with the Growth Policy.
- The proposed zoning is not anticipated that there would be any adverse effect on the value of surrounding buildings or lands.

Finding:

The value of existing buildings both on and adjacent to the requested zone will either be enhanced or not affected by the proposed zoning.

XII. Will the zoning encourage the most appropriate use of land throughout the municipality?

- The requested zoning is consistent with the Growth Policy.
- The requested zoning is consistent with the prevailing land uses and zoning surrounding the property.

Finding:

The requested zoning provides for the most appropriate use of land in the municipality as the school district has owned the property for some time and the annexation of the property into the City of Laurel will give the school district to plan for its future education needs.

Conclusion:

The petition for annexation into the City of Laurel with the initial zoning assignment of Laurel "Public "appears to be consistent with the requirements of Part 46 Annexation and City Council Resolution R-08-22. Additionally, the annexation, extension of services, and initial zoning assignment are in the best interest of both the City of Laurel and the Laurel School District.

RECOMMENDATION

The Laurel – Yellowstone City County Planning Board recommend that the Laurel City Council adopt the Findings of Fact outlined in this Recommendation and approve the Annexation and Initial Zoning requested by the Laurel School District.

- That an Amended Plat or Certificate of Survey suitable for filing with Yellowstone County that describes the tract of land to be Annexed is submitted by the School District.
- That an Annexation Agreement is submitted for acceptance by the City Council.
- That any extensions of water, sewer and storm facilities be approved by the Public Works Department.
- That any recommendations from the traffic study be implemented and approved by the City Council.

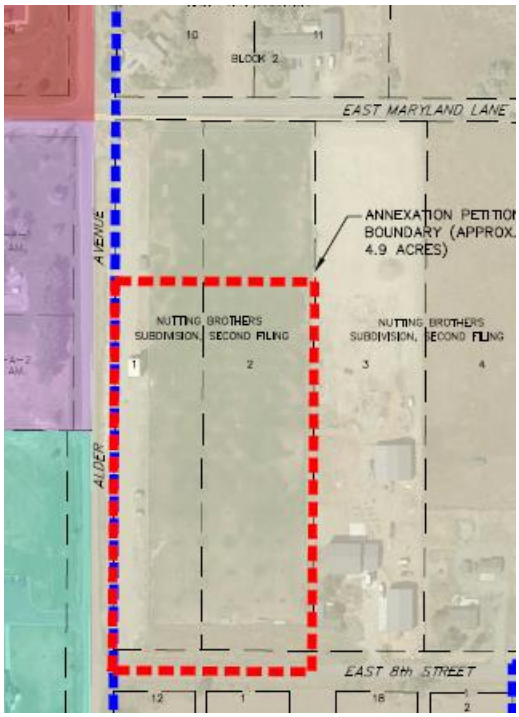
PUBLIC HEARING NOTICE

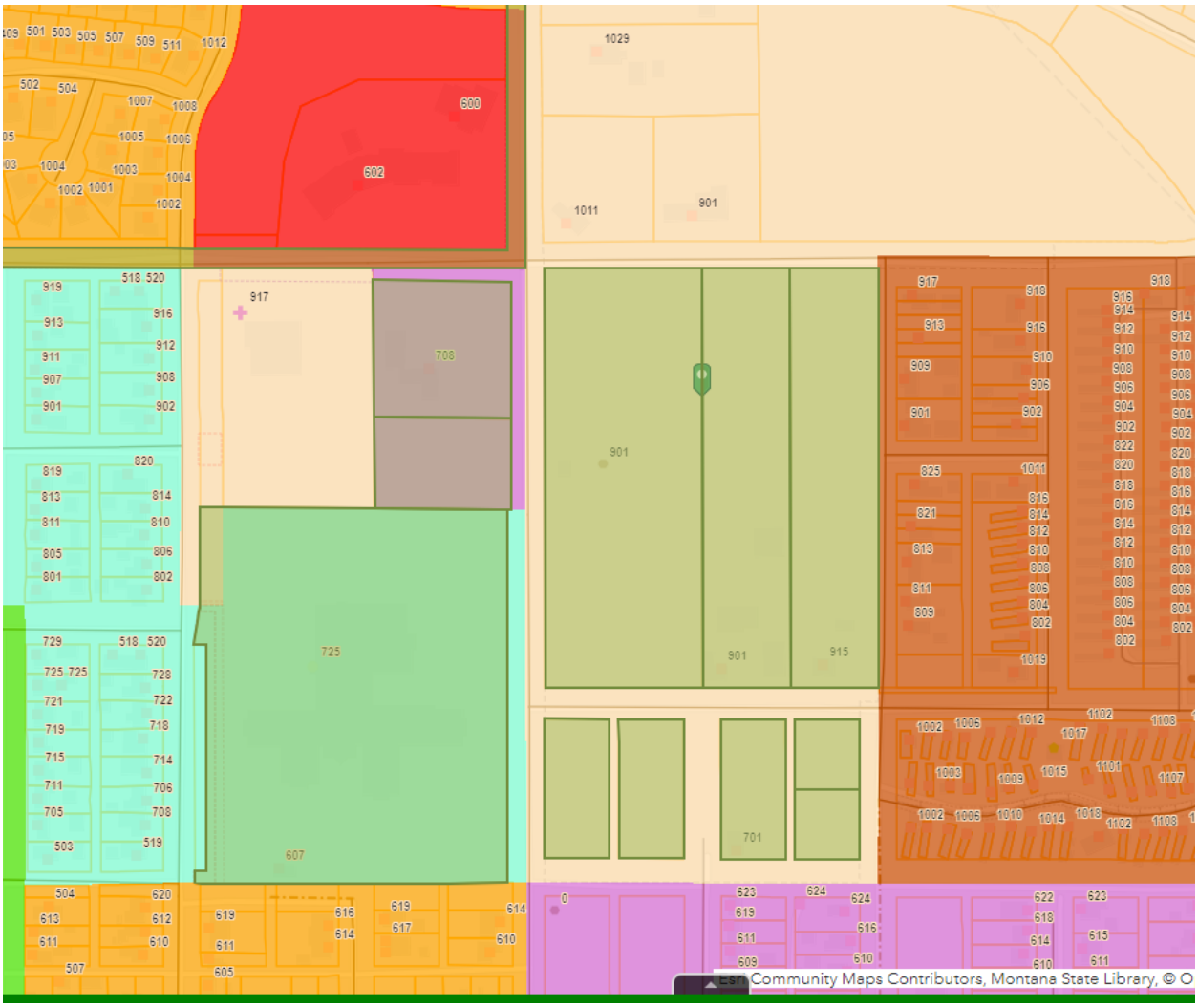
The **Laurel-Yellowstone City-County Planning Board and Laurel's Zoning Commission** will conduct a public hearing on March 20, 2024.

Public Hearing for the annexation into the City of Laurel and assignment of zoning "Public" for a portion of the property described as Nutting Bros 2nd Filing -Lots 1 and 2 by the Laurel School District and any adjacent public right of way. The property is located Northeast of the intersection of East 8th Street and Alder Ave and is owned by the Laurel School District.

The hearing is scheduled for **6 P.M., in the Laurel City Council Chambers at City Hall, 115 West 1st Street, Laurel, Montana, on Wednesday, March 20th, 2024.**

Public comment is encouraged and can be provided in person at the public hearing on March 20, 2024. Public comments can also be made via email to the Planning Director, or via letter to the Planning Department office at 115 West 1st Street Laurel, MT 59044. **Emails or letters of comments should be received by 2pm MST March 14, 2024, so they can be transmitted to the Planning Board members prior to the meeting.** Copies of the documentation are available for review upon request at the Planning Department office. Questions regarding these public hearings may be directed to the Planning Director at 406-628-4796 ext. 5305, or via email at cityplanner@laurel.mt.gov

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Community Maps Contributors, Montana State Library, © O

PUBLIC HEARING NOTICE

The **Laurel-Yellowstone City-County Planning Board and Laurel's Zoning Commission** will conduct a public hearing on March 20, 2024.

Public Hearing for the annexation into the City of Laurel and assignment of zoning "Public" for a portion of the property described as Nutting Bros 2nd Filing -Lots 1 and 2 by the Laurel School District and any adjacent public right of way. The property is located Northeast of the intersection of East 8th Street and Alder Ave and is owned by the Laurel School District.

The hearing is scheduled for **6 P.M., in the Laurel City Council Chambers at City Hall, 115 West 1st Street, Laurel, Montana, on Wednesday, March 20th, 2024.**

Public comment is encouraged and can be provided in person at the public hearing on March 20, 2024. Public comments can also be made via email to the Planning Director, or via letter to the Planning Department office at 115 West 1st Street Laurel, MT 59044. **Emails or letters of comments should be received by 2pm MST March 14, 2024, so they can be transmitted to the Planning Board members prior to the meeting.** Copies of the documentation are available for review upon request at the Planning Department office. Questions regarding these public hearings may be directed to the Planning Director at 406-628-4796 ext. 5305, or via email at cityplanner@laurel.mt.gov.

Map exhibit for the inclusion of East 8th Street for the Laurel School Annexation of a portion of lots 1 & 2 Nutting Brothers Second Filing.

East 8th street outlined in red to be annexed. Yellow is the proposed Lot 1A of Amended Plat

PUBLIC HEARING NOTICE

The **Laurel City Council** will conduct a public hearing on April 23, 2024.

Public Hearing for the annexation into the City of Laurel and assignment of zoning "Public" for a portion of the property described as Nutting Bros 2nd Filing -Lots 1 and 2 by the Laurel School District and any adjacent public right of way. The property is located Northeast of the intersection of East 8th Street and Alder Ave and is owned by the Laurel School District.

The hearing is scheduled for **6:30 P.M., in the Laurel City Council Chambers at City Hall, 115 West 1st Street, Laurel, Montana, on Tuesday, April 23rd, 2024.**

Public comment is encouraged and can be provided in person at the public hearing on April 23, 2024. Public comments can also be made via email to the Planning Director, or via letter to the Planning Department office at 115 West 1st Street Laurel, MT 59044. Copies of the documentation are available for review upon request at the Planning Department office. Questions regarding these public hearings may be directed to the Planning Director at 406-628-4796 ext. 5305, or via email at cityplanner@laurel.mt.gov.

MCLELLAND, LEONARD C
PO BOX 164
LAUREL, MT 59044-0164

LAUREL PUBLIC SCHOOLS
410 COLORADO AVE
LAUREL, MT 59044-2714

LAUREL SCHOOL DISTRICT 7
410 COLORADO AVE
LAUREL, MT 59044-2714

GUTHRIDGE, PERRY
2110 RIDGEVIEW DR
BILLINGS, MT 59105-3635

MCLELLAND, LEONARD C
708 E MARYLAND LN
LAUREL, MT 59044-2165

DUPEA JR, PAUL & DEREKA
915 E 8TH ST
LAUREL, MT 59044-2219

CITY OF LAUREL
PO BOX 10
LAUREL, MT 59044-0010

SCHEELER, LYNN R & JANALYN K
1011 ALDER AVE
LAUREL, MT 59044-2252

ST JOHN'S LUTHERAN MINISTRIES INC
3940 RIMROCK RD
BILLINGS, MT 59102-0141

BRANDT, KENNETH R JR
901 E MARYLAND LN
LAUREL, MT 59044-2227

PENNY, ARTHUR W & CAROL P
1503 E RAILROAD ST
LAUREL, MT 59044-3341

YELLOWSTONE COUNTY (PARKS)
PO BOX 35000
BILLINGS, MT 59107-5000

PENNY, ARTHUR W & CAROL P
1503 E RAILROAD ST
LAUREL, MT 59044-3341

PENNY, ARTHUR W & CAROL P
1503 E RAILROAD ST
LAUREL, MT 59044-3341

PENNY, ARTHUR W & CAROL P
1503 E RAILROAD ST
LAUREL, MT 59044-3341

Recommendation for zoning assignment for the annexation application by the Laurel School District

LAUREL - YELLOWSTONE CITY COUNTY PLANNING BOARD

The Laurel- Yellowstone City - County Planning Board acting as the zoning commission for the City of Laurel voted unanimously on March 20th, 2024, to recommend the assignment for a zoning designation of "Public" (P) if the City Council of Laurel annexes lands owned by the Laurel School District described as a portion of Lots 1 & 2 of Nutting Brothers Subdivision Second Filing which is anticipated to be amended. The amended tract of record will be the Amended Plat of Lots 1 & 2 of Nutting Brothers Subdivision Second Filing in Section 10 Township 2 South Range 24 East. The Planning Board held a public hearing and allowed for written and in person testimony for or against the action to recommend the zoning designation. The planning board considered the written or in person testimony at the public hearing and completed a review of zoning considerations when assigning zoning designations. The Planning Board believes that this assignment of zoning is consistent with the 2020 Laurel Growth Management Policy. The Laurel Yellowstone City- County Planning Board Public Hearing was publicly noticed for at least 15 days in a newspaper of general circulation within Yellowstone County. All property owners within 300 feet of the school district propose lands to be annexed were notified of the date of the public hearing. The planning board moved, seconded, and voted unanimously to recommend to the City Council to approve the zoning designation of "Public" (P) if the City of Laurel completes the annexation.

Dated this 11th day of April 2024.

Laurel - Yellowstone City County Planning Board
Judy Goldsby, President

Kurt Markegard, Executive Secretary

Return to:
Laurel Public Schools
410 Colorado Ave.
Laurel, Montana 59044

ANNEXATION AGREEMENT

THIS ANNEXATION AGREEMENT is made this _____ day of _____, 2024, by and between the **LAUREL PUBLIC SCHOOLS**, with a mailing address at 410 Colorado Avenue, Laurel, Montana 59044, (the "Owner"), and the **CITY OF LAUREL, MONTANA**, a municipality within the State of Montana, with a mailing address at 115 West 1st Street, Laurel, Montana, 59044 (the "City").

WHEREAS, the Owner is the owner of certain real property situated in Yellowstone County, Montana, more particularly described as follows:

> Amended Plat of Lots 1 & 2 of Nutting Brothers Subdivision, Second Filing, Lot 1A; according to the official plat on file and of record in the office of the Clerk and Recorder of said County, hereinafter referred to as "Owner Tract" as well as all adjacent public right-of-way.

WHEREAS, the Owner has submitted to the City a Petition for Annexation to the City for Owner Tract; and

WHEREAS, the Owner desires to annex Owner Tract to the City; and

WHEREAS, the City has approved the Petition for Annexation by Resolution No. _____ for the Owner Tract contingent on the conditions of approval contained herein, as well as that a Development Agreement be executed between the City and the Owner to identify required off-site infrastructure improvements and guarantees of those improvements, as well as any other matters required by the City in order to ensure proper annexation.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties do hereby agree as follows:

1. **Roads and Access.** The Owner Tract shall be accessible by Alder Avenue and East 8th Street. No surface improvements to Alder Avenue or East 8th Street will be constructed upon annexation beyond pavement restoration for utility extensions. The City shall rely on the attached Waiver filed concurrently herewith, to ensure the installation of any or all future public road improvements.

2. **Sanitary Sewer.** Owner Tract shall be served by the City wastewater system. An existing 15-inch sanitary sewer main exists in Alder Avenue. No sanitary sewer mains are

present in East Maryland Lane or East 8th Street. No sanitary sewer main extensions are to be constructed as part of this agreement. Plans and specifications shall be approved by the Public Works Department.

3. **Water.** Owner Tract shall be served by the City water system. The Owner shall extend a new water main from the existing 12-inch dead end water main in Alder Avenue north approximately 850 feet and connect into the existing 8-inch water main at the intersection with East Maryland Lane. The water main extension shall include all necessary valves, hydrants, and appurtenance. Plans and specifications shall be approved by the Public Works Department.

4. **Storm Drain**. The Owner shall extend a 12-inch storm drain in East 8th Street from an existing manhole at the intersection with Cottonwood Avenue to the Owner Tract. The City shall allow connection to the new storm drain to manage stormwater runoff from the Owner Tract. Stormwater discharge rates from the Owner Tract shall be restricted as determined by the Public Works Department and agreed upon in the Development Agreement. Plans and specifications shall be approved by the Public Works Department.

5. **Right-of-Way.** All rights-of-way for Alder Avenue and East 8th Street have been previously dedicated. No additional rights-of-way dedications are proposed.

6. **Other Public Improvements.** For any other improvements not specifically listed in this Agreement, the City shall rely on the attached Waiver filed concurrently herewith, to ensure the installation of any or all remaining public improvements. Said improvements shall include, but not be limited to, street construction and paving, curb, gutter, sidewalks, driveways, storm drainage, and street lighting. The attached Waiver, waiving the right to protest the creation of one or more Special Improvement Districts, by this reference is expressly incorporated herein and part hereof. All of the Owner properties can be included in a Special Improvements District for improvements identified in Annexation Agreement regardless of location of individual properties in relation to the improvements.

7. **Development Agreement.** This Agreement, and any approval of annexation of the property, pursuant to the Owner's Petition for Annexation, is contingent upon a mutually-agreeable Development Agreement between Owner and the City. Should Owner and the City not be able to reach a mutually-agreeable Development Agreement, Owner acknowledges and fully understands that any previously-approved annexation of the property will be considered null and void.

8. **Future Intersection Contributions.** No intersection contributions are required upon annexation.

9. **Late Comers Agreement.** No Late Comers Agreement is made with this annexation.

10. **Zoning.** The Property is to be zoned as Public.

11. **Compliance.** Nothing herein shall be deemed to exempt the Owner Tract from compliance with any current or future City laws, rules, regulations, or policies that are applicable to the development, redevelopment, or use of the subject property.

12. **Runs with Land.** The covenants, agreements, and all statements in this Agreement and in the incorporated and attached Waiver shall run with the land and shall be binding on the heirs, personal representatives, successors, and assigns of the respective parties.

13. **Attorney's Fees.** In the event it becomes necessary for either party to this Agreement to retain an attorney to enforce any of the terms or conditions of this Agreement or to give any notice required herein, then the prevailing party or the party giving notice shall be entitled to reasonable attorney fees and costs, including those fees and costs of in-house counsel.

14. **Amendments and Modifications.** Any amendments or modifications of this Agreement shall be made in writing and executed in the same manner as this original document and shall after execution become a part of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

LAUREL PUBLIC SCHOOLS

By: _____

Title: _____

"Owner"

STATE OF MONTANA)
: ss.
County of Yellowstone)

On this ____ day of _____, 2024, before me, a Notary Public in and for the State of Montana, personally appeared _____, known to me to be the person who signed the foregoing instrument as _____ of Laurel Public Schools, and who acknowledged to me that said the Owner executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year hereinabove written.

_____
Notary Public in and for the State of Montana
Printed name:_____
Residing at:_____
My commission expires:_____

This Agreement is hereby approved and accepted by the City of Laurel, this ___ day of _____, 20___.

CITY OF LAUREL, MONTANA

By:_____
Mayor

Attest:_____
City Clerk

"City"

STATE OF MONTANA)
:ss
County of Yellowstone)

On this _____ day of _____, 2024, before me, a Notary Public for the State of Montana, personally appeared _____, and _____, known to me to be the Mayor and City Clerk, respectively, of the City of Laurel, Montana, whose names are subscribed to the foregoing instrument in such capacity and acknowledged to me that they executed the same on behalf of the City of Laurel, Montana.

_____
Notary Public in and for the State of Montana
Printed name:_____
Residing at:_____
My commission expires:_____

Approved as to form:

_____
City Attorney

RESOLUTION NO. R08-22

A RESOLUTION TO ADOPT THE CITY OF LAUREL ANNEXATION POLICY

WHEREAS, it is necessary for the City of Laurel to properly guide and monitor growth that is in the best interests of the City and its citizens; and

WHEREAS, it is appropriate for the City Council to adopt an Annexation Policy that governs proposed annexations to the City in accordance with Ordinance No. O08-02 § 16.12.020; and

WHEREAS, the City Council has reviewed and accepted the attached Annexation Policy for the City of Laurel.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Laurel, Montana,

The Council hereby adopts the City of Laurel Annexation Policy in its current form and content. All resolutions adopting any other annexation policies that conflict or are inconsistent with these policies are hereby repealed, voided and of no further effect.

BE IT FURTHER RESOLVED that this Resolution shall be enforceable on the effective date of Ordinance No. O08-02.

Introduced at a regular meeting of the City Council on March 4, 2008, by Council Member Hart.

PASSED and APPROVED by the City Council of the City of Laurel this 4th day of March, 2008.

APPROVED by the Mayor this 4th day of March, 2008.

CITY OF LAUREL

Kenneth E. Olson, Jr., Mayor

ATTEST:

Mary K. Embleton, Clerk-Treasurer

Approved as to form:

Sam Painter, Legal Counsel
Elk River Law Office, P.L.L.P.

CITY OF LAUREL ANNEXATION POLICY

Service outside city limits—Conditions. No water or sewer services shall be extended outside of the incorporated city limits without meeting the following conditions:

A. The property and improvements are in the same condition as is required for properties and improvements within the city's corporate limits;
B. The city system is capable of serving the area;
C. The extension is in the best interest of the city;
D. The cost of the extension shall be at the expense of the requesting party;
E. The city council has granted its approval. (Prior code § 18.76.010(A)); and
F. The property is annexed.

Consent to Annexation and/or Waiver of Protest.

A. Any property owner requesting or receiving city water or sewer service outside of the incorporated city limits shall, as a condition of initiating or continuing city services, consent to annexation of the property beneficially receiving services. The consent to annexation may be limited to the property that will benefit or is benefiting from the provision of city services.

B. Whenever annexation is sought pursuant to a petition submitted to the city by a property owner requesting annexation, the property owner shall execute a written waiver of protest in a form approved by city staff for purposes of recording. The waiver of protest constitutes a covenant that will run with the land to be annexed and shall waive all right of protest and judicial review to the creation of any future special improvement district. (Prior code § 18.76.010(B))

Annexation Fee.
Property owner shall pay the city's applicable annexation fee prior to the city's consideration of the annexation request.

Annexation Criteria and Requirements.

A. The City Council shall consider the following criteria when it receives a written petition for annexation:

- The property must be located within an area identified by city staff as a location for future city annexation or annexation of the property will promote orderly growth of the city to protect the health, safety and welfare in areas intensely utilized for residential, commercial, institutional and governmental purposes;

- The city must be able to provide adequate city services within a time period mutually agreed to by the property owner requesting annexation and the city;

- Existing or proposed public improvements within the area to be annexed must meet all city standards. If the public improvements are not constructed at the time of annexation, the property owner shall provide the city a bond or letter of credit that equals 125% of the estimated engineering costs for the construction of improvements. If the property owner fails to construct the improvements or to obtain the agreed upon engineering, the city shall utilize the bond or letter of

credit to pay for the construction, including engineering; In accordance with GASB-34, the Developer or Landowner shall provide the city the total cost and/or value of the improvements including, but not limited to, parks, sidewalks, curb and gutter, lift stations, and sewer and water lines, that are conveyed to the city.

- All property owners within the area to be annexed must sign a Waiver of Right to Protest the creation of Special Improvement Districts for engineering and construction of improvements including, but not limited to, streets, sidewalks, curb and gutter and the creation of a Park Maintenance District, in a form acceptable and approved by the city;

- All residential property owners must execute a Waiver of Right-to-Protest the creation of Special Improvement Districts for engineering and construction of improvements including, but not limited to, streets, sidewalks, curb and gutter and the creation of a Park Maintenance District, in a form acceptable and approved by the city;

- Residential densities within the area to be annexed must be rezoned at a minimum density of R-7500 or greater; and

- The proposed land use within the area to be annexed must conform to the goals of the Laurel-Yellowstone City-County Planning Board Growth Policy.

B. The City Council may decide to either condition the approval of the annexation in order to meet the criteria listed in Section A herein or require an annexation agreement. The conditions of approval must be clearly stated in the resolution of annexation or if required, the annexation agreement. If the property to be annexed is not developed, the conditions of approval or annexation agreement shall include a requirement for:

1. A development agreement prior to the issuance of a building permit;

2. A subdivision improvements agreement at the time of final subdivision plat approval, if applicable and

3. An executed Waiver of Right-to-Protest creation of Special Improvement Districts for engineering and construction of improvements including, but not limited to, streets, sidewalks, curb and gutter and the creation of a Park Maintenance District, in a form acceptable and approved by the city.

If the property is developed and contains public improvements that are not constructed to city standards, the city shall require an annexation agreement. The annexation agreement shall specify that the public improvements must be upgraded and/or installed to city standards, as well as a time period and mechanism to finance the construction and installation of those improvements. All construction or installation of improvements must be completed within two years of annexation.

In any case, all public improvements, whether existing or proposed, shall meet city standards.

CITY OF LAUREL, MONTANA
REQUEST FOR ANNEXATION
AND PLAN OF ANNEXATION

Applicant is required to meet with the City Planner prior to filling out this application. **All blanks of this application are to be filled in with explanation by the applicant. Incomplete applications will not be accepted.**

1. Only parcels of land adjacent to the City of Laurel municipal limits will be considered for annexation. "Adjacent to" also includes being across a public right of way. If the parcel to be annexed is smaller than one city block in size (2.06 acres), the city council must approve consideration of the request; the applicant must make a separate written request to the city council stating their wish to annex a parcel of land less than one city block in. Once the council approves the request, the applicant can apply for annexation.

2. Applicant landowner's name: Laurel Public Schools
   Address: 410 Colorado Ave., Laurel, MT 59044
   Phone: 406.628.3360

3. Parcel to be annexed: (If it is not surveyed or of public record, it must be of public record PRIOR to applying for annexation.)
   Legal description: Lot 1A of the Amended Plat of Lots 1 and 2 Nutting Brothers Subdivision, 2nd Filing
   Lot size: 4.886 acres
   Present use: Grass sports fields
   Planned use: Public Elementary School
   Present zoning: R200 - Residential Tracts
   (Land which is being annexed automatically becomes zoned R-7500 when it is officially annexed [City ordinance 17.12.220])

4. City services: The extension of needed city services shall be at the cost of the applicant after annexation by the city has been approved. As part of the application process, each of the following city services must be addressed with an explanation:

   Water Service:
   Location of existing main: ex. main along frontage of E. 8th St. & the south 50' of Alde
   Cost of extension of approved service: $250,000.00
   How cost determined: Engineer's Opinion of Cost
   Timeframe for installation: Summer 2024

   Sewer Service:
   Location of existing main: Alder Ave.
   Cost of extension of approved service: $0.00
   How cost determined: Main currently exists

Timeframe for installation: Installed
How financed: n/a

Streets:

Is there any adjoining County ROW to the proposed annexation: Yes, Alder Ave. and E. 8th St.
Location of existing paved access: Alder Ave. and E. 8th St.
Cost of paving: n/a
How cost determined: n/a
Timeframe for construction: n/a

Other required improvements: Provide above information on attached pages.

5. A map suitable for review of this application of the proposed area to be annexed must be submitted with this application.

6. A written Waive of Protest must accompany this application, suitable for recording and containing a covenant to run with the land to be annexed, waiving all right of protest to the creation by the city of any needed improvement district for construction or maintenance of municipal services. This Waiver of Protest must be signed by the applicant **prior** to annexation by the city.

7. Requests for annexations are referred to the City-County Planning Board for recommendation to the City Council. Within 30 days after receiving the properly filled out application with all required accompaniments and after conducting a duly advertised public hearing, the City-County Planning Board shall make recommendation to the City Council as to this Request for Annexation. If more information is needed from the applicant during the review of the application, such application shall be deemed incomplete and the timeframe for reporting to the City Council extended accordingly, in needed.

8. A **non-refundable** application fee of $300 + $25.00 per acre (80 acres or less); $300 + $35.00 per acres (81 acres or more) must accompany the submission of this application.

The City Council of the City of Laurel, Montana, after review and consideration of this Application for Annexation, found such to be in the best interest of the City, that it complied with state code, and approved this request at its City Council meeting of _____ _____.

Form revised by City Attorney April 2008

AFFIDAVIT OF WAIVER OF PROTEST
BEFORE THE CITY COUNCIL
OF THE CITY OF LAUREL, MONTANA

FOR THE ANNEXATION OF THE HEREIN DESCRIBED PROPERTY AND CREATION OF ANY FUTURE SPECIAL IMPROVEMENT DISTRICT

The undersigned hereby waives protest to the annexation of the property described below by the City of Laurel. Undersigned also waives their right to seek judicial review under M.C.A. § 7-2-4741 (2007), subsequent to the City's annexation of the below described property.

The undersigned hereby additionally waives protest to the creation of future Special Improvement District(s) created and/or formed for future street improvements including, but not limited to, paving, curb, gutter, sidewalk and storm drainage or any other lawful purpose.

This Affidavit is submitted pursuant to and as a part of the Annexation Agreement and future contemplated Subdivision Improvement Agreement (SIA) with the City of Laurel.

This Affidavit of Waiver shall run with the land and shall forever be binding upon the Grantee, their transferees, successors and assigns.

LEGAL DESCRIPTION OF THE PROPERTY:

"_____"

DATED this _____ day of _____, 20_____.

_____
Grantee Name
(Company..)

STATE OF_____)
) ss.
County of _____)

On this _ day of _____, 20____, personally appeared before me, _____ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) are subscribed to this instrument, and acknowledged the he/she/they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal on the day and year in this certificate first above written.

_____
Notary Public for the State of _____
(SEAL) Residing at:_____
My Commission Expires:_____

ORDINANCE NO. O08-02

ORDINANCE ADOPTING ANNEXATION REGULATIONS FOR THE CITY OF LAUREL FOR INCORPORATION IN CHAPTER 16 OF THE LAUREL MUNICIPAL CODE.

WHEREAS, Ordinance No. O07-01 adopted April 3, 2007 repealed Chapter 16 of the Laurel Municipal Code in its entirety in order to comply with changes adopted by the State of Montana Legislature; and

WHEREAS, the repealed Chapter 16 of the Laurel Municipal Code provided for annexation regulations while the newly adopted Chapter 16 of the Laurel Municipal Code did not contain specific annexation procedures; and

WHEREAS, annexation regulations are necessary for the City of Laurel to properly guide and monitor growth that is in the best interest of the City and its citizens;

IT IS HEREBY ORDAINED by the City Council of the City of Laurel, Montana, that the following chapter is hereby adopted into the LAUREL MUNICIPAL CODE as set forth below.

Chapter 16.12

ANNEXATIONS

Sections:

16.12.010 Annexation.

The City may annex property in accordance with the methods and procedures prescribed in MCA Title 7, Chapter 2 Parts 42, 43, 44, 45, 46 or 47, as amended.

16.12.020 Annexation Policy.

The City Council shall adopt rules and regulations that govern proposed annexations to the City by Council Resolution.

16.12.030 Annexation Fee Schedule

The City Council shall adopt an annexation fee schedule by annual Resolution after a public hearing in accordance with Section 2.72.060. (Ord. 06-04 (part), 2006: prior code § 18.76.010(D))

This Ordinance becomes effective thirty (30) days after final passage by the City Council and approval by the Mayor.

PROJECT NARRATIVE

Overview

The Laurel Public School District is requesting annexation of approximately 4.9 acres into the City of Laurel, Montana as shown on the attached Exhibit A. The school district property looking to be annexed is located just outside the northeast boundary of the Laurel city limits, along the east side of Alder Avenue in Yellowstone County, Montana. Additional annexed properties are located further east of the island in which the proposed annexation tract is located. A boundary line relocation plat is proposed to run concurrently with the annexation petition to create the annexation parcel. The property is legally described as: **approximately the south 628 feet of Lots 1 and 2, Nutting Brothers Subdivision, Second Filing** and the proposed legal description of: **Lot 1A, Amended Plat of Lots 1 & 2 of Nutting Brothers Subdivision, Second Filing.**

The property lies adjacent to Alder Avenue that defines the eastern-most boundary of Laurel's city limits, and within the boundary of the City of Laurel's Annexation Priority Area that is defined in Laurel's 2020 Growth Policy. The property is currently zoned as R200 - Residential Tracts within Laurel's zoning jurisdiction and is proposed to change to Public when annexation occurs.

Utility Extensions

Upon annexation of the property, City of Laurel public water and sanitary sewer services will be extended to the proposed elementary school building. The intent is that a new public water main will be extended from the existing 12-inch dead end water main in Alder Avenue north approximately 850 feet and tie into the existing 8-inch water main at the East Maryland Lane which will complete the water main loop. From the new main, new service lines will be extended on the property to the building for domestic water and fire suppression. Extension of a new 12-inch storm drain main will be constructed in East 8th Street from Cottonwood Avenue to the property. The new public water and storm drain mains will become part of the City of Laurel system and will be located within public rights-of-way.

EXHIBIT A

ANNEXATION EXHIBIT

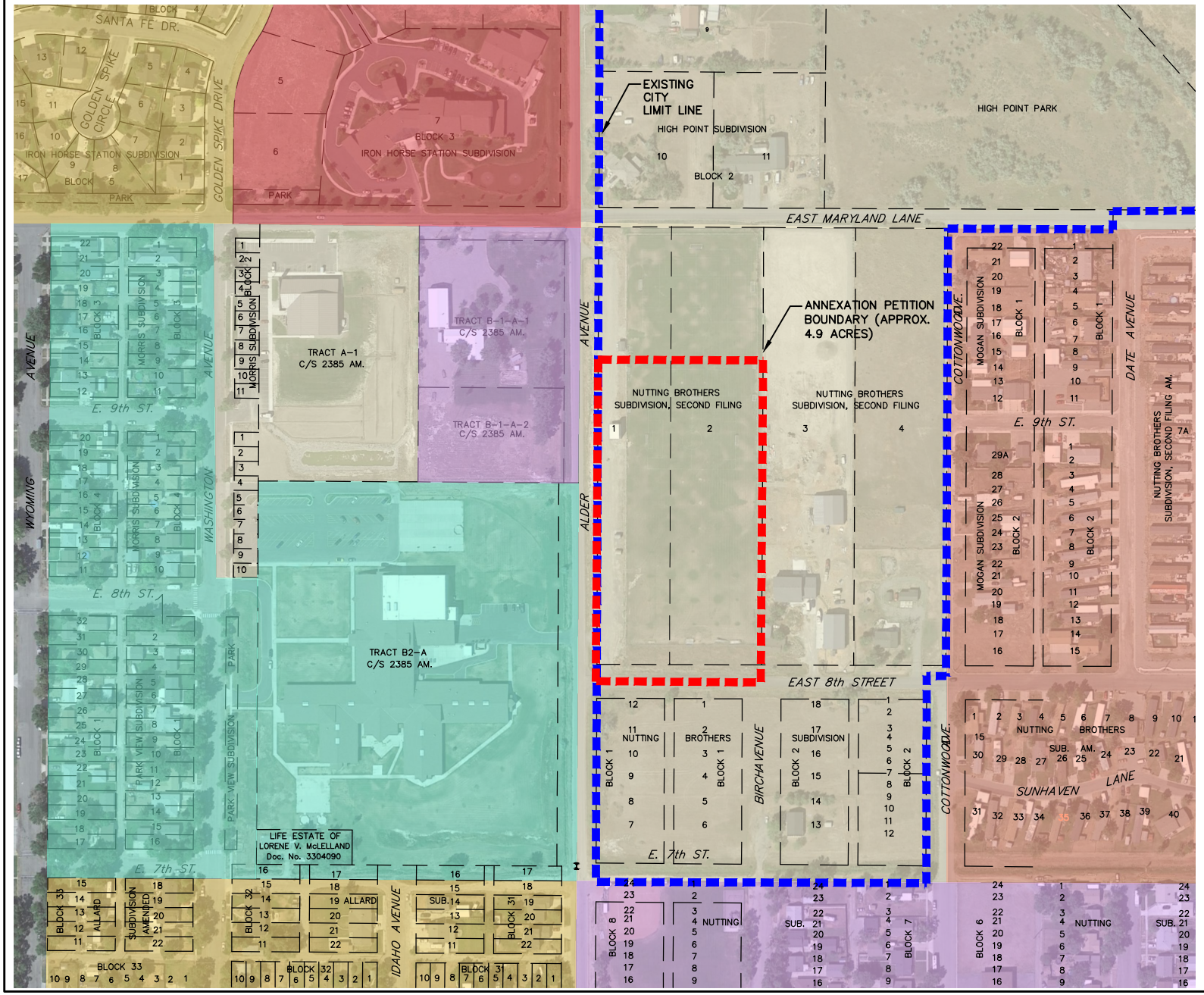
WITHIN NUTTING BROTHERS SUBDIVISION

PREPARED FOR : LAUREL PUBLIC SCHOOLS

PREPARED BY : SANDERSON STEWART

FEBRUARY, 2024

BILLINGS, MONTANA



LEGEND

- RESIDENTIAL TRACTS
- RESIDENTIAL LIMITED MULTI–FAMILY
- COMMUNITY COMMERCIAL
- RMH–RESIDENTIAL MOBILE HOME
- RESIDENTIAL 6000
- RESIDENTIAL 7500

NORTH

150 0 150 300

SCALE: 1' = 300'

23103.00

341

23103_ANNEXATION.DWG 2/1/2024

AMENDED PLAT OF LOTS 1 & 2 OF
NUTTING BROTHERS SUBDIVISION, SECOND FILING

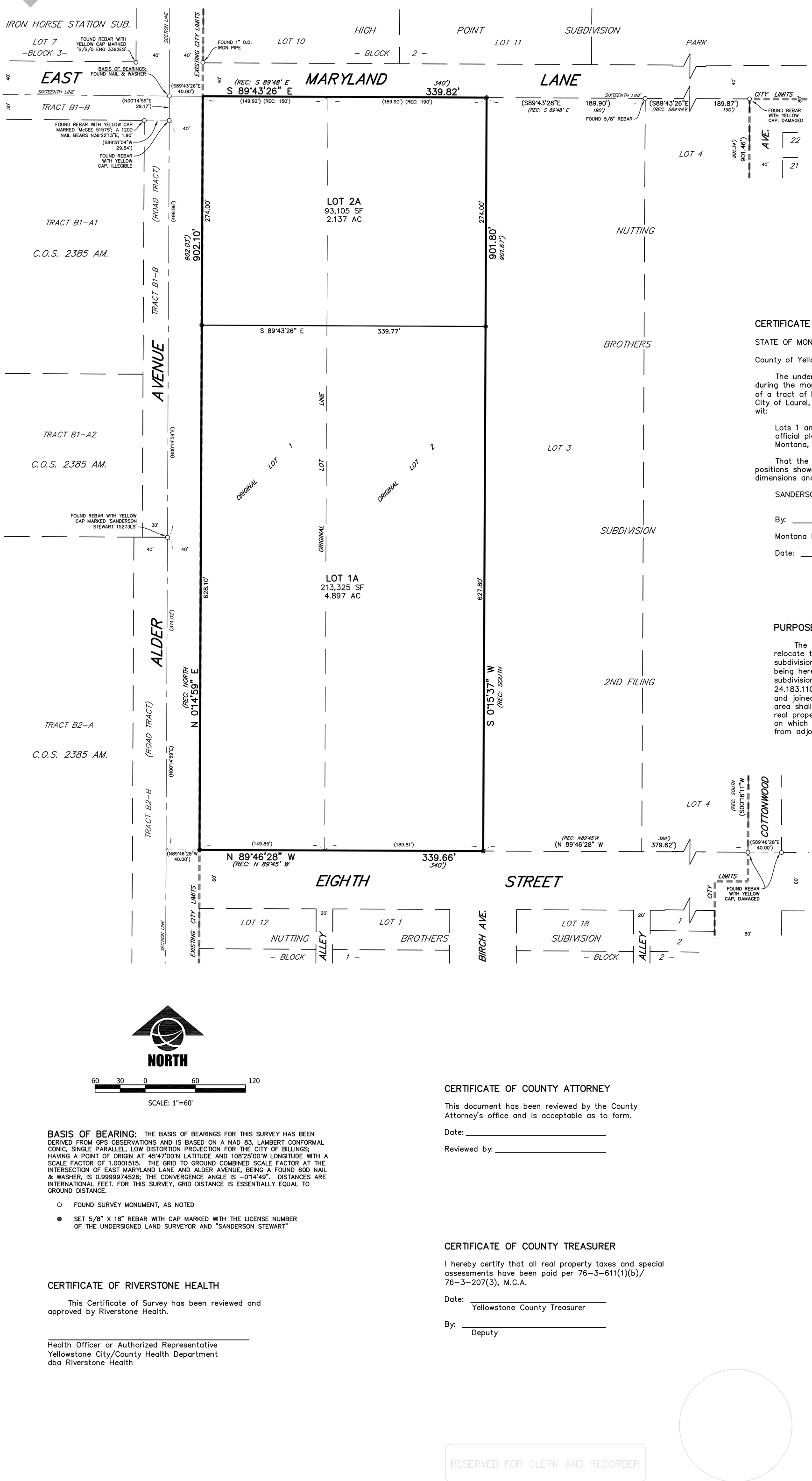
SITUATED IN THE NW1/4 OF SECTION 10, T. 2 S., R. 24 E., P.M.M., YELLOWSTONE COUNTY, MONTANA

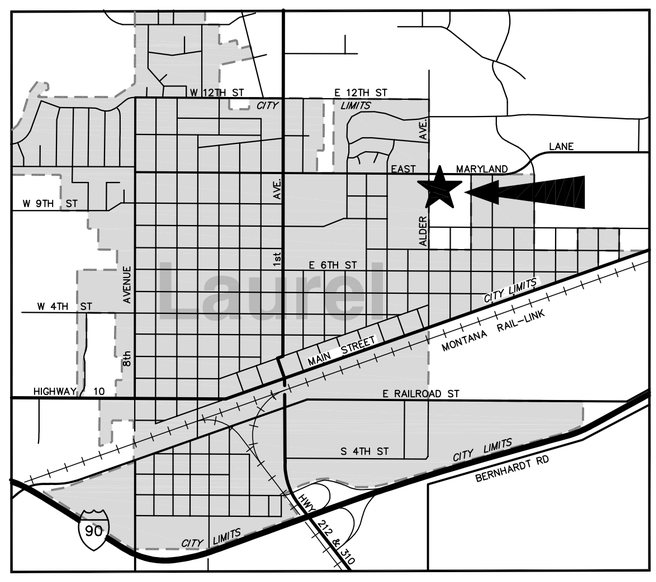
PREPARED FOR : LAUREL PUBLIC SCHOOLS

FEBRUARY, 2024

PREPARED BY : SANDERSON STEWART

BILLINGS, MONTANA





VICINITY MAP
NOT TO SCALE

CERTIFICATE OF SURVEYOR

STATE OF MONTANA)
: ss
County of Yellowstone)

The undersigned, a Land Surveyor licensed in the State of Montana, states that during the month of September, 2023, a survey was performed under his supervision of a tract of land situated in the NW1/4 of Section 10, T. 2 S., R. 24 E., in the City of Laurel, Yellowstone County, being more particularly described as follows, to wit:

Lots 1 and 2 of Nutting Brothers Subdivision, Second Filing, according to the official plat on file in the office of the clerk and recorder of Yellowstone County, Montana, under Document No. 121373, having an area of 7.023 acres.

That the monuments found and set are of the character and occupy the positions shown hereon, that said survey and the plat hereof shows true and correct dimensions and that the plat conforms with the work on the ground.

SANDERSON STEWART

By: _____

Montana License No. _____

Date: _____

PURPOSE OF SURVEY: BOUNDARY LINE RELOCATION

The undersigned hereby certify that the purpose of this survey is to relocate the common boundary lines between adjacent properties within a platted subdivision, five (5) or fewer lots are being affected and no additional lots are being hereby created. Therefore this survey is exempt from review as a subdivision pursuant to Section 76–3–207(1)(d), M.C.A.. Pursuant to ARM 24.183.1104(1)(f)(iii)(C), the area that is being removed from one tract of record and joined with another tract of record is not itself a tract of record. Said area shall not be available as a reference legal description in any subsequent real property transfer after the initial transfer associated with the amended plat on which said area is described, unless said area is included with or excluded from adjoining tracts of record.

Lot 1A is not subject to review by the Department of Environmental Quality pursuant to 76–4–125(1) M.C.A., a subdivision excluded from the provisions of chapter 3 must be submitted for review according to the provisions of this part, except that the following divisions or parcels, unless the exclusions are used to evade the provisions of this part, are not subject to review:

(d) as certified pursuant to 76–4–127;
(d)(iii) divisions or parcels of land that are exemption from the Montana Subdivision and Platting Act review under 76–3–207(1)(a), (1)(b), (1)(d), (1)(e), or (1)(f).

Lot 2A is exempt from review per arm 17.36.605(2)(a). No facilities requiring water supply, waste water disposal, or solid waste disposal may be constructed on this parcel.

LAUREL ELEMENTARY SCHOOL DISTRICT 7–70,
Yellowstone County, Montana (2/3 INTEREST)

By: _____

Title: _____

STATE OF MONTANA)
: ss
County of Yellowstone)

On this _____ day of _____ , 20____ , before me, the undersigned Notary Public for the State of Montana, personally appeared _____ , known to me to be the person who signed the foregoing instrument as _____ _____ of LAUREL ELEMENTARY SCHOOL DISTRICT 7–70, and who acknowledged to me that they executed the same. Witness my hand and seal the day and year herein above written.

_____
Notary Public for the State of Montana

LAUREL HIGH SCHOOL DISTRICT 7,
Yellowstone County, Montana (1/3 INTEREST)

By: _____

Title: _____

STATE OF MONTANA)
: ss
County of Yellowstone)

On this _____ day of _____ , 20____ , before me, the undersigned Notary Public for the State of Montana, personally appeared _____ , known to me to be the person who signed the foregoing instrument as _____ _____ of LAUREL HIGH SCHOOL DISTRICT 7, and who acknowledged to me that they executed the same. Witness my hand and seal the day and year herein above written.

_____
Notary Public for the State of Montana

NORTH

60 30 0 60 120

SCALE: 1"=60'

BASIS OF BEARING: THE BASIS OF BEARINGS FOR THIS SURVEY HAS BEEN DERIVED FROM GPS OBSERVATIONS AND IS BASED ON A NAD 83, LAMBERT CONFORMAL CONIC, SINGLE PARALLEL, LOW DISTORTION PROJECTION FOR THE CITY OF BILLINGS; HAVING A POINT OF ORIGIN AT 45°47'00"N LATITUDE AND 108°25'00"W LONGITUDE WITH A SCALE FACTOR OF 1.0001515. THE GRID TO GROUND COMBINED SCALE FACTOR AT THE INTERSECTION OF EAST MARYLAND LANE AND ALDER AVENUE, BEING A FOUND 60D NAIL & WASHER, IS 0.9999974526; THE CONVERGENCE ANGLE IS –0°14'49". DISTANCES ARE INTERNATIONAL FEET. FOR THIS SURVEY, GRID DISTANCE IS ESSENTIALLY EQUAL TO GROUND DISTANCE.

○ FOUND SURVEY MONUMENT, AS NOTED

● SET 5/8" X 18" REBAR WITH CAP MARKED WITH THE LICENSE NUMBER OF THE UNDERSIGNED LAND SURVEYOR AND "SANDERSON STEWART"

CERTIFICATE OF RIVERSTONE HEALTH

This Certificate of Survey has been reviewed and approved by Riverstone Health.

_____
Health Officer or Authorized Representative
Yellowstone City/County Health Department
dba Riverstone Health

CERTIFICATE OF COUNTY ATTORNEY

This document has been reviewed by the County Attorney's office and is acceptable as to form.

Date: _____

Reviewed by: _____

CERTIFICATE OF COUNTY TREASURER

I hereby certify that all real property taxes and special assessments have been paid per 76–3–611(1)(b)/ 76–3–207(3), M.C.A.

Date: _____
Yellowstone County Treasurer

By: _____
Deputy

RESERVED FOR CLERK AND RECORDER

Date: February 22, 2024
Project No.: 23103

Engineer's Opinion of Probable Cost
for
Mogan Elementary School
Alder Ave. Water Main Improvements

Schedule I: Utilities

Item No.	Quantity	Unit	Description	Unit Price		Subtotal
101	1	L.S.	Mobilization and Insurance	$18,143.42	=	$18,143.42
102	1	L.S.	Payment and Performance Bonds	$6,403.56	=	$6,403.56
103	1	L.S.	Traffic Control	$6,000.00	=	$6,000.00
104	1	L.S.	Dewatering	$45,000.00	=	$45,000.00
Alder Ave.						
105	379	C.Y.	Type II Bedding	$40.00	=	$15,160.00
106	2	E.A.	Bentonite Trench Plug	$1,500.00	=	$3,000.00
107	1	E.A.	12-inch Gate Valve	$6,000.00	=	$6,000.00
108	851	L.F.	12-inch Water Main	$95.00	=	$80,845.00
109	2	E.A.	12-inch Bend	$1,200.00	=	$2,400.00
110	2	E.A.	12X12X6 Hydrant Tee	$1,250.00	=	$2,500.00
111	2	E.A.	Fire Hydrant and Assembly	$7,500.00	=	$15,000.00
112	2	E.A.	4-inch Water Service	$5,500.00	=	$11,000.00
113	1	E.A.	1-inch Water Service	$2,000.00	=	$2,000.00
				Schedule I Subtotal	=	$213,451.98
				Construction Subtotal	=	$213,451.98
				Construction Subtotal Plus Contingency	=	$245,469.77
				Administrative Fees		
			Geotechnical Services and Materials Testing	1.25%	=	$3,068.37
				Subtotal of Administrative Fees	=	$3,068.37
				Construction Total and Administrative Fees	**=**	**$248,538.15**

Notes:

Costs based on Sanderson Stewart off site sketch

Mobilization and Insurance based on percentage of total schedule cost 8.5 %

Construction contingency 15 %

All items are complete and in place.

Sanderson Stewart cannot warrant that any opinions of probable cost provided by Sanderson Stewart will not vary from actual costs incurred by the client. Sanderson Stewart has no control over the cost or availability of labor, equipment, materials, or over market conditions or the Contractor's method of pricing. Sanderson Stewart makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from Sanderson Stewart's opinion of probable cost.

File Attachments for Item:

10. Ordinance - An Ordinance Amending Title 12 Of The Laurel Municipal Code Related To The Standards For Public Works.

ORDINANCE NO. 024-_____

AN ORDINANCE AMENDING TITLE 12 OF THE LAUREL MUNICIPAL CODE RELATED TO THE STANDARDS FOR PUBLIC WORKS.

WHEREAS, the City Council desires to keep the Laurel Municipal Code current by modifying and updating Chapters, Sections, and Subsections to address situations and problems within the City and to remain in accordance with Montana law;

WHEREAS, City Staff prepared, reviewed, and approved the following amendments to the existing LMC Title 12 – Streets, Sidewalks, and Public Places, as noted herein and hereby recommends the same to the City Council for its full approval; and

WHEREAS, the proposed changes to the existing LMC Title 12 – Streets, Sidewalks, and Public Places are noted herein and hereby fully incorporated herein, as follows:

Chapter 12.48 – Standards for Public Works

12.48.010 – Adoption of Standards for Public Works

> The City of Laurel hereby adopts by reference the Standards for Public Works as the Standards for Public Works which shall govern public works matters within the City of Laurel. The Standards for Public Works is on file in the Office of the Clerk-Treasurer and is hereby referred to, adopted, and made a part hereof, as if fully set out, with the additions, insertions, deletion and changes, if any, set by Ordinance.

This Ordinance shall become effective thirty (30) days after final passage by the City Council and approved by the Mayor.

Introduced and passed on first reading at a regular meeting of the City Council on the _____ day of _____, 2024, upon Motion by Council Member _____.

PASSED and ADOPTED by the Laurel City Council on second reading on the _____ day of _____, 2024, upon Motion by Council Member _____.

APPROVED BY THE MAYOR on the _____ day of _____, 2024.

CITY OF LAUREL

_____
Dave Waggoner, Mayor

ATTEST:

_____
Kelly Strecker, Clerk-Treasurer

APPROVED AS TO FORM:

_____
Michele L. Braukmann, Civil City Attorney

Part 1 - General Provisions

1.1 ESTABLISHMENT OF MINIMUM STANDARDS

~~This Public Work Standards Manual, based upon sound, practical, and well-established principals of civil engineering, is~~These Standards for Public Works Improvements are prepared for the purpose of adopting minimum standards for the design of improvements, kind and use of materials, methods of construction, and the preparation of plans for construction, repair, or ~~alternation~~alteration of streets, roadways, alleys, drainage, sewer, or water facilities which lie within ~~municipal right-~~the City of~~-way or easements~~ Laurel.

1.2 UNIFORMITY OF ENGINEERING AND CONSTRUCTION PRACTICES

~~This Public Work~~These Standards ~~Manual is~~for Public Works Improvements are established to promote the maximum uniformity of engineering and construction practices within the community and thereby reduce design, supply, construction, and maintenance costs.

~~1 ADHERENCE TO STANDARDS~~

1.3 General Specifications

Use Latest Edition of Montana Public Works Standard Specifications Including Addendums Thereto and as Supplemented Herein.

1.4 General Design Standards

Use Latest Edition of State of Montana Department of Environmental Quality Water Quality Division Circulars and as Supplemented Herein.

1.5 Adherence to Standards

It will be the policy of the Department of Public Works to require adherence to the Standards set forth herein; however, where unique circumstances of design consideration make it impractical to follow the Standards and where such adherence would actually create problems detrimental to the public interest, the Department of Public Works will consider alternate solutions and may approve departures from Standards when substantiated by design analysis.

~~2 LICENSES~~

2. ~~Contract construction~~ Definitions

2.1 For the purposes of these specifications, the words and phrases set out in the following articles shall have the meanings as follows:

- "Alley" means a narrow public thoroughfare, providing access to the rear of the

abutting properties. It also serves primarily as a service access to individual lots.

- "Appurtenances" refers to machinery, appliances, or auxiliary structures attached to the sewer or water system to enable it to function, but not considered an integral part of it.

- “Bicycle Path” and/or “Walkway” is an access way for non-motored use, primarily for recreation use.

- “Boulevard” within the City is that area within any street, avenue, or highway right-of-way not occupied by street paving, curb and gutter, and sidewalks. An “inside boulevard” is the boulevard area on the property line side of the sidewalk. An “outside boulevard” is the boulevard areas on the street side of the sidewalk.

- "Building Sewer" means the privately-owned extension of the building drain to the public sanitary sewer or other place of disposal.

- "City" or "City of Laurel" means the City of Laurel in the County of Yellowstone and State of Montana.

- “Collector Street” is a street used for major traffic flow. Access to residential lots should be discouraged, and access to business lots should require turning lanes.

- "Combined Sewer" shall mean a sewer receiving both surface runoff and sewage.

- “Cross-slope” is the gradient determined by dividing the difference in elevation from crown to pavement edge by the horizontal distance from crown to pavement edge, expressed as a percentage.

- “Crown” is the highest part of the street shape between paving edges.

- "Curb Cut" means the total street curbing that is removed to place a driveway and slopes.

- "Curb Return" means the curved portion of a street curb at drive approaches.

- "Customer" means any person receiving municipal utility service either directly or indirectly from the municipal water supply system/municipal wastewater system.

- "Discharge" is the direct or indirect introduction of treated or untreated wastewater into the waters of the State of Montana, either through the municipal wastewater system and municipal wastewater treatment plant or through a point source into State waters.

- "Domestic Wastes" means liquid wastes

  - from the non-commercial preparation, cooking, and handling of food,

    or

  - containing human excrement and similar matter from the sanitary conveniences of dwellings, commercial buildings, industrial facilities, and institutions.

- "Driveway" means that area on private property where vehicles are operated, parked, or allowed to stand.

- "Driveway Apron" means the area, construction or improvement between the curb cut or proposed curb line and the back edge of walk or proposed walk line, to provide ingress and egress for vehicles from the alley, street or roadway to a definite area of the private property.

- "Driveway Width" means that portion of the street curbing that is removed excluding curb returns or transitions to provide ingress to and egress from abutting property.

- "Environmental Protection Agency" or "EPA", means the U.S. Environmental Protection Agency, or, where appropriate, the terms may also be used as a designation for the administrator or other duly authorized official of EPA.

- "Excavation" shall mean and include any ditch, trench, cut, hole or change of grade, including changes made by road grading by means of a blade or other device that removes, alters or adds dirt, gravel, or alters the crown of a street or alley or affects drainage.

- "Extension" means the act or process of extending, adding to, or enlarging the municipal water supply system/municipal wastewater system on the City's side of the point of delivery/point of connection to provide municipal utility services to a prospective customer or group of prospective customers.

- "Fire Hydrant Meter" means the meter which is owned by the municipal utility and which is used to measure the amount of water delivered to a customer through a fire hydrant.

- "Fireline" means all service pipes, curb stops and/or valves, curb boxes and/or valve boxes, backflow prevention devices, check valves, inside piping, fittings, fixtures, and any other apparatus on customer's side of the point of delivery that is used for, and limited to, the providing of water to customers for fire suppression activities.

- “Grade” is the slope of the longitudinal road profile generally measured along the centerline, expressed as a percentage.

- "Holding Tank Waste" means any waste from holding tanks such as vessels, chemical toilets, campers, trailers, recreational vehicles, or septage haulers.

- "Individual Extension" means an extension of the utility system to provide utility service to an individual customer.

- "Industrial" means of or pertaining to industry, manufacturing, agriculture, commerce, trade, or business.

- "Industrial User" means (a) any person or source that introduces or discharges wastewater from industrial processes into the municipal wastewater system or (b) any non-domestic user or source regulated under Sections 307(b), (c), or (d) of the Clean Water Act.

- "Industrial Wastes" or "Industrial Wastewater'' means all liquid or water-carried wastes other than domestic wastes. The terms includes, by way of example and not by limitation, the trade wastes produced by food processing and bottling plants, food manufacturing plants, slaughtering plants, tallow **works,** plating works, disposal services, industrial cleaning plants, fertilizer plants, car and truck washing operations, vehicle repair facilities, commercial laundries and cleaning establishments, cooling plants, industrial plants, factories, feedlots, and chemical treatment installations.

- "Interceptor Sewer" means a public sanitary sewer having a size greater than 24 inches that was installed by the City for the principal purpose of collecting and conveying wastewater from several district trunk sewers to the municipal wastewater treatment plant for treatment and disposal.

- "Intersection" means that area embraced within the prolongation or connection of the lateral curb lines, or if none, then the lateral boundary lines of the roadways which join each other at, or approximately at, right angles, or the area within which vehicles traveling upon different roadways joining at any other angle may come in conflict.

- “Local Street” is a street which provides access to individual lots or areas. Cul-de-sacs are within this category. Traffic flow of 400 vehicles per day or less.

- "Main" means a pipe or conduit carrying water for domestic, industrial, fire suppression, and other similar uses.

- "Meter" means the instrument, including any auxiliary equipment, which is used to measure the amount of water delivered to a customer from the

municipal water supply system or the amount of wastewater contributed to the municipal wastewater system by a user.

- "Municipal Wastewater Treatment Plant" means the wastewater treatment plant owned and controlled by the City of Laurel.

- "Municipal Water Meter" means the meter, including the meter horn and remote read equipment, which is owned by the utility and which is used to measure the amount of water delivered to a customer through the customer's water service line.

- "Municipal Utility" or "Utility" means the Public Works Department of the City of Laurel.

- "Natural Outlet" means any outlet into a water course, pond, ditch, lake, or other body of surface or ground water.

- "Person" means any firm, company, partnership, public or private corporation, association, group or society, governmental agency, or other entity as well as a natural person.

- "pH" refers to the negative logarithm of the hydrogen ion concentration in moles per liter of solution. pH is an indicator of the acid or base content of the solution.

- "Point of Connection" means the point at which the municipal wastewater system connects physically to a user's building sewer. The point of connection shall be located at and include the user's service tee or wye fitting, which, in turn, is normally attached to the public sanitary sewer located in the public right-of-way that abuts and fronts the property to be served.

- "Point of Delivery" means the point at which the municipal water supply system connects physically to a customer's corporation stop, which, in turn, is normally attached to the public water main located in the public right-of way that abuts and fronts the property to be served.

- "Pollutant" means any dredged soil, solid waste, incinerator residue, sewage, garbage, septic waste, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharges into water.

- "Pollution" means the alteration of the chemical, physical, biological, or radiological integrity of water by human activity.

- "Polluted Waters" means water that contains objectionable wastes or suspended solids as a result of human activity.

- "Pretreatment" or "Treatment" means the reduction of the amount of pollutants, the elimination of pollutants, the alteration of the rate of their introduction into the municipal wastewater system, or the alteration of the nature of pollutant properties in wastewater to a less harmful state, prior to or in lieu of discharging or otherwise introducing such pollutants into a municipal wastewater system. The reduction or alternation can be achieved by physical, chemical, or biological processes, process changes, or by other means, except as prohibited by 40 CFR Section 403.6(d).

- "Pretreatment Requirement" means any substantive or procedural requirement related to pretreatment, including National Categorical Pretreatment Standards, imposed on an industrial user.

- “Private Water Service” means the water line owned by the property owner to include curb stop, curb box, service line, meter loop and all internal building piping excluding the water meter.

- "Public Building" means any building held, used, or controlled exclusively for public purposes by any department or branch of government, federal, state, county, or municipal, without reference to the ownership of the building or of the realty upon which it is situated.

- "Public Sanitary Sewer'' means the sewer directly controlled by the City and laid in the street or other right-of-way for the collection of wastewaters from users' building sewers.

- "Public Service Commission" refers to the elected body of Public Service Commissioners and their staff of the State of Montana.

- "Public Water Main" means the main directly controlled by the City and laid in the street or other right-of-way for the distribution of water to customers’ water service lines.

- "Rate Schedule" means a resolution approved by the City Council which sets forth the charges and conditions for a particular class or type of utility service.

- "Readily Accessible" means safely and easily reached and not being under "lock and key", "fenced in", "covered up", or otherwise obstructed.

- “Residential street” is a street which provides main ingress and egress to a subdivision or neighborhood. Traffic flows of 400 vehicles per day to 4500 vehicles per day.

- ” Right-of-Way” means public property dedicated for streets, alleys, or other public uses.

- “Roadway” means that portion of the street improved, designed, and customarily used for vehicular travel, exclusive of the berm or shoulder.

- "Sanitary Sewer'' means a sewer that carries wastewater or sewage.

- "Sanitary Sewer Service Line" or 'Wastewater Service Line" means that portion of the privately-owned building sewer extending from the property served to the public sanitary sewer.

- "Secondary Wastewater Meter'' or "Secondary Meter" means a meter which is furnished, installed, and maintained by a user, and which is used to determine the amount of wastewater contributed by such user to the municipal wastewater system.

- "Septage" means the mixed liquid and solid contents pumped from septic tanks used for receiving primarily segregated domestic wastes or wastes from sanitary conveniences.

- "Septage Disposal Permit" means a written receiving ticket issued by the City of Laurel permitting the discharge of septage into the City of Laurel's approved location in accordance with the provisions of these rules and regulations.

- "Septage Hauler" means a person having a valid City of Laurel business license, when appropriate, and, in addition, licensed by state and local government agencies to operate a business for the purpose of cleaning septic tanks and transporting septage to an approved septage disposal facility.

- "Sewer'' means a pipe or conduit for carrying wastewater or drainage.

- "Shall" is mandatory; "May" is permissive.

- “Sidewalk” means that portion of a street between curb lines or the outer lateral lines of a roadway, and the adjacent property lines, intended for use of pedestrians.

- "Source" means any building, structure, facility, or installation from which there may be a discharge of pollutants.

- "Sprinkling Meter" means a municipal water meter that is installed on a water service line for the purpose of measuring the water delivered by the utility to a customer exclusively for lawn and garden irrigation.

- "State" means the State of Montana.

- "Storm Sewer'' or "Storm Drain" means a sewer which carries storm and surface waters and drainage but excludes wastewater and polluted industrial wastes.

- “Street” means the entire width between the boundary lines of the right-of-way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel.

- "Subdivision Extension" means an extension of the wastewater system or provide water or wastewater service to serve a subdivision, Certificate of Survey, commercial or industrial development, or any other similar type annexed parcel of land wherein the extended water or wastewater system facilities within the development are to be owned by the City, not including any privately-owned facilities.

- "Sub Meter" means a meter or meters which are furnished, installed, and maintained by a customer, and which are installed downstream of the municipal water meter by the customer for the purpose of proportioning municipal utility charges between various tenants.

- "Suspended Solids" means solids that either float on the surface or are in suspension in water, wastewater, or other liquids, and which are removable by laboratory filtering.

- "System Development Fees" means one-time charge paid by new development as a proportionate share of the "general benefit" to finance the construction of public facilities needed to serve the development.

- ''Tampering" means damaging, altering, adjusting, or in any manner interfering with or obstructing the operation or function of any metering device that is used for measuring or registering municipal utility service.

- "User'' or "Customer" means any person receiving municipal water wastewater service either directly or indirectly from the municipal water supply system or municipal wastewater system.

- 'Waste Disposal Site" means the City of Laurel's designated waste disposal station for the purposes of disposing of septage.

- 'Wastewater" or "Sewage" means the liquid and water carrying industrial or domestic wastes from dwellings, commercial buildings, industrial facilities, and institutions, together with any ground water, surface water, and storm water that may be present, whether treated or untreated, which is discharged into

or permitted to enter the municipal wastewater system.

- 'Wastewater Meter" means a meter which is furnished, installed, and maintained by a user, and which is used to measure the amount of wastewater contributed by such user to the municipal wastewater system.

- 'Wastewater Service" or "Municipal Wastewater Service" means the act of either directly or indirectly discharging wastewater into the municipal wastewater system from users' building sewers for the purpose of collecting, transporting, treating, and disposing of users' wastewater.

- 'Wastewater Service Area" means that particular territory which has been officially adopted by the City Council as the area it intends to provide with municipal wastewater service.

- 'Wastewater System" or "Municipal Wastewater System" means any wastewater facilities, including interceptor sewers, outfall sewers, wastewater collection systems, and wastewater treatment facilities, controlled by the City of Laurel.

- 'Water Service" or "Municipal Water Service" means the supply of water directly or indirectly from the municipal water supply system, or the availability of water supplied either directly or indirectly from the municipal water supply system, at the point of delivery and also the water so delivered or used.

- 'Water Service Area" means that particular territory which has been officially adopted by the City Council as the area it intends to serve with municipal water service.

- 'Water Service Line" means all privately owned facilities, including service saddle, service pipe, corporation stop, curb stop, curb box, municipal water meter box or vault, backflow prevention device, expansion tanks, pressure reducing valve, inside piping, appliances, and other apparatus on the customer's side of the point of delivery, except the municipal water meter and any other equipment owned by the City of Laurel.

- 'Water Supply System" or "Municipal Water Supply System" means any devices, facilities, structures, equipment, land or works controlled by the City for the purpose of the processing, treatment, transmission, storage, distribution, pumping, and measurement of water supplied to customers.

~~3 MEETING REGIONAL NEEDS~~

~~3.1 All public improvements shall be designed as a logical part of the development of the surrounding area. Storm sewer and sanitary sewer shall be sized to accommodate the~~

~~entire drainage basin which they will ultimately serve. Water mains shall be designed to provide distribution and looping to adjoining systems. Arterial streets will be developed to the extra width for "Streets". Utilities and street improvements will be extended to the boundaries of the development for future extensions to adjoining areas. The Public Utilities Director (PUD) may require oversizing of utility lines to accommodate future growth of the City.~~

~~3.2 Where existing City utility lines do not adjoin the proposed development, the developer will be required to extend the lines to the development as necessary. Where the existing roadway improvements do not extend to the proposed developments, the developer may be required to improve the roadway to the development. Except as provided below, these extension will be at no cost to the City.~~

~~4 RECOVERING COSTS~~

~~When the improvements serve adjoining properties (e.g., extensions of existing utilities or improvements along the boundary of the development), a portion of the cost can be recovered from owners of the adjoining property by one of the following methods:~~

~~4.1 A private agreement between the various property owners.~~

~~4.2 A Sewer/Water Extension Agreement, requiring the owner of adjoining property to pay an equitable share of the costs in the future at the time they connect to the improvements (requires City Council approval for formation of reimbursement), as negotiated by the Department of Public Utuilities.~~

~~4.3 A Special Improvement District, which authorizes the City to make the improvements and to distribute the costs to the benefitted property owners, usually allowing ten years for repayment (requires City Council approval and usually agreement of more than 50% of the property owners). Property owners will be required to pay, in advance, a portion of any new development infrastructure costs.~~

~~5 CITY PARTICIPATION IN COST~~

~~The City may share the cost of oversizing of improvements for public use in excess of the following. Typically this is offered when oversizing is for the purpose of meeting regional requirements, and that it exceeds requirements of the specific project being built.~~

~~5.1 Water lines, valves, and associated materials in excess of 12 inches in diameter.~~

~~5.2 Sanitary sewers in excess of 1O inches in diameter.~~

~~5.3 Storm sewers in excess of 24 inches in diameter.~~

~~5.4 Street widths in excess of 40 feet (curb to curb back).~~

2.2 The following abbreviations shall have the designated meanings:

- “APWA” means the American Public Works Association.
- “ASTM” means the American Society for Testing and Materials.
- “AWWA” means the American Water Works Association.
- “DEQ” means Montana Department of Environmental Quality.
- “EPA” means the Environmental Protection Agency.
- “MCA” means Montana Code Annotated.

- "MPWSS" means Montana Public Works Standard Specifications
- "PUD" is the Laurel Public Utilities Department.
- "PWD" is the Laurel Public Works Director

~~The City's share of the cost of oversizing will be based on the extra material costs caused by oversizing. The City's share of materials cost will be determined by the PUD using recent bids received by the City and/or price quotations from reputable suppliers on similar impartial information. Any agreement by the City to share the costs of oversizing is subject to the availability of City funds, must be in writing, and must have the prior approval of the City Council by resolution. Any work completed prior to City Council approval of an agreement will not be eligible for City payment for oversizing.~~

~~6 DEFERRED CONSTRUCTION~~

~~When projects are located remote to existing roadway improvements, portions of street work may be deferred to a later date to allow more orderly construction of a complete project. The developer will be required to provide security for the estimated cost of deferred work in an amount and form approved by the City Council.~~

Part 2 - General Engineering Submittal Requirements

The following items, if they apply, will be required before the checking of plans can be completed. As many items as possible should be submitted with the initial submittal. Items not included in the initial submittal may add additional rechecks to the checking procedure. A complete list of requirements will be returned with the first check.

1. COMPLETE ~~SET OF PLANS~~SUBMITTAL PACKAGE

1.1 Plans

A complete set of plans shall be drawn to include the following:

1.1.1 Title Sheets

The title sheet shall be sheet 1 of each set of plans and will include the following items:

A. Suitable title that is descriptive of the project.

B. Legal description or address of the area to be worked.

C. Name and Contact information (address & phone #) of the persons responsible for the work.

D. Name and Contact information (address & phone #) of the persons designing the work.

E. Location and/or Vicinity Map w/north arrow at a scale that encompasses the entire project area and shows physical location.

F. Involved Entities and their contact information

G. Engineer's signature, seal, & date

H. Index of Included Sheets with sheet number and title

1.1.2 Notes & Detail Sheets

A. General notes and details that provide enough information for the complete construction of improvements

B. Basis of bearing and Elevation Datum

C. Legend

D. Abbreviations (if used)

1.1.3 Utility Improvement Sheets

A. Adjacent streets, property lines, utility easements, and references thereto.

B. Location, material, and size of Water, Sanitary Sewer, Storm Sewer and associated appurtenances.

C. Location of water courses, wells, streams and railroad crossings, water mains, gas mains, culverts and underground power, CATV or other utility wherever possible.

D. Limits of hard surface improvements ~~will include~~ with dimension references.

E. Location and size of property to be used for the ~~following items:~~development with respect to known references such as roads, streams, sections lines, or streets.

F. Topography of existing and proposed contours at intervals not greater than two (2) feet.

G. Profile views to show highest and lowest elevations of existing and proposed grades and installed below ground utilities.

H. Size, length, and materials of proposed construction.

I. Suitable title plate with scale, north arrow, date, drawings number, and name, address and telephone of engineer.

1.1.4 Site Improvements Sheets

A. Street Section Typical

B. Show type of pavement, curb, and sidewalk for each street (by name) in the project. Partial street improvements (using asphalt concrete paving) that do not terminate with a curb shall have an extra 1 foot of asphalt concrete paving width at the edge of right-of-way.

C. Dimensions Shown. Right-of-way, centerline to curb, curb to property line sidewalk, and sidewalk to property line.

D. Stationing

E. Scale. One (1) inch equals 50 feet (1"=50') horizontal and 1 inch equals 5 feet vertical (1"=5') is the recommended scale to be used for the plan and profile.

F. Original Drawings. All sheets must be drawn in black India ink on ~~24~~11-inch by ~~36~~17-inch (~~24"x36") size mylars.~~11"x17").

G. Existing and New Improvements and Easements. Existing and new improvements and easements shall show width. Existing easements

should also show the document number and the receipt date.

1.1.5 Landscape and Irrigation Sheets (optional)

~~1 ADDITIONAL ITEMS TO BE INCLUDED ON ALL PUBLIC IMPROVEMENT DRAWINGS:~~

1.1.6 Additional Items

A. Street Names

B. Subdivision Boundary

C. Lot Lines and Numbers

D. Pavement Shaded

E. Concrete Symbol on Sidewalk, etc.

F. Size, Material and Length of Each Run of Pipe

G. Centerline, Curb, Storm Drain, Sewer, and Water Data

H. All roads and improvements that are not public are to be labeled "Private"

~~2 GENERAL ENCROACHMENT PERMITS. General encroachment permits are required for all private facilities within any public right-of-way or easement.~~
~~General encroachment permits are required for all private facilities within any public right-of-way or easement .~~

~~2.1 When an encroachment is approved, a note will be put on each sheet where it applies.~~

~~2.2 Some typical examples of encroachments are private drains tying into public drains, sidewalk underdrains, fences, and walls in easements or right-of-way.~~

~~3 PROFILE ITEMS SHOWN WHEN APPLICABLE~~
~~Show all of the street, driveways; structures, pipelines, etc., which *affect* the profile.~~

~~ALLEYS~~

~~3.1 Alleys are to be improved as specified in the conditions of improvement for each particular project.~~

~~3.2 Alley aprons, curbs, and pedestrian ramps are required at all street or alley intersections.~~

2. RIGHT-OF-WAY AND EASEMENT PLATS AND LEGAL DESCRIPTIONS, IF NEEDED

3. SOILS AND GEOTECHNICAL REPORT

See Part 8, Appendix C for Geotechnical Report requirements.

4. STORMWATER ANALYSIS AND DESIGN REPORT

See Part 8 for stormwater report guidelines and requirements.

Part 3 – Construction Changes Revisions *(Reserved)*

~~Any change made to a set of plans after they have been signed will require a construction change. Some minor changes may be approved by the Field Inspector, which will then be included in the "As-Built Drawings".~~

~~1 REVISIONS OF EXISTING SHEETS~~

~~Only items being covered by the proposed revision will be shown on the plans. Future changes not to be approved at this time will not be shown on the plans.~~

Part 4 – As-Built Plans *(Reserved)*

~~The original plans shall be certified by BOTH the Design Engineer and the City as being "As- Built", prior to the finalizing of any public works improvement projects. Plans needing "As-Builts" are:~~

~~a. Grading / Drainage~~
~~b. Street Improvements~~
~~c. Storm Drain~~
~~d. Sanitary Sewer~~
~~e. Water System~~
~~f. Site Improvement~~

~~A developer shall give to the City on AutoCAD, or other Computer-Aided Drafting system, acceptable to the City, a diskette will all of the projects "As Built" documents in addition to hard copies. All documentation shall be given to the City 30 days before acceptance is expected. All test documentation and certifications shall have an Engineer's certification.~~

Part 5 - Street Design Technical Standards

1. GENERAL CONDITIONS

1.1 All maintenance and repairs of public streets, alleys, sidewalks and other public ways shall be under the supervision of the PWD.

1.2 It is unlawful to construct or lay any pavement on any public street, sidewalk, alley or other public way, or to repair the same, without having first secured a permit therefor. Applications for such permits shall be made to the City Clerk-Treasurer, and approved by the PWD, and shall state the location of the intended pavement or repairs, the extent thereof, and the person or firm who is to complete the construction.

1.3 The arrangement, type, extent, width, grade, and location of all new streets must be considered in their relation to existing and planned streets, to topographical conditions and to public convenience and safety, and in their relation to the proposed uses of the land to be served by them.

1.4 All roads must meet the appropriate regulations within Title 12.04.030 "Streets" of the City of Laurel Municipal Code. ~~meet the design specifications in Table 1. Urban-suburban roads must meet the design specification in Figure 1.~~

1.5 Proposed roads which will intersect State and/or County roads shall be permitted by entities having jurisdiction of said roads. ~~shall be kept to a minimum. State and county permits and/or authorization must be obtained. Turn lanes may be required and must be built to the Approach Standards for Montana Highways.~~

~~1.6 Residential driveways must not have direct access to primary highways. Where no reasonable option is available, the Montana Department of Transportation may issue a road approach permit.~~ **Moved to Section 9**

~~1.7 Local streets must be designed so as to discourage through traffic.~~

~~1.8 Whenever a subdivision abuts or contains an existing or proposed arterial highway or major thoroughfare, the governing body may require frontage roads, with a reservation prohibiting access along the rear property line, deep lots, or other treatment as may be necessary for adequate protection of residential properties and to separate arterial and local traffic.~~

~~1.9~~ 1.6 All roadway improvements including pavement, curbs, gutters, sidewalks, and drainage must be constructed in accordance with the specifications and standards prescribed in the latest edition of the Standards for Public Works Improvements for the City of Laurel.

~~1.10~~ 1.7 Plans, specifications, and special provisions for street ~~design~~ construction projects must be ~~completed~~ sealed by a Registered Professional Engineer licensed in the State of Montana and submitted with the permit application.

1.8 All street improvements shall be inspected during the course of construction by an inspector appointed by the PWD.

~~1.11 Roadway subgrades must be free of topsoil, sod, vegetation, or organic matter, soft clay, or other substandard materials, properly rolled, shaped, and compacted, and subject to approval by the governing body.~~

~~1.12 Streets and roads must be designed to ensure proper drainage, including but not limited to surface crown, culverts, curbs and gutters, drainage swales, and storm drains.~~

~~1.13 Where access from a public road to the subdivision will cross properties not owned by the subdivider, the subdivider must obtain proper easements, at least 60 feet wide, from each property owner or the appropriate administration of public lands. Each easement must allow construction and perpetual maintenance of a road across the property and allow vehicular travel on the road.~~

Repeat of Table 16.16.C.1 of the Subdivision Code

Table 1
Road Design Standards Subdivisions

~~m1mum es,gn tandar s~~	~~Minor Collector~~ e,*ft7Np	Local Street
~~1. Minimum Right-of-Way Width~~		
~~2. Minimum Roadway Width~~	~~26 ft~~	~~24 ft~~
~~3. Minimum Curb Radius or Edge of Pavement atIntersections~~	~~25 ft~~	~~15 ft~~
~~4. Maximum Grades~~	~~8%~~	~~9%~~
~~5. Approaches onto Public Roads~~		
~~a. minimum sight distance~~	~~200 ft~~	~~150 ft~~
~~b. minimum width~~	~~35 ft~~	~~30 ft~~
~~c. maximum grade for 20 feet~~	~~5%~~	~~5%~~
~~d. minimum grade for 20 feet~~	~~1%~~	~~1%~~
~~6. Curvaturec~~		
~~a. design speed~~	~~25mph~~	~~25mph~~
~~b. maximum curve~~	~~23~~	~~53.5~~
~~c. minimum radius~~	~~249 ft~~	~~107 ft~~
~~7. Cul-de-Sacs and Turnarounds~~		
~~a. Long Cul-de-Sac~~		
~~l. maximum road length~~		~~600 ft~~
~~ii. cul-de-sac: minimum outside right-of-way radius~~		~~52 ft~~
~~iii. cul-de-sac: minimum outside roadway radius~~		~~44 ft~~

b. Short Cul-de-Sac	100 ft
i. maximum road length	40 ft
ii. cul-de-sac: minimum outside right-of-way radius	35 ft
iii. cul-de-sac: minimum outside roadway radius	
c. "T" or"Y" Turnaround	30 ft ea.
i. backup lengths (2required)	26 ft
ii. inside turning radius	38 ft
iii. outside turning radius	

Adequate and appropriate easements must be granted by each property owner through a signed and notarized document that grants the easement.

The location of any road easement must be shown on the plat or on a supplemental map. The existence of easements must be noted on the face of the final plat and any deeds or other instruments conveying lots within the subdivision.

- Where parking will be permitted, add eight feet on each side. If guardrail installation is required or a shoulder is desired, add two feet to each side of roadway.

ь Grades over 10% must not exceed 100 feet in length.

° Curvature is based on a superelevation of 0.08/ft.

2. DESIGN CRITERIA FOR STREETS

2.1 Minimum centerline radius of horizontal curvature shall be based on the latest edition of the AASHTO Geometric Design of Highways and Street for the following design speeds. The road classification will be as determined by the City Public Works Director.

Table 5.1 – *Roadway design speeds (mph)

Arterial	Collector	Local	Alley
50	40	30	20

*or as approved by the PWD

2.1 Minimum centerline radius of horizontal curvature based on design speeds shall be as follows (assuming a normal crown):

2.1.1 Major streets - 1,000 feet (25 mph)

2.1.2 Collector streets and industrial and commercial streets - 800 feet (25 mph)

2.1.3 Residential collector streets - 500 feet (25 mph)

2.1.4 Residential streets - 300 feet (25 mph)

2.1.5 Alleys - 50 feet (15 mph)

2.2 Intersections

2.1.1 Intersection design should follow the latest edition of "A Policy on Geometric Design of Highways and Streets" as modified by the following.

2.1.2 ~~2.2.5~~ Maximum grade of approach to an intersection must not exceed 5% for 50' from the edge of traveled way.

~~2.2.1 Streets must intersect at 90 degree angles, except where topography precludes, and in no case may the angle of the intersection be less than 60 degrees to the centerline of the roadway being intersected.~~

~~2.2.2 Two streets meeting a third street from opposite sides must be offset at least 125 feet for local roads and 300 feet for arterials or collectors.~~

~~2.2.2 No more than two streets may intersect at one point.~~

~~2.2.3 Intersection design must provide acceptable visibility for traffic safety as dictated by the designed operating speeds on the individual roadways.~~

~~2.2.4 Hilltop intersections are prohibited, except where no alternatives exist. Intersections on local roads within 100 feet of a hilltop are prohibited. Intersections on arterial and collector roads within 200 feet of a hilltop are prohibited.~~

2.3 Where a sight-distance problem may be anticipated, additional easements or Right of Way may be required by the PWD.

~~2.3 Where the angle of intersection is acute, or where a sight-distance problem may be anticipated, an increased property line radius may be required by the PWD.~~

~~2.4 The angle between centerlines of intersecting streets shall be as nearly right angles as possible, but in no case less than 80 degrees or greater than 100 degrees, except as approved by the PWD.~~

~~2.5 All streets entering upon any given street shall have their center lines directly opposite each other or separated by preferably 300 feet, 200 feet minimum.~~

~~3. GRADIENT~~

~~Streets and roads must be designed to ensure proper drainage, including but not limited to surface crown, culverts, curbs and gutters, drainage swales, and storm drains.~~

3 Grading

3.1 All grading or excavating in public right-of-way and encroachments shall be first authorized by a valid encroachment permit.

3.2 Additional grading beyond the right-of-way may be required to provide for safe sight-distance and to control drainage.

3.3 Easements shall be provided for all property where grading will be required outside of the right-of-way.

4. PAVEMENT, STRUCTURAL SECTIONS

All streets shall be surfaced in accordance with the following specifications:

4.1 All design shall conform to the latest edition and revisions of the MPWSS.

4.2 Road surfacing shall be Type B asphaltic concrete with a PG 64-28 binder.

4.3 Structural section shall be determined using a Geotechnical analysis and design report prepared by a Professional Engineer licensed in the State of Montana.

4.4 Existing street patches or restoration shall include asphalt and a crushed base course per table 5.2

Table 5.2 – Asphalt Thickness for Road Restoration

Road Classification	Asphalt Thickness	Crushed Base Course
Arterials	Min 4" or Match Existing	Min 14" or Match Existing
Collectors	Min 4" or Match Existing	Min 10" or Match Existing
Local Commercial	4"	10"
Local Residential	3"	10"

4.5 Street cross slopes to be designed with a minimum of 2%, maximum of 5% and a preferred cross slope of 3%.

4.6 Alley surfacing shall be of 4 inches of ¾-inch minus crushed base course, and 4 inches of 3-inch minus crushed sub-base course.

5. UTILITY PLACEMENT WITHIN STREETS

Water and sewer utilities to be constructed in streets shall be installed according to Part 6 and Part 7.

6. SITE TRIANGLE

6.1 At Alley intersections a clear vision triangle shall measure ten (10) feet parallel to the alley and twenty (20) feet parallel to the street as measured from the property line corner.

6.2 At uncontrolled intersections, a clear vision triangle shall measure seventy-six (76) feet in both directions as measured from the intersection of the centerlines in the adjoining street intersection.

6.3 At controlled intersections (stop sign or traffic signal) a clear vision triangle shall measure twenty (20) feet in both directions as measured from the property line corner. Exceptions include the existing downtown business district. See zoning code for Central Business District (CBD).

6.4 Any fence, wall, signs, plant material or other material shall provide an unobstructed cross-visibility at a level between 3 feet and 8 feet above the street surface elevation. Trees having over eight (8) feet of clear trunk as measured from the surface elevation with limbs and foliage trimmed in such a manner as not to extend into the cross-visibility area and complying with section 7.2.3 of Division 2 of the Rules and Regulations Governing Utility Services and Streets of the City of Laurel, Montana, are permitted in the clear vision triangle.

6.5 Vehicles shall not be parked in the public right-of-way to obstruct the line of site created by the clear vision triangle. In the Central Business District where line of site is restricted by zero building setback, vehicles shall not be parked in the public right-of-way that obstruct site distance or as per Montana Department of Transportation standards where applicable.

7. ALLEYS

7.1 Alleys

Alleys shall be designed and improved by the developer.

7.1.1 Right of way shall be a minimum of 20 feet in width.

7.1.2 There shall be no intersecting alleys.

7.1.3 Road surface shall be 15 feet wide, except at intersections with streets where standard returns shall be constructed.

8. CURB AND GUTTER, SIDEWALKS

8.1 Sidewalks shall be constructed of 4" Portland Cement Concrete over 3" of ¾" crushed base course.

8.2 Sidewalks shall typically be constructed parallel to the curb line. Other sidewalks shall be constructed only if authorized by the PWD.

8.3 Curb, gutter and sidewalks shall be constructed at the total cost of developers or property owners.

8.4 Sidewalks shall be ADA compliant.

8.5 Warning Plates are to be Cast Iron Truncated Domes.

9. DRIVEWAYS

9.1 Residential Driveway

9.1.1 Driveways serving property used solely as a single family, two-family, or three-family residence shall be residential type driveways with approaches conforming to the latest edition of the MPWSS Standard Drawings.

9.1.2 Driveways widths shall be 12-foot minimum/~~24-foot maximum~~ 30-foot maximum, measured at the base of the driveway.

9.2 Commercial Driveway

9.2.1 All driveways other than residential driveways shall be commercial driveways with approaches conforming to the latest edition of the MPWSS Standard Drawings.

9.2.2 Commercial driveway widths shall be 12-foot minimum/~~25-foot maximum~~ 50-foot maximum, measured at the base of the driveway.

9.3 Driveway Separation/Distance from the Property Line

9.3.1 For residential driveways, except for approved joint-use driveways and driveways of lots having 25-feet of frontage or less, shall be located at least 5 feet from the side property line. Exceptions are allowed for cul-de-sacs. Multiple driveways for a single lot may be approved on a case-by-case basis.

9.3.2 All commercial driveways shall be approved by the PWD.

~~Driveways, other than approved joint-use driveways, shall be separated by a distance of at least 10 feet. Exceptions are allowed for cul-de-sacs. Multiple driveways for a single lot shall only be approved on a case-by-case basis.~~

9.4 Location

9.4.1 Driveways shall be so located to minimize interference with the free movement of normal traffic or the proper functioning of highway signs, signals, lighting, fire hydrants or other devices that affect traffic operation.

9.4.2 All commercial driveways shall be designed such that vehicles entering, or egressing shall not be required to back from or into a street right-of-way.

9.4.3 Any necessary adjustments to utility facilities, light standards, fire hydrants, catch basins, street signs, signals, underground conduits for street lighting or fire alarm systems, or other public improvements or installations shall be

accomplished without cost to the City.

9.5 Frontages

Frontages of ~~50~~ sixty (60) feet or less shall be limited to one (1) driveway. Not more than two (2) driveways shall be provided to any single property tract or business establishment, except where the property frontage exceeds six hundred (600) feet, there may be one (1) additional driveway for each additional three hundred (300) feet of frontage. In cases where lots have more than one street frontage, each frontage shall be treated separately when determining the allowed number of driveways.

9.6 Right-of-Way Distances

Gasoline pump islands or other installations with parking parallel to the right-of-way line shall be at least 10 feet outside of the right-of-way line. Buildings or other installations with an angle of ninety degrees parking between it and the right-of-way line shall be at least 30 feet outside the right-of-way line.

9.7 Culverts

Driveway culverts shall only be allowed by approval of the PWD. If permitted, culverts shall be maintained by the property owner.

Culverts used for the crossing of irrigation ditches shall be approved by the associated ditch company.

10. STREET NAME SIGNS

10.1 Street name signs shall be installed in accordance with the Manual of Uniform Traffic Control Devices and at all new intersections.

11. SURVEY MONUMENTS

Boundary, lot corner and street survey monuments shall be installed or preserved as with all street improvements as follows:

- During construction or development of any street other than in a new subdivision, Contractor shall reset or preserve all existing monuments affected by the street improvements.

12. REPAIRING UTILITY CUTS

12.1 When requested by the PWD, construction equipment and procedures to be used shall be described in the permit application.

12.2 Pipe installation shall be done according to the requirements of the appropriate

agency specifications in use. Any required granular backfill material shall meet the material requirements for Select Granular Fill in the MPWSS, latest edition.

12.3 Pavement shall be saw cut in a neat line at termination points of pavement replacement.

12.4 Pavement and shoulder removal shall be done in a manner that provides for proper restoration of the replacement section.

12.5 Straight vertical cuts of the pavement are required. Pavement surfaces that become undermined shall be cut back and removed.

12.6 Excavations shall be filled at the end of each workday unless approved otherwise by the PWD. Any excavations that are allowed to remain open must be properly signed and barricaded. The longest length of trench to remain open overnight shall not exceed 50 lineal feet.

12.7 Construction which adversely affects the subsurface drainage of the pavement structure shall be corrected by the addition of surface or subsurface drain.

12.8 Pavement replacement limits shall extend a minimum of 24-inches, in all directions, beyond the limits of disturbed soil and far enough such that all existing pavement to remain, is supported firmly by the existing underlying base material. The new pavement patch shall be restored to the proper grade, cross-slope, and smoothness. All joints shall be tacked.

12.9 The City PWD requires inspection and testing of utility repairs and surface restoration.

12.10 All street cuts shall be parallel and perpendicular to the street centerline. No diagonal cuts shall be accepted.

12.11 If remaining asphalt width between asphalt cut and asphalt edge is less than or equal two (2) feet, it shall be removed and replaced.

12.12 Asphalt removed shall be replaced at the thicknesses designated in Table 5.2 or match existing, whichever is the greater.

12.13 Non-shrink backfill may be required by the PWD.

13. STREET LIGHTING

Streetlights shall be installed and shall comply with Montana Department of Transportation standards.

PART 6 - SEWER DESIGN TECHNICAL STANDARDS

1. PURPOSE

The purpose of this design criteria is to provide engineers, designers, engineering technicians, and others, in ~~handy~~ reference form, the City's minimum standards for sanitary sewer design.

These criteria are intended to cover the design of main line sanitary sewers and apply to any sewer systems, public or private, 6 inches in diameter or greater. Private on-site sewer systems serving mobile home parks, condominiums or apartments may be designed in accordance with the uniform plumbing code and approved by the appropriate building inspector.

The design criteria set forth below are intended to result in sewers which will:

1.1 Be consistent with the Sewer Master Plan, Preliminary Engineering Report or other latest governing body accepted planning document.

1.2 Be consistent with Montana Department of Environmental Quality (DEQ) Circular DEQ 2, latest edition.

1.3 Be consistent with the latest edition of the Montana Public Works Standard Specifications (MPWSS~~.~~).

1.4 Be of adequate size to carry the expected flow, within their design life, and at sufficient depth to serve adjacent properties.

1.5 Have sufficient grade to maintain a minimum velocity of 2 feet per second when flowing half full.

1.6 Be strong enough to resist all external loads which may be imposed.

1.7 Be of materials resistant to both corrosion and erosion.

1.8 Be economical and safe to build and to maintain.

1.9 Prevent infiltration or inflow of ground and surface waters.

1.10 Be designed for municipal wastewater only, not storm water roofs, streets, or ground waters.

Alternate materials and methods will be considered for approval on the basis of these objectives.

2. REFERENCES

2.1 ~~"Waterworks Standards,"~~ Circular ~~WQB-2 MT~~ DEQ-2, Design Standards for Public Sewage Systems, Montana Department of Environmental Quality, ~~Design Standards for Wastewater Facilities,~~ latest edition.

2.2 Montana Public Works Standards Specifications, latest edition and revisions.

3. APPROVAL OF ALTERNATE MATERIALS OR METHODS

Approval of any major deviation from these standards will be in written form.

4. MONTANA ~~WATER~~ DEPARTMENT OF ENVIRONMENTAL QUALITY ~~BUREAU~~ STANDARDS

~~WQB-2, published by the State of~~ Montana~~,~~ Department of Environmental Quality ~~(DEQ),~~ ~~is~~Circulars are hereby incorporated into this document. ~~WQB's criteria will be used as a guideline to determine~~ The document with the more stringent standards ~~needed for items not specifically covered in this document~~ shall govern.

5. SPECIAL PROBLEMS

The design of the following are considered special problems and are not covered in detail in these standards: ~~WQB-2 provides general guidelines for most of these items.~~These items will be reviewed and approved on an individual basis. The following is a brief list of items but shall not be considered all encompassing.

5.1 Pump ~~or~~of Lift Stations

5.2 Force Main

5.3 Inverted Syphons

5.4 Relining of Existing Sewers

5.5 Internal Sealing of Existing Sewers

5.6 Treatment Plants

5.7 Outfall Sewers

5.8 Energy Dissipaters

5.9 Regulating Devices

5.10 Flow Measurement Devices

6. DESIGN PLANS AND PROFILES

Plans will be required for all new or extended sanitary sewers and shall include both a vicinity map and a general layout map of the area showing the location of existing facilities and of the proposed improvements. Plans should be accurate, legible and properly detailed. Dimensions should be either from right-of-way centerline or property lines.

The City of Laurel utilizes the NAD_1983_StatePlane_Montana_FIPS_2500 coordinate system and the Lambert Conformal Conic Projection for all mapping purposes.

6.1 Engineering Drawings (Plans)

Plans for sewer lines should contain at least the following information:

6.1.1 Adjacent streets, property lines, utility easements, and references thereto.

6.1.2 Location of sewer lines and appurtenances. Each manhole shall be numbered and stationed to facilitate checking the plans with the profiles.

6.1.3 Location of water courses, wells, stream and railroad crossings, water mains, gas mains, culverts and underground power, CATV, or other utilities wherever possible.

6.1.4 Limits of hard surface paving with dimension references.

6.1.5 Adequate details, specifications, and other information for Contractor to be able to install the proposed improvements.

6.1.6 Suitable title plate with ~~name and address of owner,~~ scale, north point, date, drawing number, and name, address and telephone of engineer, and the Registered Professional Engineer's (RPE) signature.

6.1.7 Profiles

6.2 Profiles for the individual sewer lines should contain at least the following information:

6.2.1 Location of manholes and other appurtenances with each manhole numbered and stationed.

6.2.2 Profile of existing and proposed ground surface and sewer invert.

6.2.3 Size, material, pipe class, slope, and length of sewer~~, and pipe bedding class~~ between consecutive manholes.

6.2.4 Depth of bury and surface restoration.

6.2.5 Elevation of original ground and finished grade shall be shown graphically, and sewer inverts specified at each manhole.

6.2.6 Depth and location of major utilities and pipelines that cross the plan view of the sewer line. Utility service lines shall be shown if requested by the PWD.

6.2.7 Suitable title plate with the ~~name and address of owner,~~ scale, date, drawing number, and the ~~name,~~ Registered Professional Engineer's (RPE~~ number and expiration date of the registration~~) signature.

6.2.8 Limits of street improvements will be shown including a typical section of the subject street.

~~5.1 Sewer Appurtenances~~

~~Appropriate City Standards shall be included in all plans for construction of sanitary sewer lines.~~

~~5.2 Separate Drawings~~

6.2.9 Separate plans shall be submitted for public sewers installed in combination with private sewers or site plumbing. "Site plumbing" drawings are not acceptable. Public sanitary sewer plans may be combined with other public improvement plans, provided that the plans must be legible and properly detailed.

6.2.10 Appropriate labeling of the services as "Public" or "Private" will be done on both the plan view and profile view.

7. SPECIFICATIONS

7.1 Engineering consultants are encouraged to develop specifications and special provisions for each project. Specifications and special provisions shall incorporate the latest edition of the MPWSS. Special specifications pertaining to materials and workmanship, if developed, shall be submitted to the City for review and approval, together with check prints of the project.

7.2 In general, the sewer specifications should cover pipe material, excavation, laying of sewer pipe, jointing, backfilling, testing, etc. Strict supervision will be required by the City during construction to assure compliance with the specifications. Developer shall provide full time engineering inspection services during Construction activities. The City reserves the right to review or audit the inspection services being provided.

8. ADDITIONAL ITEMS OF CONCERN

8.1 Testing

8.1.1 Sanitary sewers will be required to pass tests specified in MPWSS, Section ~~02722~~ 02730, Sanitary Sewer ~~Mains~~ Collection Systems.

8.1.2 The internal (T.V.) inspection shall be performed prior to issuance of the final acceptance. ~~The developer will perform a T.V. of completed projects A minimum of~~

~~five (5) working days notice is required to schedule the inspection.~~ T.V. inspection will not be performed until the ~~City's~~City's inspector has completed a~~:~~ final inspection and is satisfied that all construction is complete. The T.V. inspection ~~tapes~~ video shall be become the property of the City.

8.1.3 Results of all testing shall be reported to the City on a bi-weekly basis.

~~5.2.1 Manhole Exfiltration Test. The City may require a leakage test for manholes as provided in latest version the MPWSS.~~

~~**5.2.2** Mandrell Test. May be required on PVC pipe as provided in the latest version of the **MPWSS.**~~

~~Light Test. The contractor perform a light test between manholes check alignment and grade~~

9. GENERAL DESIGN CONSIDERATIONS

9.1 Sanitary sewers should be designed to remove the domestic sewage from houses, business buildings and other public and private establishments, but not the street, roof, or subsurface drainage. Each main building on a parcel or residence shall be served by a separate sewer lateral.

9.2 Storm water, including street, roof, or footing drainage, shall be removed by a system of storm sewers or by some other method separate from the sanitary sewer system.

~~5.3 All materials and installation of sanitary sewers shall be in conformance with the latest edition of theMPWSS, except as noted herein and on the standard and special detail drawings.~~

~~5.4 All gravity-flow sewers, up to 10 inches, shall be designed to allow for peak flowsat ½ the capacity; additionally, sewers 12 inches and larger shall be designed to allow for peak flows at ¾ of the capacity of the pipe.~~

9.3 In general, sewer systems should be designed to care for future flows which may reasonably be expected within a period of ~~15 to~~ 20 years, and for ultimate development of the specific drainage basin concerned.

10. CAPACITY

Public sanitary sewers and appurtenances 10 inches and smaller shall be designed to accommodate peak hourly flows when flowing one half full. Public sanitary sewers and appurtenances 12 inches and larger shall be designed to accommodate peak hourly flows, when flowing three quarters full.

11. Design flows shall be determined by consideration of the following factors:

11.1 Drainage Basin Area to Be Served

11.2 Population Within the Area to Be Served

11.3 Land Use Within the Area to Be Served

11.4 Per Capita Sewage Flow

11.5 Commercial, Industrial, or Institutional Users to Be Served

11.6 Infiltration Allowance

11.7 Peaking Factors

In the absence of flow data or other reliable information, the ~~design factors from Table 3 may be assumed. Appropriate~~Designer shall use peaking ~~ratios should be applied to determine flows, where~~factors in conformance with factors outlined in DEQ Circular-2 or others specified by the City.

~~Table 3~~
~~Design Factors~~

	~~Average Flow~~	~~Peaking Factor~~
~~Residential~~	~~100 gpcd~~	~~1.7to4.0~~
~~Commercial~~	~~1,200 gpcd~~	~~2.0 to 4.0~~
~~Industrial~~	~~1,200 gpcd~~	~~2.0 to 4.0~~
~~Infiltration and Storm Water Inflow~~	~~30-50 gpcd~~	~~1,000 gpcd~~

~~It is recommended that design~~Design calculations shall include estimates of average and maximum ~~and minimum~~ daily flows. The submission of design calculations will ~~not ordinarily~~ be required ~~but~~; engineers should be prepared to substantiate pipe sizes, layout, population estimates, land uses or other design assumptions ~~as may be requested~~.

12. SIZE

Main line sewers shall be a minimum of 8-inch inside diameter, except that the ~~lateral~~ sewer service within private property which will not be extended may be of 4-inch inside diameter for residential services and 6-inch for commercial properties.

13. PIPE MATERIALS

13.1 Gravity Sewers

The following pipe materials and fittings are approved~~:~~

MATERIAL	SPECIFICATIONS
Concrete Pipe, Reinforced ~~Ductile Iron Pipe; Class 52~~	ASTM C 76, Class ~~111~~ III, IV, or V

Ductile Iron Pipe: Class 2	ANSI A21.51 or AWWA C151
Polyvinyl chloride (PVC); 4" to 15"	ASTM ~~D~~C 3034, SDR 35; or ASTM F 789
PVC Sewer Pipe; 18" and larger	ASTM F 679: ASTM F 794, Series 46

13.2 Force Mains

The following materials are approved for force mains:

MATERIAL	SPECIFICATIONS
Ductile Iron Pipe; Class 52	ANSI A21.51 or AWWA C151
Polyvinyl chloride (PVC)	AWWAC900

13.3 Other Uses

Pipe materials for special uses such as for liner pipe, temporary construction, stream crossing, bridge crossings, etc., will be considered special design cases and are not covered further in these standards.

14. EXCAVATION, PIPE BEDDING AND BACKFILL

14.1 Details - Standard ~~plans~~ details are the latest edition of the MPWSS.

14.2 Installation

Installation of pipe shall conform to the following:

14.2.1 MPWSS, latest edition.

~~13.1.1 Water settling of backfill material is prohibited. 14 GRADE~~

~~Sewers shall be laid with uniform slope between manholes. All sanitary sewer shall be laid on a grade which will produce a mean velocity, when flowing full or half full, of at least 2 feet per second (fps), based upon Manning's "n", the coefficient of roughness, valued at not less than 0.013, depending upon the type of pipe used. The minimum grades for various sizes of pipe with an "n" value of 0.013 are listed below:~~

14.2.2 Contractor Quality Control and Owner Quality Assurance

Table 6.1 below outlines the minimum frequency of quality assurance testing. This testing may be reduced at the discretion of the City. This testing does not replace an appropriate Contractor quality control testing program as described earlier in this section. In the case of a conflict between QC and QA testing, the QA testing shall govern.

Table 6.1 - Laurel Materials Testing Requirements

EARTHWORKS		
Test Specification/Material	Test Method	Minimum Required Frequency
Trench Backfill	Moisture-Density (MPWSS 02221)	1 Sub/soil type encountered 1 Submittal/borrow source
Trench Compaction	In-Place Density (MPWSS 02221/1.4) 97% Minimum	1 test/lift/200 LF
Trench Compaction (laterals outside the road template, structures, valves, hydrants and manholes)	In-Place Density (MPWSS 02221/1.4) 97% Minimum	1 test/for each 2 ft of vertical depth/2 ft from edge of structure, valve, hydrant, or manhole
Pipe Bedding	Type I Bedding gradation & Plasticity Index / Type II Bedding Gradation (MPWSS 02221)	1 Submittal
Subgrade and Embankment	Moisture-Density (MPWSS 02230)	1 Submittal per soil type encountered / 1 Submittal per borrow source
Compaction of subgrade under curbs, gutters, and sidewalks	In-Place Density (MPWSS 02230/1.3) 95% Minimum	1 test/lift/200 LF (C &G) or 1 test/lift/1000 SF (flatwork)
Compaction of subgrade and embankment for roadways	In-Place Density (MPWSS 02230/1.3) 95% Minimum	1 test/lift/4000 SF
Sub Base Course	Gradation - Moisture Density – Fractured Faces (Crushed) - LA Abrasion, LL, PL, and PI (MPWSS 02234)	1 Submittal
Compaction of Sub Base Course for roadways	In-Place Density (MPWSS 02234/1.3)95% Minimum	1 test/lift/4000 SF
Crushed Base Course	Gradation - Moisture Density – Fractured Faces (Crushed) - LA Abrasion, LL, PL, and PI (MPWSS 02235)	1 Submittal
Compaction of crushed base course under curbs, gutters, and sidewalks	In-Place Density (MPWSS 02235/1.3) 95% Minimum	1 test/lift/200 LF (C &G) or 1 test/lift/1000 SF (flatwork)
Compaction of crushed base course for roadways	In-Place Density (MPWSS 02235/1.3) 95% Minimum	1 test/lift/4000 SF

~~In general, slopes greater than~~

14.3 Water settling of backfill material is prohibited.

15. GRADE

15.1 The Designer shall use minimum grades in conformance with those ~~shown above are desirable and are particularly recommended on~~ outlined in DEQ Circular-2 or others specified by the City ~~upper ends of lateral sewers.~~

15.2 Slopes slightly less than those ~~shown above~~ described may be considered if substantial justification can be demonstrated. There must be enough live sewer interceptions to ensure that the average depth of sewage flow will be 0.3 of the pipe inside diameter.

15.3 Maximum pipe slope shall be governed by terrain and available fall between manholes. Maximum velocity in the pipes shall not exceed 8 fps, unless specifically approved by the City.

16. MINIMUM DEPTH

16.1 All sewers shall be laid at a depth sufficient to drain and be protected against damage from traffic. Sewers laid in areas subject to wheel loads shall have a minimum cover of 6 feet measured from top of pipe to finished grade or be otherwise protected from damage by traffic; except that minimum cover may be reduced to 4 feet with specific approval. Encasement will be required for depths less than 4 feet.

16.2 Under normal conditions, main line sewers in residential areas should be laid at an average depth of 8 to 9 feet. Services to adjacent properties from such sewers should normally be laid so that the depth of the service lateral at property line is at least 5 feet. Insulation shall be provided for sewers that ~~cannot be placed at a depth sufficient to prevent freezing~~ are less than 5-ft deep.

17. LOCATION

17.1 Relation to Water Lines and Wells

No sanitary sewer mains should be less than 10 feet from any well, spring, or other source of domestic water supply. All sanitary sewers or parts thereof which are located within 50 feet from any such source of domestic water supply shall be constructed of cement lined, ductile or PVC with watertight joints. Sanitary sewers and domestic water lines shall not be laid in the same trench. Parallel water and sewer lines wherever possible should be located at least 10 feet apart horizontally.

When physical conditions render this spacing impossible or impractical, then ductile iron water pipe with watertight joints or concrete encasement is required for the sewer line. Wherever it is necessary for sewer and water lines to cross each other, the crossing should be at an angle of approximately 90 degrees and the sewer shall either be located 18 inches or more below the water line or be cement lined, constructed of ductile or PVC pipe with watertight joints for a distance of 10 feet on both sides of the water line.

17.2 Sewers in Streets or Easements

Under normal conditions, sewers should be located in street right-of-way ~~5~~6 feet north or east of the street right-of-way centerline. Sewers shall be located in centerline of alleys and easements, if possible. When it is necessary to locate sewers in easements, such easement shall be at least 20 feet in width. Sewers 24 inches in diameter or larger, or over 12 feet in depth, may require wider easements.

18. ALIGNMENT

18.1 Sewer lines shall be laid on straight alignment and uniform grade between consecutive manholes.

18.2 Horizontal and vertical curves in sewers are not recommended. However, in cases where justification can be shown, limited use of such designs will be considered.

Where curved alignments are utilized, the City may require the following:

18.2.1 Slope greater than minimum slope for the size of pipe.

18.2.2 Manhole spacing of less than 250 feet.

18.2.3 City may require that the developer or contractor shall provide a licensed professional land surveyor or engineer to continuously monitor installation of the curved sewer during construction.

18.2.4 Television inspection of curved sewers is required prior to final acceptance.

19. CHANGE IN PIPE SIZE

19.1 When a smaller sewer joins a large one, the invert of the larger sewer should be lowered sufficiently to maintain the same energy gradient. An approximate method for securing these results is to place the 0.8 depth point of both sewers at the same elevation.

19.2. Sewer extensions should be designed for projected flows even when the diameter of the receiving sewer is less than the diameter of the proposed extension. Special consideration should be given to minimizing turbulence when designing a flow channel within a manhole where there is a change in pipe size. ~~The appropriate reviewing agency may require a schedule for construction of future downstream sewer relief.~~ The appropriate reviewing agency may require a schedule for construction of future downstream sewer relief.

20. MANHOLES AND CLEANOUTS

20.1 Details - Standard Drawings are found in the MPWSS, latest edition

20.2 Manhole Construction

20.2.1 Construction shall be watertight. If ground water or surface drainage can be expected to flood the top of the manhole, watertight frame and covers shall be used. A 100-year-recurrence-interval storm shall be used in determining flooding elevations.

20.2.2 Manholes located in easements outside of public right-of-way shall have locking frame and covers.

20.2.3 For rigid pipe, there shall be flexible connections provided at the inlets and outlets of each manhole. For all pipes, the flexible joint shall be within 1-1/2 pipe diameters, not to exceed 12 inches, of the exterior wall of the manhole. A flexible connection "boot"/or insert may be utilized in lieu of a flexible joint.

20.2.4 Generally, a ~~0.2~~ 0.1 foot minimum drop from inlet to outlet is required for bends between 120 and 240 degrees. A ~~0.4~~ 0.2 foot minimum drop for all bends outside those angles. Maximum drop in flow line elevation ~~is required through manholes~~ or all inverts shall be 0.4 feet. However, where grade considerations are considered critical, the design engineer may request a waiver from the City if sufficient justification exists.

20.3 Manhole Location

20.3.1 Manholes shall be located as follows:

A. At the end of each public sanitary sewer.

B. Every change in grade or alignment of sewer.

C. Every point of change in size of sewer or pipe material.

D. Each intersection or junction of sewer.

E. Upper end of all lateral sewers.

F. At the beginning and end of all 24-inch diameter and smaller sewers on curved alignment.

G. At intervals of ~~350~~ 400 feet or less as approved by the City.

H. At each and every street intersection unless approved by City.

Cleanouts shall not be substituted for manholes nor installed at the end of public sanitary sewers unless approved by the City.

20.4 Cleanout Locations

A. A cleanout shall be installed 5-ft outside of the building at the connection point.

B. A cleanout shall be installed on a service line whenever the total degree of bends is equal to or more than 45° on any single run of sewer pipe.

C. Cleanouts will not be approved as substitutes for manholes.

20.5 Manhole Covers

A. Standard Cast iron cover as outlined in MPWSS, used in public right-of-way.

B. Locking, may be required.

~~Watertight frame and cover assemblies~~

C. Inflow Protector Covers are required for all installations within the 100-year flood or where ~~periodic flooding may be possible~~ directed by the City Public Works Department.

20.6 Drop Manholes

Drop manholes shall be avoided whenever possible during the design and construction of wastewater extensions. They shall only be used when it is proven impractical to steepen the incoming sewer.

A. Outside drop assemblies shall be provided for pipes 12 inches in diameter and smaller when entering a manhole at a distance of more than 24 inches above the invert of the manhole. Larger pipe should be introduced into the manhole at the manhole invert.[1]

B. Inside drop assemblies will be considered only in special cases involving connections to existing manholes. Special approval for all drop assemblies is required from the City.

20.7 Cleanouts

Cleanouts will not ~~normally~~ be approved as substitutes for manholes~~, except at the upper end of lateral sewers 100 feet or less in length. Temporary clean out assemblies may be installed in mainlines less than 150 feet in length, provided that the line will be extended at a later date, subject to the approval of the City. Manhole ring and cover is required over cleanouts~~.

20.8 Diameter

The minimum diameter of manholes shall be 48 inches; larger diameters are preferable for large diameter sewers. A minimum access diameter of ~~22~~ 24 inches shall be provided.

20.9 Flow Channel

The flow channel straight through a manhole should be made to conform as closely as possible in shape and slope to that of the connecting sewers. For pipes greater than 8 inches in diameter, the channel walls should be formed or shaped to the full height of the crown of the outlet sewer in such a manner to not obstruct maintenance, inspection or flow in the sewers. For pipes 8 inches or less in diameter, the channel shall be formed at least to the spring line of the pipe. When curved flow channels are specified in manholes, including branch inlets, or when entrance or exit losses are significant, minimum slopes shall be increased to maintain acceptable velocities.[2]

20.10 Bench

A bench shall be provided on each side of any manhole channel when the pipe diameter(s) are less than the manhole diameter. The bench should be sloped no less than ½ inch per foot (4%). No lateral sewer, service connection, or drop manhole pipe shall discharge onto the surface of the bench.

20.11 Water Tightness

A. Manholes shall be of the pre-cast concrete or poured-in-place concrete type. Manholes shall be waterproofed on the exterior. Pre-cast concrete manhole sections manufactured in accordance with ASTM C 478M-93 are exempt from the exterior waterproofing requirement.

B. Inlet and outlet pipes shall be joined to the manhole with a gasketed flexible watertight connection or any watertight connection arrangement ___that allows differential settlement of the pipe and manhole wall to take place.

~~Watertight manhole~~

C. Inflow protector covers are to be used wherever the manhole tops may be flooded by street runoff or high water. Locked manhole covers may be desirable in isolated easement locations or where vandalism may be a problem.

20.12 Manhole Adjusting Rings

Adjusting rings installed in manholes on public sanitary sewers shall have a total height of not less than 2 inches and not more than 6 inches.

20.13 Manhole Frames and Covers

Frames and covers used on manholes for public sewers shall be made of cast iron or ductile iron, shall have a clear opening no less than 24 inches, shall have a total weight of not less than 410 pounds, and shall have machined surfaces to ensure a tight fit between cover and frame.

20.14 Manhole Steps

All manholes used for public sanitary sewers shall be equipped with steps of the polypropylene-coated steel type meeting applicable OSHA requirements for fixed ladders. The steps shall withstand a single concentrated load of 400 pounds, have a minimum width of 12 inches, and shall have ribbed, skid-resistant treads with drop fronts to prevent side slip. All manhole steps shall be installed with the center of the rung a minimum of 7 inches from the manhole wall.

21. PIPE JOINTS

All pipe joints must be constructed watertight. Rubber rings or other approved joint sealing material shall be used. Joint deflections shall be controlled such that the watertight integrity of the joint is maintained.

22. SERVICE LATERAL (SIDE SEWER OR HOUSE BRANCH) CONNECTIONS

All service laterals with the exception of house branches from a main sewer to serve an individual building shall be of a minimum size of 6 inches in diameter within public right-of-way or within public easements. House branches to serve single family residences and multi-family residences up to a ~~four (4~~ Two (2) plex may be 4-inch diameter in size. Laterals shall be laid at a minimum slope of 2%. Construction of laterals shall conform to the same standards as for main sewer construction.

During the construction or extension of a public wastewater system, a wastewater service line shall be stubbed to the property line of each lot and/or parcel of property included in the extension application. All wastewater lines so installed shall be subject to and fully comply with the provisions set forth in this section.

All wastewater service laterals shall be marked with a permanent indicator of location in the nearest hard surfacing (i.e. “S” stamp in adjacent curb, sidewalk or driveway”

23. HOUSE OR BUILDING SEWERS

As a minimum criterion, construction of the house or building sewers (on site) shall be of the same quality and meet the same requirements as the public sewer with regard to materials, water tightness and location. In addition, these sewers shall conform to the ~~state and local plumbing codes and restrictions.~~ Uniform Plumbing Code, latest edition. No roof, surface, foundation, or other storm water drain lines shall be connected to the public sanitary sewers.

24. SEPARATE CONNECTION REQUIRED

24.1 Each main building or legal lot (except a private garage) shall be separately connected to a public sewer. Except that main buildings or dwellings located on a single parcel may be connected to a private sewer discharging into the public sewer, provided that an approved statement of maintenance responsibility is recorded with the title to the property and permitted through MT Dept. of Environmental Quality. Examples of such private systems are~~:~~ mobile home parks, residential or office condominiums (unit/owner association by-laws to have statement of maintenance responsibility); or apartment complexes.

24.2. A manhole shall be required at the point of connection of a private sewer system to a public system with a clean out placed at the property line. A monitoring or sampling manhole is required for connections from industrial users.

25. STEEP SLOPE PROTECTION

Sewers on slopes of 20 percent or more may require special anchoring.

26. DRAINAGE DITCH OR STREAM CROSSINGS

26.1 Sewers entering or crossing drainage ditches or streams shall be constructed of watertight pipe. The pipe and joints shall be tested in place, shall not exhibit infiltration, and shall be designed, constructed, and protected against anticipated hydraulic and physical, longitudinal, vertical, and horizontal loads, erosion, and impact.

26.2 Sewer crossing of drainage ditches must be protected from freezing through either depth of bury or insulation.

27. AERIAL CROSSINGS

Support shall be provided for all joints in pipes utilized for aerial crossings. The supports shall be designed to prevent frost heave, overturning, and settlement.[4]

28. PROTECTION OF WATER SUPPLIES

When wastewater sewers are proposed in the vicinity of any water supply facilities, requirements of Circular ~~WQB-1~~ DEQ-1 should be used to confirm acceptable isolation distances in addition to the following requirements.

28.1 Cross Connections Prohibited

There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole.

28.2 Relation to Water Works Structures

28.2.1 Sewers shall not be located within 50 feet of a public water supply well.

28.2.2 All existing waterworks units, such as basins, wells, or other treatment units, within 100 feet of the proposed sewer shall be shown on the engineering plans.

28.3 Relation to Water Mains

28.3.1 Horizontal Separation.

A. Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge.

B. If the proper horizontal separation as described above cannot be obtained, the design engineer shall submit a request for a deviation to the DEQ along with a description of the problem and justifying circumstances. If the deviation is granted, the sewer shall be designed and constructed with the following minimum conditions:

C. Copy of MT DEQ approved deviation request shall be provided to the City.

D. Sewer pipe shall be PVC with nominal 20-foot lengths.

E. The sewer shall pass low pressure air testing in accordance with UniBell Recommended Practice UNI-B-6-90.

F. Sewer services utilizing in-line fittings and extending to at least property lines shall be provided and tested in the area of the encroachment. Saddles are not acceptable.

28.4 Crossings

28.4.1 Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade and to prevent damage to the water main.

28.4.2 If the proper vertical separation as described above cannot be obtained, the design engineer shall submit a request for a deviation to the DEQ along with a description of the problem and justifying circumstances. If the deviation is

granted, the sewer shall be designed and constructed with the following minimum conditions:

A. Minimum vertical separation at crossings between water and sewer mains shall be 6 inches.

B. Sewer pipe shall be PVC with normal 20-foot lengths.

C. At crossings, one standard length of new pipe shall be centered at approximately a 90 degree angle with respect to the existing pipe.

D. The sewer shall pass low pressure air testing in accordance with UniBell Recommended Practice UNI-8-6-90.

E. Sewer services utilizing in-line fittings and extending to at least property lines shall be provided and tested within 10 feet of the crossing. Saddles are not acceptable.

F. If the minimum separation is not viable, the water line must be relocated. In these cases, minimum vertical separation at crossings between water and sewer mains shall be 18 inches.

29. SEWER SERVICES AND PLUMBING

29.1 Plumbing

Sewer services and plumbing should conform to relevant local and state plumbing codes.

30. DESIGN STANDARDS FOR ALTERNATIVE SEWER SYSTEMS

These standards shall be used for design of alternate sewer systems. Variances may be allowed where adequate justification is provided by the design engineer. These standards may be modified as the technology evolves.

30.1 Small Diameter Gravity Sewer Design

~~21.1.1 Hydraulic Considerations~~

30.1.1 Design flow shall be based upon water use records where available. If water use records are not available, ~~70~~ 100 gpcd per residential connection shall be used ~~with additional flow allowances for infiltration~~ and an appropriate peaking factor.

30.1.2 Hydraulic calculations shall use the Manning's formula with a roughness coefficient of n = 0.013.

30.1.3 Hydraulic design shall be based upon an approximately ½ ~~to 3/4 full~~ pipe at 20-year peak design flow.

30.1.4 Minimum design velocity of ~~1.0~~ 2.5 fps in controlling sections should be used considering existing peak flow conditions.

30.1.5 All mains shall be ~~4~~ 6-inch diameter pipe or larger.

30.1.6 To minimize potential sources of infiltration, 20-foot minimum pipe lengths and in-line service fittings should be used.

~~21.1.2 Detection wires for locating buried pipe should be considered.~~

30.1.7 Turbulence should be minimized wherever possible.

30.1.8 Performance tests shall be utilized for determining water-tightness, deflection and alignment of installed pipes.

30.1.9 Service lines and main lines shall be designed and constructed to prevent freezing of the wastewater within the lines.

30.2 Manholes/Cleanouts

30.2.1 The limited use of manholes is encouraged to minimize infiltration, reduce odor potential, limit introduction of extraneous materials and reduce cost. Manholes are to be located at major junctions of three or more pipes and limited to strategic locations for cleaning purposes.

30.2.2 Water-tight manhole covers are recommended for odor control and to limit inflow.

30.2.3 Manholes located in groundwater shall be waterproofed and should be of the type which has the base riser section cast with integral floor.

30.2.4 Clean outs should be used in place of manholes at changes in grade, alignment, and at intersections of pipe. Spacing of clean outs shall be dependent upon cleaning capabilities. A maximum of 600 feet for mechanically cleaned and jet-cleaned systems and a maximum of 1000 feet for systems cleaned by pigging.

30.2.5. Clean outs located in traffic areas shall be designed to withstand normal traffic loads without damage.

30.3 Design Standards for Pump Stations for Alternative Collection Systems

The use of wastewater pumping stations to provide wastewater services for said areas, or portions thereof shall be avoided whenever it can be feasibly accomplished.

In addition to other requirements, the following standards shall apply to pump stations which pump septic tank effluent.

30.3.1 Pumps other than those capable of passing spheres of at least 3 inches in diameter are not acceptable. Screens should be considered where this type of pump is used.

30.3.2 The inlet pipe shall be extended below the low water elevation in the wet well in order to reduce turbulence and odors.

30.3.3 The lift station wet well cover shall be water-tight for odor control.

30.3.4 A vent shall be provided with odor control. The vent can be connected to a buried gravel bed or to a charcoal filter.

30.3.5 Materials in the wet well shall be protected from corrosion. Stainless steel, plastic, or bronze materials are recommended.

30.3.6 The force main sizing shall be based upon hydraulic requirements using a minimum design velocity of ~~1~~ 2.0 ft/sec based on a Manning's roughness coefficient of n = 0.013. The minimum pipe diameter for force mains shall be 1.5 inches.

30.3.7 The force main shall be designed and constructed to prevent freezing.

30.4 Septic Tank/Effluent Pumps

30.4.1 Typically, one septic tank and one effluent pump per household will be provided. Multiple units may be considered where serving multiple family dwellings or trailer courts. Duplex pumps, each capable of handling maximum flow, may be required in these situations.

30.4.2 Pumping units will be activated by appropriate level control switches. High- and low-level alarms will be required with audio-visual alarms recommended. Low level pump deactivation controls shall be provided. A control panel with appropriate circuit protection and electrical safety devices shall be used. The alarm circuit should be separately wired from the pump circuit. All applicable electrical codes must be satisfied. The power cables to the pump shall be designed to facilitate maintenance of the pumping unit. Wiring shall be exterior to the residence for maintenance purposes.

30.4.3 Screens limiting solids carryover into the pump shall be, provided. Pipe fittings used should be commonly available. Appropriate isolation, check, and air release valves must be used with ease of maintenance in mind. All components shall be protected from freezing.

30.4.4 All septic tanks shall be vented.

30.5 Septic Tanks

Septic tanks are not allowed within the City limits.

31. LIFT STATIONS

~~21.2 The City has City-owned and operated sanitary sewer lift stations.~~

31.1 Lift stations will be designed by a ~~RPE~~ Registered Professional Engineer.

31.2 All new sewage lift stations shall be equipped with a backup, redundant level control system.

31.3 The City requires emergency power on any new lift station. All new ~~pumping~~ Lift stations shall be equipped with an emergency power receptacle and an Automatic transfer switch.

31.4 All new ~~pumping~~ Lift stations shall be equipped with an alarm system detecting unauthorized entry, power interruption, high water, and high pump temperature conditions. The alarm signal shall be directed to optional remote locations by telephone dialer system.

31.5 All new pumping station shall be equipped with an electro-magnetic flow meter with 4-20 ma output signal, flow totalizer, and chart recorder and/or electronic recorder.

PART 7 - WATER DESIGN TECHNICAL STANDARDS

1. PURPOSE

The purpose of this design criteria is to provide engineers, designers, engineering technicians, and others, in handy reference form, the City's minimum standards for water system design.

These criteria are intended to cover the design of water mains and apply to any water systems, public or private, ~~6~~ 4 inches in diameter or greater. Private on-site water systems serving mobile home parks, condominiums or apartments ~~may~~ shall be designed in accordance with the uniform plumbing code and approved by the appropriate building inspector.

The design criteria set forth below are intended to result in water systems which will:

1.1 Be consistent with the Water Master Plan~~.~~

1.2 Be consistent with Montana Department of Environmental Quality (DEQ).

1.3 Be consistent with the latest edition of the MPWSS.

1.4 Be of adequate size and pressure to meet expected demands, within their design life.

1.5 Have sufficient flows to meet fire flow requirements.

1.6 Be strong enough to resist all external loads which may be imposed.

1.7 Be of materials resistant to both corrosion and erosion.

1.8 Be economical and safe to build and to maintain.

Alternate materials and methods may be considered for approval on the basis of these objectives.

2. REFERENCES

2.1 Circular ~~WQB-~~DEQ 1, Standards for Water Works, Montana Department of Environmental Quality~~, Design Standards for Wastewater Facilities,~~ latest edition.

2.2 Montana Public Works Standards Specifications, latest edition and revisions.

2.3 Uniform Plumbing Code, latest edition and revisions.

3. APPROVAL OF ALTERNATE MATERIALS OR METHODS

~~Approval of~~ Request for any major deviation from these standards will be submitted to the PWD in written form for approval.

~~2 MONTANA WATER QUALITY BUREAU STANDARDS~~
~~WQB-1, published by the DEQ, is hereby incorporated into this document. WQB's criteria will be used as a guideline to determine standards needed for items not specifically covered in this document.~~

4. SPECIAL PROBLEMS

The design of the following are considered special problems and are not covered in detail in these standards: ~~WQB-~~DEQ 1 provides general guidelines for most of these items.

4.1 Air relief valves

4.2 Water loading stations

4.3 Source development

4.4 Chemical application

4.5 Treatment plants

4.6 Pumping stations

4.7 Water storage

5. DESIGN PLANS AND PROFILES

Plans will be required for all new or ~~extended~~ extension of water mains and shall include both a vicinity map and a general layout map of the area showing the location of existing facilities and of the proposed improvements. Plans should be accurate, legible and properly detailed. Dimensions should be either from right-of-way centerline or property lines.

5.1 Engineering Drawings (Plans)

Plans for water mains should contain at least the following information:

5.1.1 Adjacent streets, property lines, utility easements, and references thereto.

5.1.2 Location of water lines and appurtenances.

5.1.3 Location of water courses, wells, stream and railroad crossings, water mains, sewer main, gas mains, culverts and underground power, CATV, or other utilities wherever possible.

5.1.4 Limits of hard surface paving with dimension references.

5.1.5 Adequate details, specifications, and other information for Contractor to be able to install the proposed improvements.

5.1.6 Suitable title plate with ~~name and address of owner,~~ scale, north ~~point~~ arrow, date, drawing number, and name, address and telephone of engineer, and the Registered Professional Engineer's (RPE) signature.

5.2 Profiles

Profiles for the individual water lines should contain at least the following information:

5.2.1 Location of valves, ~~hydrants~~ hydrant tee, and other appurtenances

5.2.2 Profile of existing and proposed ground surface.

5.2.3 Size, pipe ~~class~~ type, length of water line~~, and pipe bedding class~~.

5.2.4 Suitable title plate with the name and address of owner, scale, date, drawing number, and the name, ~~RPE~~ PE number ~~and expiration date of the registration~~.

5.2.5 Limits of street improvements will be shown including a typical section of the subject street.

~~5.1 Water Appurtenances~~

~~Appropriate City Standards shall be included in all plans for construction of water lines.~~

5.2.6 Depth of bury

5.2.7 surface restoration

5.2.8 new and existing services

5.3 Separate Drawings

5.3.1 Separate plans shall be submitted for public water mains installed in combination with private water lines or site plumbing. "Site plumbing" drawings are not acceptable. Public water main plans may be combined with other public improvement plans, provided that the plans must be legible and properly detailed.

5.3.2 Appropriate labeling of the services as "~~Public" or "~~Private" will be done on both the plan view and profile view.

6. SPECIFICATIONS

6.1 Engineering consultants are encouraged to develop specifications and special provisions for each project. Specifications and special provisions shall incorporate the latest edition of the MPWSS. Special specifications pertaining to materials and

workmanship, if developed, a hard copy shall be submitted to the City for review and approval, together with ~~check prints~~ plans of the project.

6.2 In general, the water specifications should cover pipe material, excavation, laying of water main, jointing, backfilling, testing, etc. Strict supervision will be required by the City during construction to assure compliance with the specifications.

7. ADDITIONAL ITEMS OF CONCERN

7.1 Hydrostatic Testing

Hydrostatic and leakage testing shall be performed in accordance with the American Water Works Association C600. MPWSS Section 02713, 'Water Mains" outlines procedure.

7.2 Cleaning Water Mains

Before chlorination, except when hypochlorite tablets are used, the mains shall be flushed thoroughly after the pressure and leakage test are completed. MPWSS Section 02713, 'Water Mains" outlines procedure.

7.3 Disinfecting Water Mains

7.3.1 General. All water mains shall be disinfected ~~subject to the PWD's approval~~ in accordance with AWWA C651, "Disinfecting Water Mains", and MPWSS Section 02713, 'Water Mains", before placing the main in service. The interior of all pipe, fittings, and appurtenances shall be kept free from dirt, heavy, and foreign particles.

7.3.2 Redisinfection. If the initial disinfection fails to produce approved bacteriological or turbidity samples, the main shall be reflushed and resampled. If check samples show bacterial contamination, the main must be re-chlorinated until approved results are obtained.

8. GENERAL DESIGN CONSIDERATIONS

Water mains should be designed to serve houses, ~~business~~ commercial and industrial buildings and ~~other public and private~~ any establishments that needs water service in the building. Each main building on a parcel or residence on each parcel shall be served by a separate water service.

8.1 Domestic Flows

8.1.1 Water mains shall be designed in accordance with "Circular ~~WQB~~-DEQ 1, Standards for Water Works" published by the State of Montana Department of

Environmental Quality. Water mains shall be sized to provide a combined fire flow and peak day flow in accordance with the standards shown below.

8.2 Fire Flows

8.2.1 For design purposes, minimum fire flows shall be 1000 gpm in low and medium density residential areas, 2500 gpm in commercial and high density residential areas, and 3500 gpm in industrial areas. The design shall provide for the system to provide the minimum fire flow at each fire hydrant, assuming one hydrant flowing at any given time and a minimum pressure of 20 psi.

8.2.2 Where special conditions exist, greater or lesser design fire flows may be approved by the Fire Chief (as per Fire Code) for new and existing buildings.

8.3 Pressure

8.3.1 Water systems shall be designed to provide a minimum pressure of 35 psi with no fire flow. With fire flow, a minimum pressure of 20 psi is required in all areas. Water systems shall be designed by consulting the latest water system model of pressure zones. Pumping stations and pressure reducing valves may be required to lower high pressure concerns. Pipes shall be specified to withstand the maximum test pressures but in no case shall pipes be classed less than 150 psi. The designer should contact the PWD for information on the pressure zones and water supply available for the area.

8.3.2 In general, water systems should be designed to ~~care~~ accommodate for future flows which may reasonably be expected within a period of ~~15 to~~ 20 years, and for ultimate development of the specific service area~~concerned~~.

8.3.3 Specific approval of booster pump stations, storage and additional sources, will be required from the City.

9. CAPACITY

9.1 Design flows shall be determined by consideration of the following factors:

9.1.1 Service area to be served

9.1.2 Population within the area to be served

9.1.3 Land use within the area to be served

9.1.4 Per capita water consumption

9.1.5 Commercial, industrial, or institutional users to be served

9.1.6 Fire flow requirements

9.1.7 Peaking factors

9.2 In the absence of flow data or other reliable information, the design factors from Table 7.1 may be assumed. Appropriate peaking ratios should be applied to determine flows, where specified by the City.

Table 7.1
Design Factors

Average Designation	Adverse Flow	Peaking Factor
Residential	100 gpcd min,	*
Commercial	1,200 gpd/acre	*
Industrial	1,200 gpd/acre	*

* Peaking factor means of calculations outline in latest edition of MT Circular DEQ-1

It is recommended that design calculations include estimates of average daily, maximum daily, and ~~minimum daily~~ peak instantaneous flows. The submission of design calculations will not ordinarily be required but engineers should be prepared to substantiate pipe sizes, layout, population estimates, land uses or other design assumptions as may be requested.

10. SIZE

Water mains shall be a minimum of 8 inches inside diameter for those systems incorporating fire protection. Fire hydrant lead lines shall be a minimum of 6-inch inside diameter.

11. PIPE MATERIALS

The following pipe materials and fittings are approved:

	Specifications
Ductile Iron Pipe; Class 52	ANSI A21.51 or AWWA C151
~~Ductile Iron Pipe; Class 52~~	
~~Polyvinyl chloride (PVC) Concrete Cylinder Pipe Cast Iron Pipe~~	
~~**ANSI** A21.51 or **AWWA** C151~~	
~~(polyethylene film wrapped or encased) AWWAC900~~	
~~*Not allowed Not allowed*~~	

~~Gate Valve~~

~~**MJxMJ**~~

~~Tapping Valve Tapping Saddle~~

~~Valve Boxes Corporation Stops~~

~~Service Saddles~~

~~Service Pipe~~

~~Curb Stop~~

~~Mueller Resilient Wedge Gate Valve~~

~~Gate valve type 12-inch and under; Mueller Butterfly or Double Disc valve for larger than 12 inches~~

~~Mueller Resilient Seat Tapping *Valve*~~

~~Powerseal Stainless Steel Model 3490AS Mueller also acceptable~~

~~Tyler 6868 Series "DD" -screw type #6 Base for water Mueller H-15026 ¾-inch & 1-inch~~

~~Mueller H-15008 ¾-inch & 1-inch~~

~~Mueller H-B25008 ¾-inch & 2-inch; CC x 110 Mueller H-15013 1½-inch & 2-inch~~

~~Mueller B-25000 ¾-inch & 1-inch~~

~~Mueller B-25005 ¾-inch & 1-inch; CC x Install Smith Blair Model 371; 4-inch to 12-inch PVC Smith Blair Model 372; 4-inch to 12-inch Romac Model 304;2-inch to 12-inch PVC Romac Model 305; 10-inch to 32-inch~~

~~Mueller Brass H16000 Main to Building-~~

1. ~~Type K Copper~~
2. ~~PE Pipe (IPS) SOR 7-3/4-inch & 1-inch~~
3. ~~PE Tube (CTS) SOR 9-11/12-inch & 2- inch (200 PSI)~~

~~Mueller H-15209 3/4-inch to 2-inch cop x cop orCTS Mueller B-25209 3/4-inch to 2-inch cop x cop Mueller H-15172 3/4-inch to cop x fip~~

~~ueller B-25172 3/4-inch to 2-inch cop x inst Mueller B-25204 3/4-inch to 1-inch inst x inst~~

~~Mueller B-20283 3/4-inch to 2-inch inst x inst or C11~~

Table 7.2 **Material**	**Specifications**
Ductile Iron Pipe; Class 52	ANSI/AWWA C151/A21.51-17 (polyethylene film wrapped or encased)
Polyvinyl chloride (PVC)	AWWA C900 for pipe 4” to 12”, Pressure Class 150 AWWA C905 for pipe 14” to 48”, DR 18 Pipe
Concrete Cylinder Pipe	Not allowed
Cast Iron Pipe	Not allowed

Valves	10” and under shall be resilient seated gate valves w/ iron body, bronze mounted non-rising stem, set for 200 psi working pressure. 12” and over shall be butterfly valves class 150B, tight closing, for underground service.
MJxMJ	All mechanical joint bolts, nuts, and washers shall be Type 304 stainless steel.
Tapping Valve Tapping Saddle	Stainless Steel Resilient Seat Tapping *Valve with 150 psi working pressure or approved equal.*
Valve Boxes	Cast iron, 5-1/4” diameter, screw type adjustable, and have the word “Water” stamped thereon.
Corporation Stops	¾-inch to 2-inch – Ground Key Valve with AWWA taper threaded inlets and Compression Connection for outlet piping. Or approved equal.
Service Saddles	All Stainless Steel service saddle with 304 SS nuts and bolts a Buna-N nitrile gasket and a minimum working pressure of 150 psi. Or approved equal.
Service Pipe	Main to Building 1. Type K Copper 2. PE Pipe (CTS) SDR 7-¾-inch & 1-inch 3. PE Tube (CTS) SDR 7-1-1/2-inch & 2-inch (200 PSI)
Curb Stop	¾-inch to 2-inch cop x cop or CTS, For PE pipe use compression fittings with stainless steel inserts.
Curb Boxes	6’ extension boxes with stationary one-piece stainless steel rod.
Joint Restraint	Megalug 2000 or thrust blocks
Fire-Hydrant	AWWA C502 w/ two 2-1/2” hose nozzles and one 4-1/2” pumper nozzle with National Standard Thread.
Manhole F/c	D&L Foundry or approved equal
Meters	All meters-Neptune, Remote Read
Backflow Preventers	All new construction ¾-inch and 1-inch use dual check valve Dual Check Valve ¾-inch McDonald 11-3NA-43 1-inch McDonald model 18-4-10-XD 1½-inch Febco 805Y-BV-S #45410;

	Or approved equal. EPA 570/9-89-007 Larger check valves to be approved by Public Works Dept.

Alternate materials not listed must be approved by the Public ~~Utilities~~Works Director.

~~6 EXCAVATION, PIPE BEDDING AND BACKFILL~~

~~6.1 Details~~

~~Standard plans are the MPWSS, latest edition.~~

~~6.2 Installation~~

~~Installation of pipe shall conform to the following:~~

~~6.2.1 **MPWSS,** latest edition.~~

~~6.2.2 Water settling of backfill material is prohibited.~~

12. MINIMUM DEPTH

All water lines shall be laid at a depth sufficient to prevent freezing and be protected against damage from traffic. Water mains shall have a minimum cover of 6 feet measured from top of pipe to finished grade or be otherwise protected from damage by traffic or freezing.

13. DEAD ENDS

13.1 In order to provide increased reliability of service and reduce head loss, dead ends shall be minimized by making appropriate tie-ins whenever practical.

13.2 Where dead end mains occur, they shall be provided with a fire hydrant for flushing purposes. Flushing devices should be sized to provide flows which will give a velocity of at least 2½ feet per ~~section~~ second in the water main being flushed. No flushing device shall be directly connected to any sewer.

14. VALVES

14.1 Valves

Valves should be located at not more than 500-foot intervals in· commercial districts and at not more than 1 block or 800-foot intervals in other districts.

14.2 Line Valves in Distribution Pipe

Four valves shall be installed at a "cross" intersection. Three valves shall be installed at a "Tee" intersection.

~~16.1 Blowoff Valves~~

~~A fire hydrant must be located within 20 feet of the end of any dead-end water main including temporary dead-end mains in phased developments.~~

14.3 Air Relief ~~Valves~~

~~An air~~ Air relief ~~valve~~ will be required at the high point ~~of each~~ in any water main. Pipe grade design shall minimize the use of air relief valves wherever possible. Air relief can be provided by means of a flushing hydrant, fire hydrant, or designated air release valve.

15. HYDRANTS

15.1 Spacing

Fire hydrant spacing shall not exceed 500 feet measured along the curb line in areas zoned R-1 or R-2 and shall not exceed 450 feet in other areas. The Fire Chief may require additional hydrants in accordance with Uniform Fire Code. All hydrants will have secondary valves.

~~16.2 Color Code~~

~~Hydrants shall be color coded to AWWA standards.~~

16. LOCATION

16.1 Relation to Sewer Lines and Wells

Sanitary sewers and domestic water lines shall not be laid in the same trench. Parallel water and sewer lines wherever possible should be located at least 10 feet apart horizontally from outside edge to outside edge of the pipe. When physical conditions render this spacing impossible or impractical, then ~~ductile iron~~ water pipe with watertight joints is required for the sewer line. Wherever it is necessary for sewer and water lines to cross each other, the crossing should be at an angle of approximately 90 degrees and the sewer shall either be located 18 inches or more below the water line or be ~~cement lined~~ flow filled, constructed of ductile or PVC pipe with watertight joints for a distance of 10 feet on both sides of the water line.

16.2 Water Mains in Streets or Easements

Under normal conditions, water mains should be located in street right-of-way ~~5~~ 6 feet south or west of the street right-of-way centerline. Water mains shall be located in centerline of alleys and easements. When it is necessary to locate waterlines in easements, such easement shall be at least 20 feet in width.

~~17 ALIGNMENT~~

~~Water lines should be laid on straight alignment and uniform grade between blocks. However, in cases where justification can be shown, changes will be considered.~~

17. PIPE JOINTS

All pipe joints must be constructed watertight. Rubber rings or other approved joint sealing material shall be used. Joint deflections shall be controlled such that the watertight integrity of the joint is maintained.

18. SERVICE LINE CONNECTIONS

All service laterals from a water main to serve an individual building shall be of a minimum size of ¾-inch in diameter within public right-of-way or within public easements. Construction of service lines shall conform to the same standards as for water main construction.

All curb boxes shall be marked with a permanent indicator of location in the nearest hard surfacing (i.e. "W" stamp in adjacent curb, sidewalk, or driveway)

19. SEPARATE CONNECTION REQUIRED

19.1 Each main building or legal lot (except a private garage) shall be separately connected to a public water main. Except that main buildings or dwellings located on a single parcel may be connected to a private line, provided that an approved statement of maintenance and billing responsibility is recorded with the title to the property.

19.2 A valve shall be required at the point of connection of a private water system to a public system.

20. DRAINAGE DITCH OR STREAM CROSSINGS

Water lines entering or crossing drainage ditches or streams shall be constructed with care. The pipe and joints shall be tested in place, and shall be designed, constructed, and protected against anticipated hydraulic and physical, longitudinal, vertical, and horizontal loads, erosion, and impact.[5]

All ditch crossings shall require approval of the ditch company.

21. AERIAL CROSSINGS

Support shall be provided for all joints in pipes utilized for aerial crossings. The supports shall be designed to prevent frost heave, overturning, and settlement. The crossings shall also provide protection from freezing.

~~24 PROTECTION OF WATER SUPPLIES~~
~~When wastewater sewers are proposed in the vicinity of any water supply facilities, requirements of Circular WQB-1 (DEQ) should be used to confirm acceptable isolation distances in addition to the following requirements.~~

~~24.1 Cross Connections Prohibited~~
~~There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water~~

into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole.

24.2 Relation to Water Works Structures

24.2.1 Sewers shall not be located within 50 feet of a public water supply well.

24.2.2 All existing waterworks units, such as basins, wells, or other treatment units, within 100 feet of the proposed sewer shall be shown on the engineering plans.

24.3 Relation to Water Mains

24.3.1 Horizontal Separation. Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge.

24.3.2 Crossings. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that thesewer joints will be equidistant and as far as possible from the water main joints.

24.3.3 Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade and to prevent damage to the water main.

PART 8 – STORM SEWER DESIGN

1. INTRODUCTION

1.1 Applicability

These design standards shall apply to all development, redevelopment, and construction activities on public and private property within the City of Laurel.

1.2 Policy Requirements

Drainage plans shall be prepared by a Professional Engineer licensed in the State of Montana and shall be submitted to the City PWD for review and approval.

2. PROJECT CLASSIFICATIONS

2.1 All Developments

2.1.1 Impact to water quality and quantity because of development shall be mitigated through design and construction of on-site or regional stormwater management facilities provided in accordance with these standards.

2.1.2 Stormwater discharge to private irrigation ditches, drains and laterals is acceptable provided approval has been granted by such facility owner/operator and discharge is controlled to ensure the ditch, drain or lateral facility is not adversely impacted beyond existing conditions. An agreement shall be signed between the facility owner/operator and developer with the City named as a third party. Agreement must state at a minimum the following:

- Development's discharge requirements,
- Conditions of use,
- Maintenance responsibilities

2.1.3 Provisions stating that the City shall have the first right to accept the automatic transfer of all interests and easements of the ditch/drain facility should the ditch/drain facility operator abandon their facility adjacent to the development. +

2.2 Residential Lot Developments

These requirements apply to residential lot development, including single family homes, duplexes, townhomes, and condo developments constructing two or less living units on a single lot and for "minor" construction projects in which improvements create more than 1,000 SF of impervious surface.

2.2.1 Site grading requirements shall follow specific requirements established in/on the subdivision plat, SIA or any covenants within the subdivision.

2.2.2 Runoff generated from a residential site (or new improvements) shall not drain from that site to a neighboring property.

2.2.3 Stormwater features shall be preserved per the initial design and maintained by the property owner.

2.2.4 The elevation of residential dwellings must be established in recognition of the storm runoff flows allowed in the gutter flowline of adjacent streets during major storms.

2.2.5 Submit a Site Stormwater Plan (SSP)in accordance with section 3.1.1 detailing lot grading and drainage plans.

2.3 Commercial Property Developments

2.3.1 These requirements apply to all commercial, industrial, and residential projects constructing three or more living units on a single lot. They shall apply to commercial expansion projects in which the improvements create more than 2,500 SF of impervious surface.

2.3.2 Stormwater Management facilities shall be design and constructed in accordance with section 2.4.

2.3.3 Runoff from the 10 and 100-year storm events shall not exceed 50-percent of the runoff rate of natural (pre-developed) conditions, prior to subdividing or developing the land. Alternatively, in special cases, subject to City approval, development may discharge at a higher rate than specified above if engineer provides adequate justification that discharge will not create nuisance, flooding or property damage downstream of the development. Pre-developed rates used to justify maximum allowable discharge rate, shall be subject to approval by City reviewer and shall be based on minimal value anticipated from range of values within common accepted engineering practice for the existing hydrological conditions.

2.3.4 If a new connection to the City's storm drain system is installed the development's stormwater system which connects to the City storm drain system shall be brought into compliance with the requirements of this section.

2.3.5 Due to the potential for increased stormwater pollutant runoff, some sites may require additional regulatory and design requirements.

2.3.5.1 Facilities requiring additional pollutant removal are:

A. Fueling station – require oil and metals treatment,

B. Facility storing/transporting more than 1,500 gallons of petroleum products – require oil treatment,

C. Hydraulic equipment storage – require oil and metals treatment,

D. Property zoned heavy industrial – require oil and metals treatment,

E. Vehicle maintenance/repair – require oil and metals treatment,

F. Nurseries – require nutrient treatment,

G. Lawn care/fertilizer facility – require nutrient treatment,

H. agricultural or animal care facility, or other similar facilities – require nutrient treatment,

I. Facility specific as determined necessary by the City

2.3.5.2 Pollutant removal applies to stormwater runoff of the above facilities and shall treat the below areas:

A. Oil Treatment

- required for all high use and high traffic areas that may contain oils and grease,
- Provide for no ongoing or recurring visible sheet and reduce Total Petroleum Hydrocarbons (TPH) to less than 10 mg/l

B. Metals Treatment

- Removal is achieved by basic removal of total suspended solids (TSS),
- Removal should be from 20 to 85% depending on design, metal state, and influent concentration,

C. Nutrient Treatment

- Nitrogen and phosphorus should achieve 50% reduction of total phosphorus and 35% reduction of total nitrogen

2.3.6 Above ground storage in parking lots may not pond to a depth greater than 12 inches during the major storm.

2.3.7 Where infiltration is used for storm water discharge a geotechnical and hydrogeologic evaluation shall be performed that analyzes the capacity of ground to accept discharge.

2.3.8 A comprehensive Drainage Plan (CDP) in accordance with Section 3.1.2 shall be submitted.

2.3.9 The Owner shall call for City inspection of drainage features prior to backfilling and a TV report shall be submitted for storm drain connections within the public right-of-way.

2.3.10 All facilities shall be owned, operated, and maintained by the property owner.

2.4 Subdivisions

Subdivisions shall comply with section 2.3 above as well as the following:

2.4.1 The requirements of this section apply to subdivisions within City Limits as well as tracts of land under review for annexation.

2.4.2 Stormwater management facilities shall be provided and designed to avoid impact to downstream drainage infrastructure and properties in accordance with this section. Points of discharge from the development shall be at locations where runoff flows from the site in the pre-developed drainage condition and shall mimic the type of flow that exists in the pre-developed condition to prevent erosion, flooding or other damage to downstream infrastructure or downstream properties. Where multiple points of discharge exist for one development, each point of discharge shall comply with these provisions individually. Exceptions may be made for downstream facilities that are designed to handle increase flow rates and volumes. In those cases, these standards will be assessed at the downstream end of those facilities.

2.4.3 Runoff entering the Subdivision from upstream properties shall be evaluated and either included in the composite rate and volume of runoff from the subdivision, or diverted through or around the subdivision, back into natural pre-developed drainage courses as the off-site run-off existed prior to development.

2.4.4 The elevation of residential dwellings, buildings, or other permanent facilities must be established in recognition of the depth of flow in the gutter flowline of adjacent streets during the Major Storm. Established minimum building elevations shall be documented in the SIA, plat or other applicable recorded document.

2.4.5 A copy of the HOA agreement, O&M Manuals, and BMP inspection checklist shall be submitted and include provisions for maintenance and operation of all privately owned stormwater management facilities.

2.4.6 Curb cuts for drive approaches installed during initial subdivision construction shall be constructed to accommodate gutter flow to the full curb depth throughout the subdivision.

2.4.7 If off-site discharge onto neighboring properties is required where it has not historically occurred, a drainage easement must be obtained through the downstream neighboring properties to the point at which the runoff is collected in a public drainage facility.

2.4.8 Stormwater facilities within a subdivision, excluding conveyance facilities within public Right of Ways (ROW), shall be owned, operated and maintained by the subdivision HOA. Stormwater facilities outside of the ROW shall be located within a lot owned by the HOA and shall include a platted easement and associated access to the ROW. Easement shall detail property owner/HOA use and maintenance of easement area. Landscape plans shall be submitted with the development plans.

2.5 Maintenance Activities

The activities listed below are considered to be “maintenance” and are therefore not governed by the requirements of this manual. Exclusion from these stormwater management requirements does not relieve the development of other required permits and submittals. Contact the City Public Works Office to determine what (if any) permits or submittals are required.

2.5.1 Replacement of existing infiltration facilities; i.e., boulder pits or French drains.

2.5.2 Resurfacing of an existing parking lot, including reconstruction of base gravel if grades of the parking lot have not altered drainage patterns.

2.5.3 City of Laurel maintenance or rehabilitation projects.

2.5.4 Private utility improvement projects disturbing less than one-acre of land surface.

2.5.5 If a new connection is made to the City’s storm drain system, the development shall meet the requirements of 2.4.

3. PLAN SUBMITTAL REQUIREMENTS

3.1 Site Stormwater Plan (SSP) Stormwater Drainage Plans are divided into two categories based upon the development type; Site Stormwater Plan (SSP) and Comprehensives

Drainage Plan (CDP). The applicability and requirements for each are described as follows:

3.1.1 Site Stormwater Plan (SSP)

A. The SSP applies to all developments listed in Section 2.2 and shall be reviewed and accepted prior to issuance of a building permit. The following shall be addressed in an SSP submittal:

- Inform the City as to the drainage plan, the nature of the construction, project schedule, downstream conveyances, and project contact information. Plan shall include all finished floor elevations, drainage flow paths, top back of curb elevations, downspout, window well locations and similar critical elevations.
- Identify the drainage pattern of adjacent lots to ensure a common drainage approach within the development area is being met.
- Show all easements within lot and show/identify all site-specific criteria and requirements listed within the subdivision SIA, if applicable.

B. If after review of the SSP, the City determines that more detail or information is required, the City may require a Comprehensive Drainage Plan.

3.1.2 Comprehensive Drainage Plan (CDP)

A. The CDP applies to all developments listed in Sections 2.3 and 2.4 and shall be reviewed and accepted prior to issuance of a building, right-of-way permit, preliminary plat approval or final plat approval, as applicable. Table 8.1 shall be used to identify required information to be submitted for various development activities. Additional information to guide these submittals is provided in the referenced appendices.

B. Preliminary Drainage Report

The Preliminary Drainage Report is to be provided at the time of preliminary plat application and is to identify and describe site drainage impacts and illustrate preliminary solutions to the drainage system and any problems which may occur on-site and off-site as a result of the development. The report shall be based on the outline in Appendix A.

C. Final Drainage Report

- The Final Drainage Report is to provide in depth details and calculations to address the drainage issues and present sizing and locations for all

proposed improvements. The report shall be based on the outline provided in Appendix B.

- In addition to details and calculations, the Final Drainage Report shall include a narrative describing in detail how the site and site features will function for the water quality storm and the Minor and Major storm events.

- If infiltration to underlying soils will be used to manage any portion of the site runoff, refer to procedures outlined in Appendix C and the geotechnical/hydrogeological requirements of this manual.

Table 8.1 – Comprehensive Drainage Plan (CDP) Submittals

	Required Submittal						
Development Activity	Preliminary Drainage Report	Final Drainage Report	Geotechnical/ Hydrogeological Report (If infiltration is used)	O&M	HOA	SIA	Reference
Commercial		X	X	X			Appendix B, C, & D
Preliminary Plat	X		X			X	Appendix A & C
Subdivision Construction Permit		X	X	X	X		Appendix B, C, D, & E

3.1.3 Geotechnical/ Hydrogeological Report

A. The Geotechnical/Hydrogeological Report is to provide information such that reviewer has a clear understanding of underlying soils and groundwater characteristics and how those will interact with an be impacted by the proposed development. The report shall be based upon the outline provided in Appendix C.

B. In addition to the report, a letter from the geotechnical or hydrogeological professional shall be submitted stating the impacts that the stormwater runoff will have to groundwater levels, structures, and facilities both within

and outside the limits of developments. If impacts are identified, the report shall provide mitigation solutions for the development.

3.1.4 Operation and Maintenance (O&M) Plan

The O&M plan is to identify the party responsible for operations and maintenance of the stormwater facility, detail maintenance schedules/activities and to ensure adherence with approved design operating conditions.

3.1.5 Homeowners' Association (HOA) Agreement

For subdivision development, an HOA agreement shall be submitted and approved to ensure perpetual legal validity and financial stability of the party responsible for ownership and maintenance of the stormwater facility and the template form found in Appendix E.

4. RAINFALL

4.1 Application

4.1.1 This chapter provides design storm frequency and precipitation data to be used in the design of stormwater management facilities within the City of Laurel. The information provided for the Water Quality Storm is intended for use in the design of permanent water quality treatment facilities.

4.2 Design Storm Frequency

4.2.1 The design storm frequency varies depending on the development type as well as the street classification as shown in Tables 8.2 and 8.3.

Table 8.2 – Design Storm Frequency by Street Classification

Public Street Classification[2]	Design Storm Frequency (Recurrence Interval, Year)	
	Minor	Major
Local Streets	2	100
Collector / Commercial Subdivision Street	5	100
Industrial / Central Business Streets	10	100
Arterial Streets	10	100

Storm drain conveyance systems shall be designed and constructed where needed to assure that flow depths and spread in street do not exceed allowances for the various storm scenarios specified in Table 8.2.

4.3 Design storm depth and intensity

4.3.1 Rainfall depths and intensities are provided in Table 8.3 and 8.4 for the City of Laurel, including durations from 5 minutes up to 24 hours and recurrence intervals from 2 years up to 100 years. This information was derived using precipitation data available from the National Climatic Data Center (NCDC) for Billings Logan International Airport (NCDC Cooperative Station Number 240807 (NCDC, 2014) for the period of record from July 1948 through September 2013.

Table 8.3 – Precipitation Depth – Duration
(Depth In Inches)

Duration	2-year	5-year	10-year	25-year	50-year	100-year
5-min	0.27	0.42	0.51	0.65	0.75	0.85
10-min	0.39	0.58	0.70	0.87	1.00	1.13
15-min	0.47	0.68	0.83	1.03	1.18	1.33
20-min	0.50	0.75	0.91	1.13	1.30	1.46
25-min	0.54	0.80	0.98	1.21	1.39	1.56
30-min	0.56	0.84	1.02	1.28	1.47	1.66
35-min	0.59	0.89	1.08	1.34	1.53	1.72
40-min	0.61	0.92	1.12	1.39	1.59	1.78
45-min	0.63	0.95	1.16	1.43	1.64	1.84
50-min	0.65	0.97	1.19	1.47	1.68	1.89
55-min	0.67	1.00	1.22	1.50	1.72	1.93
1-hr	0.68	1.03	1.26	1.55	1.76	1.97
2-hr	0.76	1.11	1.34	1.63	1.85	2.07
3-hr	0.85	1.18	1.40	1.68	1.88	2.09
6-hr	1.05	1.38	1.60	1.88	2.08	2.28
12-hr	1.29	1.67	1.92	2.23	2.46	2.70
24-hr	1.57	2.05	2.37	2.78	3.08	3.38

Based on DOWL Precipitation Analysis (2015)

Table 8.4 – Precipitation Intensity - Duration
(Intensity In Inches per Hour)

Duration	2-year	5-year	10-year	25-year	50-year	100-year
5-min	3.26	5.02	6.18	7.75	8.96	10.16
10-min	2.33	3.45	4.19	5.20	5.98	6.75
15-min	1.87	2.74	3.31	4.11	4.72	5.32
20-min	1.50	2.24	2.73	3.39	3.89	4.38
25-min	1.29	1.93	2.35	2.91	3.33	3.76
30-min	1.12	1.68	2.05	2.55	2.94	3.33
35-min	1.01	1.52	1.85	2.29	2.62	2.95
40-min	0.92	1.38	1.68	2.08	2.38	2.68
45-min	0.84	1.26	1.54	1.91	2.18	2.45

50-min	0.78	1.17	1.43	1.76	2.02	2.27
55-min	0.73	1.09	1.33	1.64	1.88	2.11
1-hr	0.68	1.03	1.26	1.55	1.76	1.97
2-hr	0.38	0.55	0.67	0.82	0.93	1.03
3-hr	0.28	0.39	0.47	0.56	0.63	0.70
6-hr	0.18	0.23	0.27	0.31	0.35	0.38
12-hr	0.11	0.14	0.16	0.19	0.21	0.22
24-hr	0.07	0.09	0.10	0.12	0.13	0.14

Based on DOWL Precipitation Analysis (2015)

4.3.2 The rainfall depth for a 24-hour storm in Table 8.3 shall be used together with the SCS (NRCS) Type II rainfall distribution to develop the 24-hour storm hyetograph for runoff hydrograph analyses. The rainfall intensities listed in Table 8.4 for the corresponding durations (times of concentration) shall be used in the Rational Method to determine peak runoff rates.

4.4 Water Quality Storm

4.4.1 The water quality design storm shall be used to size runoff treatment and water quality BMPs. Runoff treatment BMPs should be sized based on either the water quality volume or flow rate in order to achieve the required treatment efficiencies.

4.4.2 The water quality runoff volume and/or flow rate for post-development conditions shall be based on the 0.5-inch rainfall event. This storm was selected by the Montana DEQ and issued in the General Permit and has been adopted by the City of Laurel as the water quality design storm.

5. RUNOFF

5.1 Application

This chapter discusses criteria for drainage basin delineation and for selection of acceptable stormwater runoff calculation methods to be used for drainage design within the City of Laurel.

5.2 Drainage Basin Area

5.2.1 The total area, including upstream offsite areas, contributing to the point of interest shall be included in the delineation of drainage basins. Runoff from upstream undeveloped land, not part of the proposed project shall be included in the design calculations. Runoff from upstream developed property must be determined based on the existing conditions or approved drainage plans. A detailed contoured map with the best information available shall be used to identify off-site areas. Contributing drainage areas should take into

consideration potential for overflow of existing ditches or other facilities upstream of the project.

5.3 Selection of Runoff Calculation Methods

Table 8.5 – Acceptable Runoff Calculation Methods

Runoff Calculation Method	Applications	Limitations/Notes
Rational Method	-Used for determining peak runoff rates for sizing conveyance systems -Should not be used when routing of runoff hydrographs is required	-Should only be used for developments and basins of 5 acres or less -Should only be used for basins with homogeneous land uses
Modified Rational Method	-A simplified method used to approximate storage requirements for small drainages	-Should only be used for developments and basins of 5 acres or less
NRCS (SCS) Method	-Used for determining peak runoff rates and runoff hydrographs for large drainage basins -Used for determining storage requirements for detention or retention facilities	-Should be used for developments and basins larger than 5 acres

5.4 NRCS (SCS) Hydrograph Method

5.4.1 The SCS Hydrograph Method shall be employed using the procedures detailed in Section 3.2.4 of the HEC-22 Manual (http://www.fhwa.dot.gov/engineering/hydraulics/pubs/10009/10009.pdf).

5.4.2 Use site-specific soils information for the project site when available, or the Natural Resources Conservation Service (NRCS) Soil Survey of Yellowstone County to identify the soils and corresponding hydrologic soil groups for each drainage basin

5.4.3 Time of Concentration

The time of concentration (TC) shall be calculated using the procedures detailed in TR-55 Method (https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf). Sheet flow lengths shall be limited to no more than 100' When TC is used to estimate pre-developed flow rates to justify maximum allowable discharge rate, upper end of potential TC range shall be assumed.

5.4.4 Curve Numbers

Curve numbers (CNs) to be used shall be as set forth in Table 8.6. Depending on basin area, multiple CNs with associated flow properties may be required. A conservative approach shall be used when determining CN values. When CNs are used to estimate pre-developed flow rates to justify maximum allowable discharge rates, lower end of potential CN range for given conditions shall be assumed.

Table 8.6 – Runoff Curve Numbers for Urban Areas (Average Watershed Condition, Ia = 0.2 SR)

Land Use Description	Curve Numbers for Hydrologic Soil Group			
	A	B	C	D
Fully Developed Urban Areas (Vegetation Established)				
Lawns, open spaces, parks, golf courses, cemeteries, etc.				
Good condition; grass cover on 75% or more of the area	39	61	74	80
Fair condition; grass cover on 50 to 75% of the area	49	69	79	84
Paved parking lots, roofs, driveways, etc.	98	98	98	98
Streets and roads				
Paved with curbs and storm sewers	98	98	98	98
Gravel	76	85	89	91
Dirt	72	82	87	89
Paved with open ditches	83	89	92	93
Average % impervious*				
Commercial and business areas 85	89	92	94	95
Industrial districts 72	81	88	91	93
Residential Lots: Average % impervious*				
65	77	85	90	92
38	61	75	83	87
30	57	72	81	86

25	54	70	80	85
*Interpolate as necessary				
Developing Urban Areas (No Vegetation Established)				
Newly graded area	77	86	91	94
Native Ground Cover				
Herbaceous – mixture of grass, weeds and low growing brush, with brush the minor element (30%-70% ground cover)		71	81	89
Herbaceous – mixture of grass, weeds and low growing brush, with brush the minor element (>70% ground cover)		62	74	85
Sagebrush with grass understory		35	47	55
Pasture, grassland or range – continuous forage for grazing	39	61	74	80
Meadow – continuous grass, protected from grazing, mowed for hay	30	58	71	78
Cultivated Agricultural Lands				
Row crops	67	78	85	89
Close-seeded or broadcast legumes or rotation meadow	58	72	81	85
Small grain crops	63	75	83	87

5.5 Rational Method

5.5.1 The Rational formula is given as follows:

$Q = CfCIA$

Where: Q = Flow in cfs,
Cf = correction factor for infrequent storms,
C = a dimensionless runoff coefficient,
I = rainfall intensity in inches per hour, and
A = drainage area in acres

5.5.2 The Rational Method shall be applied using the procedures detailed in Section 3.2.2 of the HEC-22 Manual (http://www.fhwa.dot.gov/engineering/hydraulics/pubs/10009/10009.pdf).

5.5.3 Frequency Correction Factors. Table 8.7 lists the correction factor to be used for infrequent storm events.

Table 8.7 – Frequency Correction Factors for Rational Method

Recurrence Interval (years)	Adjustment Factor C_f
2 and 10-year	1.00
25-Year	1.10
50-Year	1.20
100-Year	1.25
NOTE: C^*C_f should not exceed 1.00	

5.5.4 Runoff Coefficients

Runoff Coefficients to be used shall be as set forth in Table 8.8. A conservative approach shall be used when determining coefficient values. When “C” is used to estimate pre-developed flow rates, lower end of potential “C” rage for given conditions shall be assumed.

Table 8.8 – Runoff Coefficients ("C") for the Rational Method

Type of Drainage Area	Runoff Coefficient, C*
Residential:	
Neighborhood areas	0.70
Single-family areas	0.50
Multi-units, detached	0.60
Multi-units, attached	0.75
Apartment dwelling areas	0.70
Industrial:	
Light areas	0.80
Heavy areas	0.90
Parks, cemeteries	0.10 – 0.25
Playgrounds	0.20 – 0.40
Railroad yard areas	0.20 – 0.40
Unimproved areas (forest)	0.10 – 0.30
Lawns:	
Sandy soil, flat, 2%	0.10
Sandy soil, average, 2-7%	0.15
Sandy soil, steep, 7%	0.20
Heavy soil, flat, 2%	0.17
Heavy soil, average 2-7%	0.22
Heavy soil, steep, 7%	0.35
Streets, parking lots and other paved areas:	
Asphaltic and concrete	0.95
Brick	0.85
Drives, walks and roofs	0.95
Gravel Areas	0.70-.85

*Higher values are usually appropriate for steeply sloped areas and longer return periods as infiltration and other losses have a proportionally smaller effect on runoff in these cases

5.6 Modified Rational Method

5.6.1 The Modified Rational Method approximates the volume of runoff for various storm durations, with peak flows based on the time of concentration for each respective duration. The difference between the volume of runoff into the

facility and the outflow from the facility, computed for the various storm durations is used to establish the maximum required detention storage.

5.6.2 This simplified approach is valid for basins with contributing areas less than 5 acres.

5.7 Computer Aided Design Software

5.7.1 Use of computer aided design software is allowed. However, designer shall provide a detailed, written explanation, within the body of the CDP, detailing selection of input parameters, description for how program calculates results, and a detailed explanation of those results. Appurtenant results pages shall be provided in an appendix of the CDP.

6. HYDRAULIC ANALYSIS AND DESIGN

6.1 Application

This chapter provides criteria to be used in the design of both public and private storm drainage infrastructure including inlets, manholes, storm drain, open channels, culverts, and bridges to safely convey storm runoff for projects within the City of Laurel.

6.2 Gutter Flow

The City allows the use of streets for drainage within the limitations specified in Tables 8.9 and 8.10 Contact the PWD for determination of a street's classification.

Table 8.9 – Allowable Use Of Streets For Minor Storm Runoff

Street Classification	Maximum Street Encroachment
Local	No curb overtopping. Flow may spread to crown of street.[1]
Collectors	No curb overtopping. Flow spread must leave at least one, 11' lane free of water, five feet either side of the street crown. [1]
Arterials	No curb overtopping. Flow spread must leave at least two, 11' lanes free of water, ten feet each side of the street crown or median. [1]
Arterials (more than 6 lanes)	No curb overtopping. Flow spread must leave at least four, 11' lanes free of water, twenty feet each side of the street crown or median. [1]

[1]Where no curbing exists, encroachment shall not extend beyond property lines, except at drainage easements.

6.2.1 Hydraulics

Gutter flow encroachment and hydraulics shall be evaluated using the methods presented in Section 4.3 of the HEC-22 Manual (http://www.fhwa.dot.gov/engineering/hydraulics/pubs/10009/10009.pdf).

6.2.2 Minimum Gutter Slope

Gutters shall be constructed at slopes no flatter than 0.3 percent for retrofit conditions and 0.5 percent for new construction. For new gutter sections in vertical curves, the k-value shall be less than or equal to 167 to provide for adequate drainage. If the k-value exceeds 167, special consideration shall be given to promote drainage.

6.2.3 Inlet Spacing and Location General

The interception capacity of inlets and required spacing shall be determined in accordance with the procedures described in Sections 4.3 and 4.4 of the HEC-22 Manual.

6.2.3.1 Recommended Locations for inlets

A. Away from ADA ramps

B. Prior to pedestrian crossings

C. At low points in the gutter grade

D. Where significant flows from off the right-of-way are expected

E. On horizontal curves where a change from normal crown to super-elevation may cause water to sheet-flow across the road

F. Where lay-down curb (e.g., at approaches) may allow the flow to escape and cause flooding

G. Where necessary to maintain gutter flow widths and depths within the allowable limits set forth in Tables 8.9 and 8.10

H. Mid-block inlets within subdivisions, shall be located along property lines to minimize impacts to future driveways and other development features

I. Where a curbed roadway crosses a bridge, the gutter flow should be intercepted and not permitted to flow onto the bridge.

6.2.3.2 Inlets Are Not for Flood Prevention

Inlets shall not be considered as the sole defense for flood protection. Grading design shall not allow water to back up and flood any parts of a building during a major storm event in the event that an inlet is blocked.

6.2.3.3 Inlet Types

Allowed storm inlet types include grated and combination (grated with curb opening or grated with curb opening plus slotted drain) inlets. The City of Laurel standard inlets include Type II inlets in sag locations and Type III inlets for on-grade installations for streets without curb and gutter, these inlets may not be appropriate, and another inlet may be selected with City approval.

- Inlets in low point along road profile – calculated inlet capacity at low points shall assume 50 percent plugging by debris.
- Inlets along straight graded sections of road profile– calculated inlet capacity in straight grade areas shall assume 25 percent plugging by debris.
- Inlets installed within the right-of-way, or are adjacent to trails, sidewalks, and bike lanes must have grates that are designated for pedestrian and bicycle traffic. Approval by the City is required for inlets within the right-of-way that are not designated for pedestrian and bicycle.

6.3 Storm Drain

6.3.1 Hydraulics

Use the methods set forth in Chapter 7 of the HEC-22 Manual for the hydraulic design of storm drains, except as modified herein (http://www.fhwa.dot.gov/engineering/hydraulics/pubs/10009/10009.pdf).

6.3.2 Diameter, Slope, and Velocity Limits

A. Minimum slopes for storm drainpipes shall be as required to maintain a full-flow velocity of at least 2.5 feet per second during the Minor Storm Event.

B. Minimum diameter for storm drain lines and laterals, which will be part of the public storm drainage system, shall be 12 inches. Minimum diameter for private connections into the public storm drainage system shall be 6 inches. Pipe sizes shall not decrease in the downstream direction and transitions from smaller pipes to larger pipes shall occur by matching the inside top (crown) of the pipes where practicable. Where it is not possible

to match crowns, the 67-percent diameter points of the pipes shall be matched at a minimum, where practicable; or, upon approval from the City Public Works Office, inverts may be matched if the HGL does not exceed the street elevation during a minor storm event.

6.3.3 Maintenance Access

A. All stormwater pipe and facilities shall be accessible for operation and maintenance.

B. When vehicle access is necessary, for facilities constructed outside of the street section, access roads shall be provided in access easements. The minimum clear driving lane width of access roads is 12 feet. Access roads shall have a maximum grade of 9% and shall be constructed with gravel, pavement, concrete or an appropriate all-season surface.

C. Gates and/or bollards are required when necessary to restrict access to stormwater facilities. Cables and/or chains stretched across access roads are not acceptable.

6.3.4 Manning "n" Values

The Manning's "n" value used for the design for storm drains shall be as shown in Table 8.10.

Table 8.10 – Manning's Coefficients (n) for Storm Drain Conduits

Pipe Material	Roughness or Corrugation	Manning's n
Concrete Pipe	Smooth	0.013
Concrete Boxes	Smooth	0.015
Spiral Rib Metal Pipe	Smooth	0.013
Corrugated Metal Pipe, Pipe-Arch and Box	2-2/3 by 1/2 in Annular	0.027
	2-2/3 by 1/2 in Helical	0.023
	2-6 by 1 in Helical	0.025
	5 by 1 in	0.026
	3 by 1 in	0.028
	6 by 2 in Structural Plate	0.035
	9 by 2-1/2 in Structural Plate	0.037
Poly Based Thermoplastic	Smooth	0.015
	Corrugated	0.025
PVC Based Thermoplastic	Smooth	0.011

*Published values may differ; however, values presented in this table assume long term use of pipe which leads to increased roughness. Manufacturer recommendations shall be used if values are higher than presented above.

6.4 Materials

6.4.1 Access Manholes

A. Access manholes are required when joining pipes of different types, sizes, at horizontal or vertical bends in the alignment, at lateral connections, and at the upstream terminus of storm drain mains.

B. Required Size

The required minimum manhole size shall be 48-inches and larger when required by pipe sizes and geometry to satisfy applicable ASTM specifications.

C. Required Spacing

The maximum manhole spacing along storm drains is as set forth in Table 8.11.

Table 8.11 – Maximum Allowable Manhole Spacing

Storm Drain Diameter	Maximum Spacing
12” to 36”	400’
42” to 60”	500’
66” and Larger	600’

6.4.2 Maximum Manhole Depth

Manhole depths shall not exceed 20 feet without special safety provisions such as intermediate platforms and minimum diameter risers of 48 inches.

6.4.3 Drop Manholes

The difference between the highest trunk line pipe invert entering a manhole and the invert leaving shall not exceed 24 inches. Manholes with drops exceeding 24 inches shall be designed as drop manholes. Drop manholes with drop heights exceeding six feet shall be designed with high strength (6,000psi) concrete.

6.5 Clearance from Other Utilities

The following utility clearances shall be maintained where possible. All clearance are based on the outside edge of the storm drain to the outside edge of the other utilities.

6.5.1 Horizontal clearances from storm main:

- Cable TV, Gas, Power 5 feet

- Sewer 6 feet
- Telephone, Fiber Optics 5 feet
- Water 10 feet

6.5.2 Vertical clearances from storm main:

- Cable TV, Gas, Power 1 feet
- Sewer 1 feet
- Telephone, Fiber Optics 1 feet
- Water 1.5 feet
- Misc. Private Utilities 1 feet

6.5.3 Water main crossings shall be designed to prevent freezing due to minimal clearance from storm drains.

6.5.4 Avoid crossing other utilities at highly acute angles. The angle measure between utilities shall be between 45 and 90 degrees where possible.

6.6 Private Drainage System Connections

Private drainage system connections to the public storm drain system shall comply with the following criteria. Such connections shall be entirely owned and maintained to the main by development in which the connection was installed and/or serves.

6.6.1 All private stormwater connections shall include backflow prevention to prevent stormwater from the City's storm drain system from surcharging onto private property unless such backflow is not possible due to grades. Backflow preventer must be installed on-site and not within the public right-of-way.

A. Minimum pipe diameter discharging to the City's storm drain system shall be 6 inches. The maximum pipe diameter allowed will depend on an evaluation of the capacity of the City's storm drain system and approval from the City Public Works Office.

B. Directly connected pumped connections to the City's storm drain system are not allowed. Developments may install a pump to mitigate stormwater runoff per the requirements of this manual; however, stormwater runoff shall be pumped to a manhole or other feature prior to making a gravity connection to the City's system.

C. Directly connected pumped connections to the connections shall only be made at a structure.

6.7 Outfalls

6.7.1 General

- Use the methods set forth in Chapter 7.1.5 of the HEC-22 Manual, as modified herein.
- Invert elevations of outfalls shall be no lower than the bank-full water surface elevation (2-yr flood) in open channels or streams, where practical.
- Outfalls downstream of detention facilities shall be designed to prevent backwater into those facilities.
- Outfalls within ditches/drains shall be constructed with fire-proof material.

6.7.2 Erosion Protection

Erosion protection is required at the outlet to prevent erosion of the outfall channel bed and bank.

6.7.3 Energy Dissipation/Rip-Rap

A. Where flow velocities exceed 10 feet-per-second at the outfall, during the design storm, energy dissipation, in addition to erosion protection may be required. Design energy dissipation measures in accordance with FHWA HEC-14, "Hydraulic Design of Energy Dissipaters for Culverts and Channels" (https://www.fhwa.dot.gov/engineering/hydraulics/pubs/06086/hec14.pdf).

B. Rip-Rap size and classification shall be based upon flow rates to be mitigated. Rip-Rap sizing shall follow MDT's guidelines within their Standard Specifications, Division 700: http://www.mdt.mt.gov/other/webdata/external/const/specifications/2014/division_700.pdf

6.7.4 Maintenance Access

All stormwater pipe and facilities shall be accessible for operation and maintenance.

When vehicle access is necessary, for facilities constructed outside of the street section, access roads shall be provided in dedicated access easements. The minimum clear driving lane width of access roads is 12 feet. Access roads shall have a maximum grade of nine percent and shall be constructed with gravel, pavement, concrete or an appropriate all- season surface.

Gates and/or bollards are required when necessary to restrict access to stormwater facilities. Cables and/or chains stretched across access roads are not acceptable.

6.8 Open Channel Conveyances

6.8.1 General

A. New or altered channels shall be lined with grass, rocks or other erosion resistant materials adequate to prevent erosion during maximum design flow scenario. Concrete or asphalt shall not be used unless approved by the City Public Works Director.

B. Design open channels in accordance with the methods provided in Chapter 5 of HEC-22 except as modified herein.

6.9.2 Clearance

Channels shall be located no closer than ten feet from any structure foundation as measured horizontally from the edge of the swale at the top of freeboard elevation.

6.8.3 Erosion Control

A. Channel segments shall be designed according to the permissible tractive force (shear stress) methodology set forth in Section 5.3 of HEC-22 and Hydraulic Engineering Circular 15 (http://www.fhwa.dot.gov/engineering/hydraulics/pubs/10009/10009.pdf, http://www.fhwa.dot.gov/engineering/hydraulics/pubs/05114/05114.pdf, respectively)

B. Both the bare soil condition immediately following construction and the anticipated vegetated conditions of the channel shall be evaluated. If the channel is determined to be unstable during the maximum design storm event for either of these conditions, the appropriate long-term, temporary, and transitional linings shall be installed.

C. Erosion control structures, such as check drops or check dams, may be required to control flow velocities.

6.8.4 Freeboard Requirements

A minimum freeboard of one-foot from the water surface during Major Storm event to the top of bank shall be provided for open channel conveyances.

6.8.5 Friction Factors (n)

Use Manning's roughness factors (n) set forth in Table 5-1 of HEC-22. The design shall consider the channel roughness both immediately after construction and when vegetation is fully established. Roughness factors, which are representative of unmaintained channel conditions, shall be used for the analysis of water surface profiles. Roughness factors, which are representative of well-maintained channel conditions, shall be used to determine maximum velocity.

6.8.6 Side Slopes

Side slopes shall be no steeper than 4H:1V for maintained grass-lined channels, 3H:1V for unmaintained native grass-lined channels and 2H:1V for riprap-lined channels.

6.8.7 Maintenance Access

Provide maintenance access for inspection, mowing operations, and debris removal by conventional equipment along the length of the conveyance channel. The type of equipment needing access is dependent on the size of the channel. Large channels will need access for dump trucks and loaders. For small channels, foot or pick-up truck access may suffice. Channels may need to be offset within the easement to facility maintenance.

6.8.8 Operation & Maintenance of Private Open Channels

A. Open channels require periodic maintenance. The degree of maintenance is dependent on the location, the specific type of facility, and the liner material (grass, rock, etc.).

B. Maintenance of open channels is required to insure the conveyance capacity of the facility is maintained and that channel erosion does not occur. The condition of open channels should be checked on a periodic basis, especially after large storms or extended periods of high flow or immediately following periods of high intensity winds (erosion may occur during high flows, from scour caused by localized debris blockage or from debris blown into the channel). Debris should be removed to prevent channel plugging, channel scour and loss of channel conveyance. Erosion shall be repaired or stabilized.

C. Vegetated channels shall be maintained to ensure that vegetation does not limit the conveyance capacity of the facility. If conveyance restrictions are apparent, the vegetation should be trimmed to restore capacity.

D. Emergent vegetation (spirogyra, elodea, watercress, etc.) in conveyance channels may also become a problem if it is allowed to constrict the conveyance capacity of the facility. Vegetation above the ordinary high water mark shall also be monitored primarily for its ability to retain bank stability without reducing channel capacity at maximum design flows.

6.9 Culverts

Culverts shall be designed using the methods set forth in the Federal Highway Administration (FHWA) Hydraulic Design Series No. 5 (HDS-5), "Hydraulic Design of Highway Culverts", Publication No. FHWA-NHI-01-020 except as modified herein (http://www.fhwa.dot.gov/engineering/hydraulics/pubs/12026/hif12026.pdf)

6.9.1 Street Overtopping

Culverts shall be sized such that the depth of street overtopping is limited as set forth in Table 8.12.

Table 8.12 – Allowable Street Overtopping Depths at Culvert Crossings

Street Classification	Minor Storm	Major Storm
Local and Collector	None	Six inches at the street crown. Residential dwellings and public, commercial, and industrial buildings shall not be inundated at the ground line unless flood-proofed.
Arterial	None	No overtopping allowed. Provide 1-ft of clearance between the crown of the culvert and the water surface elevation where practicable, for drainage basins greater than one square miles.

6.9.2 Headwater Depth

A. The headwater (HW) depth shall be limited according to the following ratios to diameter (D):

- For culverts with a cross sectional area less than or equal to 30 square feet: HW/D ≤1.5
- Culverts must also be sized without creating significant flow constriction, such that existing channels upstream are not overtopped during the design flow event.

6.9.3 Allowable Velocities

A. Culverts shall be designed to maintain a minimum velocity of2.5 feet-per-second during the Minor Storm to prevent sediment accumulation and shall be designed with a minimum slope of 0.5 percent, where practicable.

B. Culverts shall be sized to limit velocities in order to minimize erosion potential during the Major Storm Events. For exit velocities in excess of 10 feet-per-second during the Major Storm, energy dissipation, in addition to erosion protection may be required. Design energy dissipation measures in accordance with FHWA HEC-14, "Hydraulic Design of Energy Dissipaters for Culverts and Channels" (https://www.fhwa.dot.gov/engineering/hydraulics/pubs/06086/hec14.pdf)

6.10.4 Materials

A. Culverts shall be constructed of concrete, corrugated polyethylene pipe, or polyvinyl chloride corrugated sewer pipe with a smooth interior. Efforts should be made to eliminate corrugated steel pipe.

B. Culvert wall strengths and coatings shall be suitable for the soil conditions design depths, and trench details. Culvert strength shall be designed assuming HS-20 live load capacity unless unique conditions of the crossing warrant a higher load capacity (i.e., Hs-25 or E-80).

C. When an abrasive bed load is anticipated or when velocities exceed 10 feet per second, protective measures shall be implemented to limit pipe damage. Corrosion, abrasion and other appropriate observations of field culvert materials and be considered in determining appropriate culvert materials and joint types. Corrosion resistance shall be evaluated based on minimum resistivity, pH, sulfate content and chlorine content of the soil and groundwater.

6.10.5 End Treatments

Culverts shall be designed with appropriate end treatments at their inlets and outlets such as flared end sections, headwalls, or wingwalls to provide smooth transitions to/from the drainage channel or ditch and to conform to embankment slopes. In addition to the pipes, end treatments installed within ditches/drains shall be fire-proof. Erosion protection or energy dissipaters shall be provided as necessary to limit erosion due to turbulent flow and high velocities. Depending on the culvert location, a safety grate or trash rack may need to be installed.

6.10.6 Maintenance Access

Provide maintenance access to the upstream and downstream ends of culverts for inspection and debris removal.

7. EROSION AND SEDIMENT CONTROL

7.1 Regulatory Requirements And Permit Coverage

Developer shall comply with all applicable state and federal requirements associated with stormwater pollution preventions, including coverage under the States National Pollution Discharge Elimination System Permit to Discharge Stormwater Association with Construction Activities (NPDES Permit), when required.

7.2 Construction

Regardless of requirement for coverage under the NPDES Permit, construction activity shall implement BMPs and good housekeeping practices to minimize impacts including, but not limited to, erosion and sediment transport into public right-of-way or onto adjoining property. Homebuilders/contractors are responsible for managing BMPs on individual lots within a subdivision and/or master plan area and are required to follow the requirements in the Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP), when applicable.

7.3 Best Management Practices (Bmp)

Temporary erosion and sediment control BMPs may be selected, designed, and installed using the methodology discussed in the most current edition of the Montana Department of Transportation Erosion and Sediment Control Best Management Practices Manual, available on MDT's website (https://www.mdt.mt.gov/publications/docs/manuals/env/bmp-manual-jan15.PDF). In addition, the Montana Department of Environmental Quality developed the Storm Water Management During Construction Field Guide for Best Management Practices reference document which may help in developing a BMP plan. Contact their office for a copy of this document.

Appendix A Preliminary Drainage Report

The purpose of the preliminary drainage report is to describe and illustrate the preliminary solutions to the drainage problems which may occur on-site and off-site as a result of the development or any phase of the development. The drainage report shall be submitted during the subdivision process with the application for Preliminary Plat.

Preliminary drainage reports shall provide an appropriate level of detail to address drainage issues and present the overall plan for the property. The report shall be based on the following outline and include appropriate background information, supporting data, calculations and plan drawing(s).

TITLE PAGE

1. Type of Report (Concept)
2. Project Name
3. Prepared for/by
4. Date
5. P.E. Seal and Signature

INTRODUCTION

1. Location
   a. City, County, State Highway and local streets within and adjacent to the site, or the area to be served by the drainage improvements.
   b. Names of surrounding developments, properties or landmarks.

2. Description of Property
   a. Area in acres
   b. Ground cover (type of ground cover and vegetation)
   c. Existing land uses and known and foreseeable future land uses
   d. Topographic features, steepness of slopes
   e. Major drainage ways and receiving channels
   f. Existing drainage facilities
   g. Flood Hazard Zones
   h. Geologic Features (if applicable)
   i. Previous drainage studies for the property (if any)

3. Proposed Project Description
   a. Land uses
   b. Changes to existing facilities
   c. Changes to floodplains
   d. Proposed system improvements

4. Drainage Criteria
   a. Minor and Major Storm Analysis
   b. Geotechnical/Hydrogeological Analysis

c. Hydrologic Methods
    i. Rainfall
    ii. Design Storms
    iii. Runoff methods and computer models
d. Hydraulic Methods
    i. Design standards
    ii. Hydraulic models
    iii. Detention Pond sizing
e. State or Federal Regulations (if applicable).

HISTORIC DRAINAGE SYSTEM

1. Major Basin Description
    a. Reference to major drainage way planning studies such as flood hazard delineation report, major drainage way planning reports, and flood insurance rate maps.
    b. Major basin drainage characteristics and structures, existing and planned land uses within the basin.
    c. Summary of off-site and on-site basin characteristics and runoff rates.

PROPOSED DRAINAGE SYSTEM

1. Design Concepts
    a. Discussion of concept and typical drainage patterns.
    b. Discussion of compliance with off-site runoff considerations.
    c. Discussion of proposed drainage patterns and improvements including streets, storm sewer, culverts, open channels and detention storage.
    d. Discussion of the content of tables, charts, figures, plates, or drawings presented in the report.
    e. Discussion of geotechnical and hydrogeological impacts of development.

SUMMARY

1. Relation to off-site drainage features.
2. Summary of proposed improvements.
    a. Storm sewer
    b. Culverts
    c. Open channels
    d. Detention Storage
    e. On-site and off-site impact and mitigation measures
3. Floodplain impacts.
4. State or Federal regulations.
5. Compliance with applicable regulations and standards.

REFERENCES

Reference all criteria, master plans, and technical information used in support of concepts and calculations.

APPENDICES Background Data

1. Floodplain maps
2. Applicable reports or report excerpts.
3. Key correspondence with adjacent property owners or utilities.

PRELIMINARY REPORT DRAWING CONTENTS

All drawings shall be submitted as back-up materials with the Preliminary Plat. A map shall be provided in sufficient detail to identify drainage flows entering and leaving the development and general drainage patterns. The map shall identify any major facilities from the property (i.e., development, existing detention facilities, culverts, storm sewers) along the flow path to the nearest major drainage way.

Floodplain Information: The location of the subject property shall be included with the report. All major drainage ways shall have the floodplain defined and shown on the report drawings.

Drainage Plan shall show the following:

1. Existing topographic contours at two (2) feet maximum intervals. The contours shall extend a minimum of one-hundred (100) feet beyond the property lines.
2. All existing drainage facilities.
3. Approximate flooding limits based on available information.
4. Conceptual major drainage facilities including detention basins, storm sewers, swales, riprap, and outlet structures in the detail consistent with the proposed development plan.
5. Major drainage boundaries and sub-basin boundaries.
6. Any off-site features influencing development.
7. Proposed flow directions and, if available, proposed contours.

Appendix B Final Drainage Report

The purpose of the Final Drainage Report is to present the final design details for the drainage facilities discussed in the Preliminary Drainage Plan. Any changes to the preliminary concept must be presented and fully explained.

Drainage plan shall provide an appropriate level of detail to address the drainage issues and present sizing and locations for all proposed improvements. The report shall be based on the following outline and include appropriate background information and supporting data and calculations and plan drawing(s).

TITLE PAGE

1. Type of Report (Final)
2. Project Name
3. Prepared for/by
4. Date
5. P.E. Seal and Signature

INTRODUCTION

1. Location
    a. City, County, State Highway and local streets within and adjacent to the site, or the area to be served by the drainage improvements.
    b. Names of surrounding developments, properties or landmarks.

2. Description of Property
    a. Area in acres
    b. Ground cover (type of ground cover and vegetation)
    c. Existing land uses and known and foreseeable future land uses
    d. Topographic features, steepness of slopes
    e. Major drainage ways and receiving channels
    f. Major drainage ways and receiving channels
    g. Existing drainage facilities
    h. Flood Hazard Zones
    i. Geologic Features (if applicable)

3. Previous drainage studies for the property (if any)
    a. Proposed Project Description
    b. Land uses
    c. Changes to existing facilities
    d. Changes to floodplains
    e. Proposed system improvements
    f. Right-of-way conveyance or acquisition required

4. Drainage Criteria
    a. Application Standards or exceptions
    b. Minor and Major Storm Frequencies

c. Hydrologic Methods
    i. Rainfall
    ii. Design Storms
    iii. Runoff methods and computer models
    iv. Geotechnical/Hydrogeological Analysis (Attach Reports)
d. Hydraulic Methods
    i. Design standards
    ii. Hydraulic models
    iii. Detention Pond sizing
e. State or Federal Regulations (if applicable)

HISTORIC DRAINAGE SYSTEM

1. Major Basin Description
    a. Reference to major drainage way planning studies such as flood hazard delineation report, major drainage way planning reports, and flood insurance rate maps.
    b. Major basin drainage characteristics and structures, existing and planned land uses within the basin.
    c. Summary of off-site and on-site basin characteristics and runoff rates.

2. Sub-Basin Description
    a. Discussions of historic drainage patterns of the property.
    b. Discussion of off-site drainage flows and flow patterns and impact on development under existing and fully developed basin conditions.
    c. Summary of off-site and on-site basin characteristics and runoff rates.

PROPOSED DRAINAGE SYSTEM

1. Design Concepts
    a. Discussion of minor and major drainage patterns, impacts, flows and volumes.
    b. Discussion of compliance with off-site runoff considerations.
    c. Discussion of proposed drainage patterns and improvements including streets, storm sewer, culverts, open channels and detention storage.
    d. Discussion of the tables, charts, figures, drawings, etc. presented in the report.

2. Design Details
    a. Discussion of problems encountered and solutions at specific design points.
    b. Discussion of detention storage and outlet design.
    c. Discussion of maintenance and access aspects of the design.
    d. Discussion of impacts of concentrating the flow on the downstream properties.

e. Summary of basin characteristics and runoff rates.
f. Discussion of geotechnical and hydrogeological impacts of development.
g. Discuss flooding hazards and describe minimum building elevations.

SUMMARY

1. Relation to off-site drainage features.

2. Summary of proposed improvements.
   a. Storm sewer
   b. Culverts
   c. Open channels
   d. Detention Storage
   e. Geotechnical/Hydrologic impacts
   f. On-site and off-site impacts and mitigation measures

3. Floodplain impacts.

4. State or Federal regulations.

5. Compliance with applicable regulations and standards.

REFERENCES

Reference all criteria, master plans, and technical information used in support of concepts and calculations.

APPENDICES

1. Background Data
   a. Floodplain maps.
   b. Applicable reports or report excerpts.
   c. Key correspondence with adjacent property owners or utilities.

2. Hydrologic Computations
   a. Land uses regarding adjacent properties.
   b. Soil types, coverage and loss coefficients
   c. Proposed land uses for project by basin.
   d. Time of concentration and runoff coefficients for each basin.
   e. Basin parameters used for modeling including basin area, length, slope, distance to centroid and routing elements.
   f. Initial and major storm runoff at specific design points for off-site and on-site flows.
   g. Off-site, historic and fully developed runoff computations at specific design points.
   h. Hydrographs at critical design points.

i. Schematic diagram of hydrology model showing basins and routing elements and combination elements.

3. Hydraulic Computations
   a. Culvert Capacities and inlet and outlet protection.
   b. Storm sewer capacity, including energy grade line (EGL) and hydraulic grade line (HGL) elevations.
   c. Gutter capacity as compared to allowable.
   d. Storm inlet capacity including roughness coefficients, trickle channels, freeboard, hydraulic grade line, and slope protection.
   e. Check and/or channel drop placement.
   f. Detention area volume capacity and outlet capacity calculations; depths of detention basins, outlet configuration.
   g. Downstream/outfall capacity to the Major Drainage way system.

4. Miscellaneous Information
   a. Other documents relating to drainage conditions on the property.
   b. Agreements with property owners or other agencies.
   c. Permits, etc.

Appendix C Geotechnical/Hydrogeological Report

1. The evaluation shall include at a minimum:

    a. A review of available geologic, hydrogeological, and topographic conditions to identify any site conditions that could impact the use of the storm drainage systems or the construction of sub-level structures. This review shall include all available previous geotechnical engineering reports for the development. Citations to possibly useful references are provided at the end of this appendix.

    b. Where access to adjacent properties is unavailable, the project owner shall rely upon the best known information for the area, supplemented with available information, including any existing engineering reports or studies for sites in the vicinity.

    c. A surface and subsurface reconnaissance of the site and an inspection of adjacent properties to assess potential impacts from the proposed stormwater system and to verify that the conditions are consistent with the mapped information.

    d. The level of data for the hydrogeological assessment required will be dependent on the amount of stormwater to be managed, the type of infiltration system proposed, and the surface and subsurface soil conditions at the site. The assessment will be conducted by a professional with experience collecting and analyzing hydrogeological data.

    e. An assessment of hydrogeological conditions that indicate the potential for infiltrated stormwater to impact on- or off-site, facilities or structures. The assessment will also demonstrate that impacts to groundwater elevation or flow, resulting from the proposed infiltration system will be confined to the property. A groundwater mounding calculation shall be provided to identify the impacts of infiltrated stormwater runoff. An example calculation method and spreadsheet is made available from the United States Geological Survey (USGS); however, other approved, similar calculation methods may be accepted. This information can be found at the following link: https://pubs.usgs.gov/sir/2010/5102/

    f. The Geotechnical/Hydrogeological report will contain the signed project certification cover sheet found in Appendix G.

2. The Report Narrative shall include:

    a. A brief project description including size, number of lots proposed, project location (section, township and range), and background information relevant for drainage design;

b. A discussion of the study investigations including methods and results of field assessments, testing and analyses performed;

c. A description of the soil units and subsurface geologic conditions on the site and in the vicinity of the site;

d. A description of the site including surface, soil, and groundwater conditions, etc.

3. Test Method Documentation shall include:

a. A map with the location of all subsurface field explorations, sampling locations and any in- place field tests;

b. A description of the field test and any difficulties encountered during excavation and testing;

c. A description of the equipment used to perform the field explorations or tests. When applicable, describe the type of fabric lining and gravel backfill used;

d. Logs of subsurface borings shall identify the depth to groundwater, the presence of any limiting layers and the target soil layer; include test pit or excavation dimensions. Borings intended to characterize hydrogeologic conditions for infiltrations systems should extend a minimum of 10-feet below the base of the proposed infiltration system, or a minimum of 25-feet below the ground surface, whichever is deeper;

e. Report test data documenting any infiltration testing, calculations, results problems encountered; and,

f. A description of the condition of any existing facilities being tested, noting any silt build-up, water level, connections to other structures (including distance to inverts of any interconnecting pipes), measured depths and dimensions, etc.

4. Results of field and laboratory testing conducted, including the grain size analysis represented both graphically and in tabular format;

5. A summary of field testing conducted and the measured and proposed design infiltration rates for infiltration systems. Approved test methods for infiltration testing are found in Appendix H;

6. Results of the sub-level structure feasibility study and a summary of the property boundary and down-gradient analysis as applicable; and,

7. A geologic cross-section of the stormwater disposal area drawn to scale, with the proposed stormwater disposal facilities superimposed on the cross-section. All relevant geologic units shall be clearly identified including the target disposal layer and limiting layers.

8. Conclusions and recommendations.

    a. The Site Plan shall include:

    b. Project boundaries (including all existing and proposed property lines);

    c. Labeled topographic contours, extending beyond the project and drainage basin. Projects in an urban area shall use a maximum contour spacing of 1 foot;

    d. Location of the soil and geologic units identified;

    e. Location of significant structures, properties or geologic features on site and in the project vicinity;

    f. Location of existing natural or constructed drainage features on site and in the project vicinity; and,

    g. Location of proposed site infrastructure including roadways and drainage features such as ponds, drywells, etc.

SUGGESTED SOURCES:

• Montana Ground Water Information Center Database: http://mbmggwic.mtech.edu/

• Lopez, D.A., and Sims, M., 2003, Areas of potential swelling-clay hazard in the Billings area, Yellowstone County, Montana: Montana Bureau of Mines and Geology Geologic Map 61D, 1 sheet, scale 1:48,000.

• Lopez, D.A., 2002, Geologic map of the Billings area, Yellowstone County, Montana: Montana Bureau of Mines and Geology Geologic Map 61A, 1 sheet, scale 1:48,000.

• Lopez, D.A., 2000, Geologic map of the Billings 30' x 60' quadrangle, Montana: Montana Bureau of Mines and Geology Geologic Map 59, 1 sheet, scale 1:100,000.

• Olson, J.L., and Reiten, J.C., 2002, Hydrogeology of the west Billings area: Impacts of land-use changes on water resources: Montana Bureau of Mines and Geology Report of Investigation 10, 32 p., 2 sheets.

• Olson, J.L., and Reiten, J.C., 2001, Basic hydrogeologic data for the West-Billings area

(1999-2000), Yellowstone County, Montana: Montana Bureau of Mines and Geology Open-File Report 436, 110 p. United States Geological Survey (USGS). Scientific Investigations Report 2010-5102. Simulation of Groundwater Mounding Beneath Hypothetical Stormwater Infiltration Basins. Glen B. Carleton. http://pubs.usgs.gov/sir/2010/5102.

Appendix D Operations and Maintenance Requirements

OPERATION AND MAINTENANCE

An Operations and Maintenance Manual is required for Subdivision and Commercial Property development. The O&M Manual summarizes the tasks required for perpetual maintenance to ensure the proper operation of stormwater facilities. The O&M manual shall include at a minimum:

- Contact information for the party responsible for O&M.
- Description of the maintenance tasks to be performed and their frequency.
- An inspection checklist to be used for annual maintenance. Template forms found in Appendix G.
- List of the expected design life and replacement schedule of each component.
- Site plan showing the overall layout of the development.
- Copy of recorded HOA Agreement and SIA, if applicable.
- Other information as necessary.

The O&M Manual shall first be submitted to the City's Environmental Affairs Division for review and comment. After acceptance by the Environmental Affairs Division, the O&M Manual shall be recorded at the Yellowstone Clerk and Recorders Office in a format acceptable to them.

Appendix E HOA Agreement Requirements

HOMEOWNERS' ASSOCIATIONS REQUIREMENTS

For stormwater systems within subdivisions, a homeowner's association (HOA) shall be formed to maintain and operate the facilities.

A draft copy of the SIA and/or CC&Rs for the HOA in charge of operating and maintaining the facilities associated with the stormwater system shall be submitted at the time of Preliminary Plat submittal. Final copies are required at the time of initial Private Contract Submittal. The SIA/CC&Rs shall summarize the maintenance and fiscal responsibilities of the HOA. In addition, the SIA/CC&R's shall state that any proposed changes to the stormwater system/facilities shall first be approved by the City Engineer's Office. The O&M manual shall also be submitted at this time. A financial plan is required in order to provide the entity responsible for maintenance with guidance in regard to financial planning for maintenance and replacement costs. The financial plan shall include the following items:

• A list of all stormwater-related facilities and their expected date of replacement and associated replacement costs.

• Sinking fund calculations that take into consideration probable inflation over the life of the infrastructure and estimates the funds that need to be set aside annually.

• A mechanism for initiating and sustaining the sinking fund account demonstrating that perpetual maintenance of all facilities associated with the stormwater system will be sustained.

Homeowners' associations are to be non-profit organizations. A standard business license is not acceptable for this purpose. The HOA shall remain in good standing with the requirements of the State of Montana. Developer shall sign HOA Agreement stating ownership and responsibilities prior to approval of development.